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Assessment of Availability and Utilization of New Technologies for Entrepreneurship Education Instructional Delivery in a Sustainable Knowledge-Based Economy

[1]Dikeocha, Lucy U., [2]Efughi, Samuel A., & [3]Chima, Chizoba F.
[1,2&3]Department of Business Education,
Alvan Ikoku Federal University of Education, Owerri, Imo State

Abstract

The explosion in technology had made remarkable positive impact in industries, organization and business. The educational sector is not left behind. The study was necessitated by the need to access the availability and utilization of new technologies for entrepreneurship education instructional delivering which will enable students of entrepreneurship education to acquire the entrepreneurial competences and skills that will enable them function and operate in the present digital business world. A survey research design was used for the study. The population of the study was 51 NCE Year II Business Education students. A structured questionnaire base on 4-point scale, titled Assessment of Availability and Utilization of New Technologies for Entrepreneurship Education Instructional Delivery in a Sustainable Knowledge-Based Economy (AAUNTEEIDSKBE) with 36 items was used to collect data for the study. The instrument was validated by three experts. The internal consistency method was used to determine the reliability with Cronbach Alpha which gave a reliability coefficient value of 0.86 using Cronbach Alpha reliability test. Copies of the instrument were administered to the subject through on-the-spot completion and retrieval method and all the 51 copies (representing 100%) were duly completed, retrieved and used for analysis. The research questions were answered using mean statistics while null hypothesis was tested at 0.05 level of significance using t-test statistics. Findings of the study revealed that only 7 out of the 18 listed new technologies are available for entrepreneurship education instructional delivery and that out of the 7 available new technologies only 5 are utilized for teaching and learning Entrepreneurship Education. Based on the findings, the study concluded that new technologies are not adequately available for teaching and learning entrepreneurship education and the few available ones are not adequately utilized.

Keywords: *Technologies, Entrepreneurship, Instructional Delivery, Sustainable Knowledge Economy*

Corresponding Author: Dikeocha, Lucy U.

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Background to the Study

The essence of entrepreneurship education is to assists the beneficiaries develop and as well expand their individual skills, talents, knowledge and competencies that can make them become successful entrepreneurs. This is to say that entrepreneurship education is aimed at training the recipients to create self-employment opportunities for themselves through inventing new businesses. In line with this, Ordu (2015) asserts that entrepreneurship education is the teaching and learning process aimed at providing learners with the ability to recognize market opportunities, create business enterprise and operate such business outfit successfully. Hamburg, Bucksch and Brien (2015) added that it inculcates in the students, creativity efficient, problem-solving ability, and objective business idea analysis with the ability, to communicate, lead, develop and evaluate projects. According to Ughamadu in Dikeocha, Onwuagboke, Amaechi and Nwagu (2020), entrepreneurship education is that education process that is new and dynamic that expresses the trainee into the challenging trends of the time in the global economy. For the recipient of entrepreneurship education to fit in into these challenging trends, the need to adequately expose him to new technologies which had and still enhancing the way businesses are being operated becomes pertinent. New technologies can be used to influence entrepreneurship education as it has the ability to improve the competence, and skills of the students, motivate and engage them, and also help them to link school knowledge with work practices.

The explosion in technology had made remarkable positive impact in industries, organization and business. The educational sector is not left behind. Teaching and learning have been enhanced and tasks in educational research reduced. Old methods have been replaced by new techniques and life made easy for human beings. New technologies have made business operation easier. It has reduced the amount of time spent in processing, storing, arranging, sorting and disseminating of information about business. New technologies have transformed many aspects of our lives including the way business is conducted. In view of this, Chalkiadako (2018) noted that prospective entrepreneur needs to be updated with technology and the ability to use new tools and techniques. In the same vein Enang (2022) states that current time demands for digital entrepreneurial skills on virtual products and virtual services. Business require the use of new technology such as computers, mobile phone and the internet to promote products and services. Upcoming entrepreneurs must possess the ability to use new technologies such as social networking sites, emails, internet and website to transfer messages from one person or organization to another. For the students of entrepreneurship education to be relevant after graduation, new technologies should be made available for instructional delivery.

Instructional delivery refers to the interaction among the students, the teacher, the content and the knowledge and skills student will need to learn (Dikeocha, Efughi, Peters and Eneremadu, 2023). It can as well be referred to as methods, strategies, approaches or techniques that a teacher employs to deliver his/her lesson to the learners. Lukeman, (2021) noted that it is a representation of pattern in which a lesson is to be presented. Meziobi in Wordu and Akor (2018) opined that every effort that the teacher makes in order to have a

fruitful time with the students by exposing the contents, employing methods, strategies, the pupil's interaction with the environment, resources available and even the evaluation process sums up to mean instructional delivery. Simply put, it is the provision of instruction to learners by the teacher. The teacher builds on existing knowledge of differentiate instruction and integrate technology into lessons. In delivering entrepreneurship education, utilizing up to date, instructional materials, multimedia and technology becomes imperative. Entrepreneurship education students should be prepared in such a way that they can be able to fit in, in the present technological era, possessing the ability to function in the sophisticated digital business world. Owing to this, there is therefore need to adequately expose business education students to new technologies. This will enable them acquire relevant and functional skills required in the present business world. Provision of adequate new technologies for teaching and learning business studies will improve students learning process and outcomes. It will enable them have deeper understanding of the use of the new technologies and how to apply them in the world of work. Also, it will provide the students a platform for technological excellence in the face of the globalization of the world economy. It is based on this fact that the researcher deemed it fit to assess the level of availability and utilization of new technologies for entrepreneurship education instructional delivery.

Assessment according to Dikeocha, Efughi and Peters (2020) involves series of testing measurement and organization of information collected in a way that facilitates evaluation. It can be described as "the use of various methods and sources to gather and estimate different types of information about a person, group or event in comprehensive way". Assessment involves determination of the extent to which the goals or objectives of an organization are achieved (Esomonu in Oguejiofor, 2013). The goals or objectives of entrepreneurship education can say to be achieved when the knowledge and skills it provides are sustainable and also impact on the economy.

Sustainable knowledge-based economy is the economic system that uses knowledge as a means of production, driving growth and sustainability. It is an economy where member acquire, create, disseminate and apply knowledge to facilitate economic and social development (Wikipedia). Cantu-Martinez (2017) defined sustainable knowledge-based economy as behaviour analysis and the facts related to the economic application of knowledge. Klimska (2016) refers to it as an economy in which knowledge is a key factor in productivity and economic growth. It involves using knowledge potential as a strategic development factor. Entrepreneurship and technological knowledge and application have been identified as one of the most important strategies for enhancing job creation thus creating sustainable economic growth and development. To assess the availability and utilization of new technology for entrepreneurship education instructional delivery in a sustainable knowledge-based economy, the influence of institution ownership on their views is necessary in order to draw a logical conclusion.

Entrepreneurship education is taught both in state and federal colleges of education. State owned colleges of education are established, owned, controlled and funded by the state

government while federal colleges of education are established, owned, controlled and funded by the federal government. Federal and state-owned colleges of education in Nigeria have different characteristics. This hypothesis needs an empirical support, hence the inclusion of influence of institution ownership in the assessment of the availability and utilization of new technologies in entrepreneurship education instructional delivery in a sustainable knowledge-based economy.

Research has shown that education in Nigeria has been affected by lack of adequate materials, machine and equipment for instructional delivery. Entrepreneurship education is not exempted in this challenge. Confirming these, Adekola in Kulo and Agbogo (2016) noted that instructional materials used in teaching entrepreneurship education in Nigeria are not adequate to address modern trends of skill acquisition in the society. Mode of operating business has change drastically and for students of entrepreneurship education to acquire the entrepreneurial competences and skills that will enable them function and operate in the present digital business world, they need to be exposed to these new technologies that have revolutionize the way business is conducted. Observation by the researchers has shown that most institutions offering entrepreneurship education lack adequate new technologies required for effective teaching and learning. These challenges have lingered and there is no adequate measure by those concerned to provide lasting solution to it. The effect is that lack of exposure to these technologies will make the students in equipped to face the challenge of today's business after their graduation. It is this reason that motivated the researcher to assess the availability and utilization of new technologies for entrepreneurship education instructional delivery in a sustainable knowledge-based economy in colleges of education in Anambra and Imo State, Nigeria. Specifically, the study identified the new technologies that are available for entrepreneurship education instructional delivery and the level of utilization of these new technologies for entrepreneurship education instructional delivery in colleges of education in Anambra and Imo State.

Research Questions

The following research questions were formulated for the study;

1. What type of new technologies are available for entrepreneurship education instructional delivery in Colleges of Education in Anambra and Imo State?
2. What is the level of utilization of new technologies for entrepreneurship education instructional delivery in Colleges of Education in Anambra and Imo State?

Hypothesis

A null hypothesis guided the study;

There is no significant difference in the mean ratings of NCE business education students of state government owned colleges of education and federal government owned colleges of education on the utilization of new technologies for entrepreneurship education instructional delivery.

Method

The study adopted a survey research design which permitted the use of questionnaire to elicit information from the respondents. The area of the study was Anambra and Imo State, Nigeria. According to Ojukwu (2012) survey research design is a form of descriptive research design. It is used in collecting samples from large or small population in order to examine the relative incidence, distributions and interrelations of variables in problem situation. The population of the study consist of fifty-one (51) NCE business education students in the three colleges of Education in Anambra and Imo State, Nigeria. A census survey sampling technique was adopted. A structured four-point scale questionnaire titled Assessment of Availability and Utilization of New Technologies for Entrepreneurship Education Instructional Delivery (AAUNTEEID) was the instrument used for data collection. The instrument was validated by three experts. The entire items numbering thirty-six (36) yielded a reliability co-efficient of 0.86. This was obtained using cronbach Alpha reliability test.

A total of fifty-one (51) copies of the instrument for data collection were distributed with the help of two research assistants through on the spot completion and retrieval. All the fifty-one (51) copies of the instrument distributed were completed, retrieved and used for analysis. The analysis was done with the statistical package for social science (SPSS). Mean statistics and standard deviation were used to answer the research questions while t-test was used to test the null hypothesis at 0.05 level of significance. A null hypothesis was accepted were the p-value was equal to or greater than the alpha level of 0.5 and rejected where p-value was less than the alpha level.

Results

Research Question 1: What type of new technologies are available for entrepreneurship education instructional delivery in Colleges of Education in Anambra and Imo State?

Table 1: Respondents' percentage responses on the Type of New Technologies Available for Entrepreneurship Education Instructional Delivery (N = 51)

S/N	Items on New Technologies available for Entrepreneurship Education Instructional Delivery.	Available		Not available	
		F	%	F	%
1	Accounting machine	-	-	51	100%
2	Computer	51	100	-	-
3	Internet facilities	48	94%	03	6%
4	Printers	50	98%	01	2%
5	Scanning machine	-	-	51	100%
6	Fax machine	-	-	51	100%
7	Electronic calendar/scheduling	-	-	51	100%
8	Shredding machine	48	94%	03	6%
9	Adding and listing machine	-	-	51	100%
10	Mobile/cellular phones	51	100%	-	-
11	Letter addressing machine	-	-	51	100%
12	Letter opening machine	-	-	51	100%
13	Reprographics	51	100%	-	-
14	Franking machine	-	-	51	100%
15	Electronic scale machine	-	-	51	100%
16	Stamp affixing machine	-	-	51	100%
17	Multimedia projector	43	84%	08	16%
18	Sealing machine	-	-	51	100%

Data in Table 1 revealed that out of 18 new technologies only 7 are available for entrepreneurship education instructional delivery in the two colleges of education in Imo State. They include computer, internet facilities, printers, shredding machine, mobile/cellular phones, reprographics and multimedia projector. This is evidenced by the percentage scores of 100, 98, 94, 100, 100 and 84 respectively.

Research Question 2: What is the level of utilization of new technologies for entrepreneurship education instructional delivery in Colleges of Education in Anambra and Imo State?

Table 2: Respondents' Mean and Standard Deviation Ratings on the Level of Utilization of New Technologies for Entrepreneurship Education Instructional Delivery

S/N	Items the Level of Utilization of New Technologies for Entrepreneurship Education Instructional Delivery	X	SD	Remarks
19	Accounting Machine	-	-	-
20	Computer	3.67	0.83	Highly utilized
21	Internet facilities	2.12	0.95	Not utilized
22	Printers	1.78	0.73	Not utilized
23	Scanning machine	-	-	-
24	Fax machine	-	-	-
25	Electronic calendar/scheduling	-	-	-
26	Shredding machine	2.02	1.04	Not utilized
27	Adding and listing machine			
28	Mobile/cellular phones	1.93	0.77	Not utilized
29	Letter addressing machine	-	-	-
30	Letter opening machine	-	-	-
31	Reprographics	2.44	0.81	Not utilized
32	Franking machine	-	-	-
33	Electronic scale machine	-	-	-
34	Stamp affixing machine	-	-	-
35	Multimedia projector	2.03	0.88	Not utilized
36	Sealing machine	-	-	-
	Cluster Mean	**2.28**		**Not utilized**

Data in Table 2 shows that item 20 with mean score 3.67 was rated highly utilized while items 21, 22, 26, 28, 31 and 35 with their respective mean scores of 2.12, 1.78, 2.02, 1.93, 2.44 and 2.03 were rated not utilized by NCE business education students as regards the new technologies for entrepreneurship education instructional delivery. The cluster mean of 2.28 summarized that NCE business education students did not utilize new technologies for entrepreneurship education instructional delivery in Colleges of Education in Anambra and Imo State. The standard deviation scores that ranging from 0.83 – 1.04 means that business education students in colleges of education responses were homogenous in nature.

Hypothesis 1: There is no significant difference in the mean responses of male and female NCE business education students on the utilization of new technologies for entrepreneurship education instructional delivery

Table 3: t-Test Analysis on the Significant Difference in the Mean Responses of Male and Female NCE Business Students on the Utilization of New Technologies for Entrepreneurship Education Instructional Delivery

Variables	N	X	SD	df	t-cal	p-value	α-value	Remark
State	12	19.74	3.14					
				49	4.65	0.00	0.05	Significant
Federal	39	18.34	5.05					

Data in Table 3 revealed that at 0.05 alpha level with 49 degree of freedom and t-cal value of 4.65, the p-value of 0.000 is less than the alpha value of 0.05 ($df = 49, p < 0.05$). This means that the null hypothesis of no significance is rejected. Therefore, there is a significant difference in the mean ratings of NCE business education students of state government owned and federal government owned colleges of education on the utilization of new technologies for entrepreneurship education instructional delivery.

Discussion of Finding

The result presented in Table 1 revealed that computer, internet facilities, printers, shredding machines, mobile/cellular phones, reprographic and multimedia projector are available for instructional delivery while accounting machine, scanning machine, fax machine, electronic calendar/scheduling, adding and listing machine, letter addressing machine, letter opening machine, franking machine, electronic scale machine, stamp affixing machine, sealing machine are not available for entrepreneurship education instructional delivery. This finding is in line with the findings of Oluwadare, Adekunle and Ebiniyi (2019) which revealed that majority of new technologies for teaching business and entrepreneurship education courses were not very much available while only few of them were available. The result by Madu and Pam (2011) also revealed that only few technologies were available for teaching and learning in Federal University of Technology, Minna, Niger State. The result of this study is not different from that of Agoha (2016) which revealed that out of the 11 listed new technologies required for teaching and learning entrepreneurship education in the three colleges of education in Kano State only four are available. In agreement with this study also the study by Duktur Barko and Zakka (2016) showed that only 3 new technologies are available for entrepreneurship instructional delivery in the department of business education in all the colleges of education in the six states of the North central Nigeria.

The findings on the utilization of new technologies for teaching and learning entrepreneurship education showed that out of the seven new technologies available for entrepreneurship education instructional delivery in Colleges of Education in Anambra and Imo State, only computer is highly utilized for entrepreneurship education instructional delivery. This result is in conformity with the findings of Oluwadare, Adekunle and Ebiniyi (2019) which indicated that new technology for teaching business/entrepreneurship education is not utilized as expected because of the inadequacy of new technology infrastructure available for instruction. Onojetah (2014) argued that there is correlation

between availability and utilization of new technologies as the status of the former greatly influences the later. There is a relationship between the findings of this study and that of Igbongidi (2016) which revealed that infrastructures and equipment are the challenges of effective implementation of entrepreneurship education in tertiary institutions in Bayelsa State.

Meanwhile the result of the hypothesis showed that there is a significant difference in the mean responses of state and federal government owned colleges of education on the utilization of new technologies for teaching and learning entrepreneurship education. The difference in opinions may be based on institution peculiarities.

Conclusion

The need for adequate provision of new technologies for entrepreneurship education instructional delivery cannot be over emphasized. Entrepreneurship education which is geared towards providing students with marketable/entrepreneurial skills that can make them either employable or self-reliant require that new technologies be adequately used during instructions as to prepare the students for work in this technological era. To achieve the objective of enshrining entrepreneurship education into the curriculum, new technologies should be made available for teaching and learning.

The study which was carried out in Colleges of Education Anambra and Imo State revealed that new technologies are not adequately available for teaching and learning and out of the few available ones only five are utilized.

Recommendations

1. Heads of departments of business education in colleges of education in Anambra and Imo State should think outside the box by searching for alternative ways of procuring new technologies rather than depending wholly on the management of their institutions or the government.
2. Lecturers assigned to deliver business education instructions, should allow the students to properly utilize available new technologies rather than handling them like sacred cows.

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