## Achieving Sustainable Development Goal of Quality Education through Integration of Emerging Techologies in Teaching of Business Education

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### ABSTRACT

*This study examined the extent of integration of emerging technologies in teaching Business Education courses in Universities in Enugu State as one of the measures for achieving sustainable development goals in Enugu State. One research question and one hypothesis guided the study.   The population of the study comprised 26 Business Educators in the two public Universities offering Business Education programme in Universities in Enugu State. The main instrument for data collection was the researchers' structured questionnaire tagged' extent of integration of emerging technologies for teaching Business Education courses in Universities in Enugu State. (EIMTECH). The instrument was validated by three experts from the Faculty of Education, Enugu State University of Science and Technology.  Data collected were analyzed using mean and standard deviation. Mean was used to answer the research questions while standard deviation was used to determine the closeness or otherwise of the responses from the mean. The hypothesis was tested using a t-test at the.05. level of significance. The  findings revealed that the extent of integration of emerging technologies in teaching of Business Education courses is low. The study further revealed that there was no significant difference between the mean ratings of Business Educators teaching in Federal and State Universities in Enugu State. The study concluded that emerging technologies plays significant roles in achieving sustainable development goals.  Based on the findings of the study, the researchers recommended that Business Educators need to be trained and re-trained regularly on emerging technologies and also University management should ensure adequate implementation of policies that would propel the integration of emerging technologies by Business Educators to a high extent.*

**Keywords:** Emerging technologies, Sustainable development goals, Business Education and Teaching.

## INTRODUCTION

Education is the key that allow other sustainable development goals (SDGS) to be achieved. When people are able to get quality education, they can break from the cycle of poverty, reach gender equality and contributes to peaceful society, etc. One of the goals of sustainable development is quality education. The aim of this goal is to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

Quality entails having value.  Quality education provides the learners learning experience for meaningful living in the society. This corroborates with the assertion of Rashmi (2016) that a good quality education is one that provides all learners with the capabilities they require to become economically productive, develop sustainable livelihood, contribute to peaceful and democratic societies and enhance individual well being.  United Nation's International Children's fund (UNICEF, 2000), provides a very comprehensive definition of quality education as any education that is well designed to provide the recipient with an all-

round development of skills and potential to achieve success in their future endeavors in the society. Technology is changing the society. Therefore, quality education for the 21$^{st}$ century must incorporate emerging technologies that can help the learners to develop their skills and potentials for success in their future endeavors.

Emerging technologies means innovations in the society. When we talk of emerging technologies in education, it refers to innovations in the field of education which can be in the area of instructional delivery or teaching. In the opinion of George (2008), Emerging technologies are tools, innovations and advancements utilized in diverse educational settings (including distance, face-to-face and hybrid forms of education) to serve varied education-related purposes. The author further explained that emerging technologies can be defined and explained in the context of the following characteristics.

> Emerging technologies (ET) can be but are not necessarily new technologies, though they may be treated as synonymous. Emerging technologies represent newer developments in teaching including other existing ones.
> It evolve organisms that exist in a state of 'coming into being'. For instance, Twitter, the popular social networking and micro-blogging platform
> ET goes through hype cycles: Today's emerging technology may be considered obsolete tomorrow. etc.

Schools are incorporating emerging technologies such as Artificial intelligence, virtual reality and augmented reality into classroom. This is in conformity with the opinion of Mortion (2012) that new technologies in Business Education include power point, Blogging, mobile devices, concept mapping, augmented and virtual reality. Integrating emerging technologies in

teaching and learning of Business Education is a crucial issue in ensuring quality Business Education program and one of the quality assurance measures for quality education. This is because it enables more innovative and engaging teaching methods and learning experience for both the educators and students.

Integrating emerging technologies (ET) in teaching and learning entails making ET part and parcel of teaching learning process. According to Nwokike (2015), technology acts as a tool for creating a constructive learning environment thereby adding quality to teaching and learning. Therefore, Business Educators can add quality in teaching and learning of Business Education courses by integrating ET in teaching.

Business Education is a programme of instruction offered in many universities in Nigeria. In the view of Enwemasor and Charles- Odili (2022), Business Education is the embodiment of vocational experience and skills needed for jobs and development in a wide and development in a wide variety of business professions. Usman (2022) opined that one vital aim of Business Education is to provide students with knowledge and skills that will make them functional members of the society. Zango (2020) opined that the aim of the business education programme is to teach the skills, attitudes, and information required for a successful career in the office and business world. Usman further emphasized that the basic way to do this is through the use of information and communication Technology.

Ogundele and Lawal (2016) pointed out that information and communication technology (ICT) is primarily the source of the technological advancements in business education. They claimed that society is generally driven by ICT and that learners and students in business education need to

receive new knowledge and skills in order to stay up with these developments. Ihieonyemolor (2021) stressed that ICT is viewed as the foundation of all important instructional knowledge for educating pupils at the Basic Education level. Emerging technologies metamorphosed as a result of information and communication technology. Zango (2020) noted that education has become too flexible and that new, developing technologies are changing the way we learn. According to Setiana and Besar (2021), the expansion of ICT has numerous benefits for students; it serves as an educational instrument for students to seek knowledge, maintain social contacts, and so on.

On the other hand, Business Educators are professionally trained intellectuals who are competent in teaching core Business Education courses and courses in their area of specialization in public or private Universities. Public universities are those universities owned and financed by government while private universities are those owned and financed by private individuals. It follows that for business education students to receive quality education in the 21$^{st}$, Business Educators need to integrate emerging technologies in teaching. It is against this background that the researchers seek to determine the extent of integration of emerging technologies in teaching of Business Education for achieving sustainable development goals of quality education in Universities in Enugu State.

## Statement of the problem

Technology in education, according to Zango (2020), is the efficient application of educational technology to achieve desired learning results. According to Ugwoke (2011), business education is task-oriented, skill-based, goal-oriented, and technologically based. According to Watters (2023), technology is constantly evolving,

and those who wish to stay at the forefront of innovation must adapt. As businesses and consumers alike adopt cutting-edge technologies, the consumer journey is taking a new turn. The ever-evolving role of technology continues to be a concern for all educators, particularly business educators, according to Ogundele and Lawal (2016).

Teachers of business education must regularly update their knowledge of hardware and software as well as pick up new information-based technologies. For business instructors, the integration of this knowledge and the ongoing upkeep and updating of hardware are significant obstacles. According to Ugwoke (2011), business education is task-oriented, skill-based, goal-oriented, and technologically based. From the above literatures it appears that technology is fundamentally altering the world. Anyone teaching business education in the twenty-first century that is unable to incorporate new technology into their lessons cannot claim to be preparing their pupils for the workforce or to be providing them with a high-quality education. However, observation shows that Business Educators have not properly integrated emerging technologies in teaching. Non integration of these emerging technologies in teaching of Business Education would likely make the achievement of sustainable development goal of quality education a mirage, therefore, the need for the present study.

## Purpose of the study

The general purpose of the study was to determine the integration of emerging technologies in teaching Business Education for achieving the sustainable development goal of quality education. Specifically, the study sought to determine the:

Extent of integration of emerging technologies in teaching of Business Education courses for achieving sustainable

development goal of quality education in universities in Enugu State.

## Research question
The study is guided by one research question.
1. What is the extent of integration of emerging technologies in teaching of Business Education courses for achieving sustainable development goal of quality education in universities in Enugu State?

## Null hypothesis
The null hypothesis was tested at .05 level of significance.
There is no significant difference between the mean responses of Business Educators in Federal and State Universities on the extent of integration of emerging technologies in teaching of Business Education courses for achieving sustainable development goal of quality education in universities in Enugu State.

## Method
The design of the study was a descriptive survey. According to Otache cited by Tony-Okeme and Umoru(2021), descriptive research design describes the elements or subjects being studied. This design is suitable for the study because it was set to determine the extent of integration of emerging technologies by Business Educator for quality Education. The area of the study is Enugu State while the population of the study was 26 Business Educators teaching in Federal and State Universities offering Business Education programme as an academic discipline. The

instrument for data collection was a structured questionnaire developed by the researchers. The entire population was used; therefore, no sample was drawn. A well structured questionnaire entitled integration of emerging technologies in teaching of Business Education courses for achieving sustainable development goal of quality education in universities in Enugu State was utilized as the instrument for data collection. The instrument has two sections: Section A and B. Section A deals with the demographic variable of the respondents, using such variable as institutional ownership while section B has two parts: part A and B. Part A has 13 items.

The instrument was validated by two experts from Business Education and one expert from measurement and evaluation option, Department of Science and Computer Education, all from Faculty of Education, Enugu State University of Science and Technology. Data collected were analyzed using mean and standard deviation on four point scale of VGE(Very great extent), GE(Great extent), LE(low extent) and VLE(Very low extent) while t-test was used to test the hypothesis. Any item below the criterion mean of 2.50 is low extent.

## Results
### Research Question 1
What is the extent of integration of emerging technologies in teaching of Business Education courses in Universities for achieving sustainable development goal of quality education in Enugu State?

**Table 1: Mean ratings and Standard deviation of business educators on the extent of integration of emerging technologies in teaching of business education courses in Universities for achieving sustainable development goal of quality education in Enugu State**

| S/N | extent of integration of emerging technologies in teaching of business education courses for achieving sustainable development goal of quality education; | Federal Uni. Business Educators N=20 | | State Uni. Business Educators N=6 | | Overall | | Decision |
|---|---|---|---|---|---|---|---|---|
| | | $\overline{X}_1$ | $SD_1$ | $\overline{X}_2$ | $SD_2$ | $\overline{X}_G$ | $SD_G$ | |
| 1 | Cloud computing | 2.35 | 0.85 | 2.30 | 0.80 | 2.32 | 0.89 | Low extent |
| 2 | Educational technologies based on artificial intelligence | 2.05 | 1.60 | 2.40 | 0.63 | 2.22 | 0.80 | Low extent |
| 3 | Block chain | 2.15 | 0.81 | 2.17 | 0.98 | 2.16 | 0.86 | Low extent |
| 4 | Virtual reality | 2.15 | 1.04 | 1.50 | 0.55 | 1.82 | 1.01 | Low extent |
| 5 | e-banking | 2.00 | 1.08 | 3.00 | 1.26 | 2.50 | 1.18 | High Extent |
| 6 | Point on sale | 2.90 | 1.12 | 3.17 | 0.41 | 3.03 | 0.99 | High Extent |
| 7 | Automatic teller machine | 2.95 | 0.94 | 2.83 | 0.98 | 2.89 | 0.93 | Low extent |
| 8 | 5G technologies | 2.36 | 0.94 | 2.27 | 0.87 | 2.32 | 0.90 | Low extent |
| 9 | Competency based education | 3.10 | 0.31 | 3.50 | 0.55 | 3.30 | 0.40 | High Extent |
| 10 | Adaptive learning | 3.10 | 0.31 | 3.50 | 0.55 | 3.30 | 0.40 | High Extent |
| 11 | 3D printing | 2.08 | 0.75 | 2.48 | 0.98 | 2.28 | 0.65 | Low extent |
| 12 | Mobile learning | 3.35 | 0.81 | 3.33 | 0.82 | 3.24 | 0.79 | High Extent |
| 13 | Online classes | 3.50 | 0.76 | 3.00 | 0.63 | 3.25 | 0.75 | High Extent |
| | Grand Mean | 2.61 | 0.82 | 2.72 | 0.73 | 2.67 | 0.82 | Low extent |

The result of data analysis presented in Table 1 shows that the overall mean ratings of the respondents for the 13 items is 2.67. The item ranges from 1.82 (virtual reality) to 3.30 (online classes). This means that the extent of integration of emerging technologies by Business Educators in teaching of business education courses in Universities for achieving sustainable development goal of quality education in Enugu State is to a low extent. The overall cluster mean of 2.67 further depicts low extent. The low cluster standard deviation of 0.82 obtained from data analysis indicates that the respondents have consensus opinion in their responses to the items.

**Hypothesis 1**
There is no significant difference on the mean ratings of federal university business

educators and state university business educators on the extent of integration of emerging technologies in teaching of business education courses in Universities for achieving sustainable development goal of quality education in Enugu State.

**Table 2: Summary of t-test analysis on the mean ratings of federal university business educators and state university business educators on the extent of integration of emerging technologies in teaching of business education courses in Universities for achieving sustainable development goal of quality education in Enugu State**

| Variables | N | T | df | Sig. (2tailed) | Mean Difference | Std. Error Difference | Decision |
|---|---|---|---|---|---|---|---|
| Fed. Uni. Business Educators | 20 | 1.424 | 24 | .167 | 4.08333 | 2.86715 | NS |
| State University Business Educators | 6 | | | | | | |

The result of data in Table 2 shows that the t-value at 0.05 level of significance and 24 degree of freedom for the 13items is 1.424with a significant value of 0.167. Since the significant value of 0.167 is more than the 0.05 level of significance the null hypothesis is not significant. This means that there is no significant difference with the regard to the 13 items on the mean ratings of Business Educators in the Federal and State University on the extent of integration of emerging technologies in teaching of Business Education courses in Universities for achieving sustainable development goal of quality education in Enugu State.

**Discussion of findings**
The result of the study in Table 1 revealed that the extent of integration of emerging technologies such as cloud computing, education technologies based on artificial intelligence, block chain etc is low. This means that Business Educators in Universities in Enugu State integrate these emerging technologies to a low extent. These emerging technologies enhance teaching and learning thereby promoting quality education. This corroborates with the view of Alpaydin cited by Philip, (2022)

that emerging technologies such as artificial such as artificial intelligence(AI), block chain, virtual reality(VR), robotics, internet of things(IOT) and quantum computing etc enhance organizational and individual-learning outcomes. Since these emerging technologies could enhance organizational outcomes, it could also enhance teaching and learning in properly integrated by Business Educators in teaching.

The study specifically examined the extent of integration of Emerging Technologies in teaching of Business Education courses in Universities for achieving sustainable development goal of quality education in Enugu State. The study found that the extent of integration of these emerging technologies by Business Educators in Universities in Enugu State is very low. This could be as a result of poor training and retraining of Business Educators on emerging technologies.

Also, the study found that there is no significant difference between the mean ratings of Business Educators in the Federal and State University on the extent of integration of emerging technologies in teaching of Business Education courses in

Universities for achieving sustainable development goal of quality education in Enugu State. This tallied with the findings of Hadiza (2022) that there is no significant difference between the mean responses of male and female Business Education Lecturers on the extent of usage of online data base facilities for research in Colleges of Education in North Eastern Zone.

## Conclusion

The researchers examined the extent of integration of emerging technologies by Business Educators in Universities in Enugu State for teaching Business Education courses. From the findings of the study the researchers concluded that the extent of integration of these emerging technologies in teaching by Business Educators in Universities is low.

## Recommendations

Based on the findings of the study, the researchers recommended that:

1. Business Educators in Universities in Enugu State should be trained and retrained on these emerging technologies such as cloud computing, educational technologies based on artificial intelligence, 5G technologies and 3D printing etc.

2. The institution should also provide emerging technologies resources for proper integration of these emerging technologies for Business Educators in teaching.

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