

Colleges of Education and Industries Partnership as a Panacea for Developing Entrepreneurial Skills among Technical Education Graduates in Nigeria

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ABSTRACT

The study aimed at fostering Partnership Between Colleges of Education (Technical) and Industries for Developing Entrepreneurial Skills among Metalwork Technology Education Students (MTES) in North-East Nigeria. Two research questions were raised and two null hypotheses were postulated. The research design was cross-sectional survey. The area of the study was North East Nigeria. The study population was 175 respondents, which included 25 Lecturers, 10 Technologies, and 80 NCE III students of Metalwork Technology Education Department from 5 colleges of education in North east Nigeria, in 2022/2023 academic session, and 60 industrial base supervisors. Multi stage sampling technique was used in the study. Firstly, convenient sampling technique was used to select North-East out of the three geo political zones of the study, purposive sampling technique was used to select 5 colleges of educations that offer Metalwork as a course in the study area. Also, the study stratified the participants according to their group (stratum) and 152 participants from population of the study were sampled by using simple random sampling. The instrument used for data collection was questionnaire. The instrument was validated by two experts in Entrepreneurship and Technology Education. The reliability coefficient of the instrument was 0.80, using the Cronbach Alpha technique. The data collected was analyzed using statistical package of social Sciences (SPSS). Mean and standard deviation were used to answer the research questions. The findings of the study revealed among others that, there was high extent in developing marketing skills when there is partnership between Educational Institution (EI) & Mechanical Engineering Industries (MEI). The findings also revealed that there was a significant difference in the mean responses of Lecturers, industrial staff and students on the extent to which Partnership between EI and MEI develop creative thinking skills among the MTES. It was recommended that, in response to the positive impact on marketing and creative thinking skills, educational institutions and mechanical engineering industries should further initiate a joint training program into the curriculum to enhance students' entrepreneurial skills.

ARTICLE INFO

Article History

Received: December, 2023

Received in revised form: December, 2023

Accepted: March, 2024

Published online: March, 2024

KEYWORDS

Colleges of Education, Industries Partnership, Marketing Skills, Creative Thinking Skills

INTRODUCTION

Partnership between educational institutions and industries have yielded positive

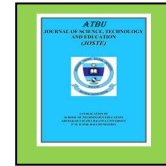
result in many countries, as most of the developing and developed nations gave emphasis on dual education system which give numerous

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skills to the students (Mhlanga, et al., 2022). Kathleen (2022) stated that Germany is a country with dual education system in such a way that students go to school two or three days a week and two days they go to industry for skills acquisition. Kathleen (2022) further stated that Spain is also one of the countries which boosts and initiates programs to encourage educational institution–industry research and development partnerships.

Partnership between Educational institution and industry can be referred to as teamwork. Partnership is an arrangement where parties agree to cooperate to invest their resources for mutual interest (Amey & Eddy, 2023). Even though Cyril (2016) have observed that educational institutions-industries partnership in Nigeria is receiving less attention and this resulted in the dearth of skilled workers. Hägg, (2022) submitted that, despite the recognition of entrepreneurship on the way to global economic development, a large body of research on institutions-industries partnership in Nigeria remains unresolved. Educational institutions and industries partnership in Nigeria lacks adequate attention it deserves and this resulted in the dearth of skilled workers (Iwara & Kilonzo, 2022). Agbo and Nnajifor (2023) observed that poor coordination and administration of student industrial work experience scheme (SIWES) have weakened the partnership between educational institutions and industries in Nigeria.

In recent times, it has become a matter of serious concern by the Nigerian government that the efforts of government towards preparing young graduates with enterprising skills experiences in the world of work is not yielding the desired results (Adebakin & Ayanlowo, 2023). In addition, despite the government's efforts and commitments towards entrepreneurship education especially at the tertiary institutions the level of establishing their own entrepreneurial shops by technical graduates from colleges of education is not encouraging because the percentage of those engaged in entrepreneurial activities after graduation is very small (Adebakin & Ayanlowo, 2023). Consequently, the issue of unemployment and underemployment especially

among technical education graduates of colleges of education is increasing at alarming rate (Ugwoegbulem, 2022). Literature revealed that lack of practical, managerial, marketing, interpersonal, creative thinking and computer entrepreneurial skills is no doubt a major contributing factor to the problems of employment of graduates in Nigeria, and this can be overcome through partnering between educational institutions and industries (Adebakin & Ayanlowo, 2023).

Equally, Olurunfemi (2021) revealed that there is increasing rate of unemployment particularly among the Nigerian youths. Kazaure (2015) also observed that these young graduates in Nigeria are half baked with inadequate entrepreneurial and practical skills all. This means that, they are at high risk of economic marginalization. Upgrading their skills is essential in order to help them to create job and to be self-reliant (Begum & Basiru, 2023). However, Dubey, (2022) argued that the unemployment can be drastically reduced by developing the individuals' entrepreneurial skills and intention. Uddin, et al, (2022) revealed that the problem of graduate unemployment originated from differences which exist between labor market requirements and lack of essential employability skills on the part of Nigerian graduates.

Marketing Skills for Student Entrepreneurial Skills Development

Entrepreneurial marketing skill is a modern approach to marketing in an SME business environment. By adopting an entrepreneurial marketing approach, businesses are able to rebrand and reposition their market offerings and gain a competitive advantage as well as develop new markets for their products and services. entrepreneurial marketing skill provides the leverage for businesses to increase their market share (Ayozie, 2020). Marketing is a vital requirement for a business growth which most entrepreneurs are far from investing in this. They need to learn new skills to ensure they're relevant to their business success. To give your business the best chance of success, you need to invest in marketing skills. Everyone, will agree that,

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marketing affords visibility any organizational products and create awareness to customers.

Investing in marketing skills goes beyond just buying marketing tools and hoping for the best however, those tools will only be effective when your marketers have the training to utilize them effectively and being the important aspect organizational factors in business growth (Morrish & Jones, 2020). McKinsey (2021) further, identified some basic skills for a successful entrepreneurial marketing skills strategy which are as follows;

Interpersonal Relationship Skills

Even though a lot of marketing is done online today, marketers still end up interacting with their co-workers and prospects. Of course, the medium has changed but the concept is still the same. An entrepreneur needs to train his marketers on how to communicate and collaborate with other employees. Otherwise, the lack of proper interpersonal relationships in your business can lead to a poor employee experience for everybody. In fact, Sales force found that improved employee experience led to improved Customer attraction, and organizations that highly value employee experience normally generate higher revenue growth to those who don't. Beyond relationships with co-workers, marketers should also know the technical know-how of how to relate to their leads. After all, saying the wrong words or taking the wrong action could be the difference between a customer and a lost vision.

Content Creation

McKinsey (2021) stated that, content creation is one of the most important elements of marketing. Marketing content is a must in today's digital environment. Marketers utilize content in some shape or form in all digital marketing channels and platforms, such as:

1. Website content to inform and persuade web visitors
2. Social media content to reach and engage new and existing customers
3. Email content to nurture leads and influence repeat customers

Now, many marketers have to learn how to research and create the right type of content that will convert your audience to qualified leads. Apart from the written content, marketers also have to create images, videos, and other forms of content.

Search Engine Optimization (SEO) Marketing Skills

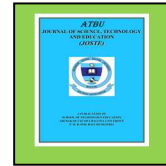
McKinsey (2021) has also said, Google and other search engines have become a vital part of the customer research process. For instance, your potential customers will likely carry out a series of searches before they decide on a product. Marketing skills for SEO include keyword research, on-page SEO, link building, and so on. By investing in these skills, you'll increase your profits.

Social Media Marketing Skills

Over the years, social media has become one of the most popular platforms for interactions. Apart from interacting with friends, users also interact with businesses. In addition, Global Web Index revealed that 54% of social media browsers, use social media to research products (McKinsey, 2021). Some popular social media channels for businesses today are:

1. Facebook
2. Instagram
3. Pinterest
4. Twitter
5. LinkedIn
6. Snapchat
7. Tik Tok

McKinsey, 2021 concluded that different channels have different audience demographics and best practices. Whereas, own's business determines the best social media channels to get results and where likely the potential customers can be reached. Then, marketers need to understand how to engage with their audience on each platform.



Creative Thinking Skills for Student Entrepreneurial Skills Development

Creative thinking skills are described as the heart and the soul of enterprise. It entails attempting to carry out tasks in a specific way or to conduct a variety of activities to provide the entrepreneur with a unique mix of value. Juliana et al., (2021) the benefit of creative thinking is that it allows the state entrepreneurship to deliberately seek out opportunities to do new things or to do old things in innovative ways. As a result, whatever new paths are dictated by market conditions and consumer desires, creative thinking skills inspire and drive excellent entrepreneurship in guiding organizational operations, delighting customers to the benefit of all stakeholders (. Juliana, et al., 2021).

According to Schiavio, et al., (2021) Creativity is described as the ability to invent or bring something new into being, whether it's a new approach to a problem, a new method or device, or a new object or form of art. On the other hand, Paul and Elder, (2019) describes creative thinking skills as something unique and useful. Creative thinking is the act of seeing something that everyone else does but connecting it in ways that no one else has and is shifting from the familiar to the unfamiliar (Eberle, 2023). The element of creative thinking was introduced to the description of entrepreneurship in the twentieth and twenty-first centuries. Today, entrepreneurs are viewed as individuals with the potential to revolutionize production patterns by using innovation (Amit & Zott, 2020). An entrepreneur is a businessperson who starts (builds), develops, and manages a business enterprise to make a profit or benefit from it. Similarly, Anwar and Saleem (2019) defines entrepreneur as a person who uses his or her attributes, such as risk-taking, creativity, innovation, and the ability to organize and schedule activities, to put ideas into action to achieve a specific goal.

Creative thinking and innovation in businesses

Creative thinking and Innovation are essential skills for success in any form of enterprise. To solve a management challenge,

one requires creative insights. Creativity is described as an individual's ability to come up with fresh and original ideas to achieve a purpose. The application of creativity to find a solution to a problem is known as innovation (Verganti, Vendraminelli, & Iansiti, 2020). This simply means that creativity is a means to problem-solving. It is the application of a new approach, new concept, product, or method to increase a system's effectiveness or performance. It encourages imagination by encouraging others to view a problem from a different perspective. Eberle, (2023) submitted that, creativity involves dismantling and reorganizing our understanding of a subject to obtain a new viewpoint and new insights. People and method are the two most important elements. It is focused on the process of assisting a person or organization in finding a solution to an issue (Alam, 2022). The resource that responds is people. Creative people use this inventive method to find new ideas and issues, approach problems from new viewpoints, and develop theories about the issue (Azizi, et al., 2021).

Entrepreneurial spirit keeps businesses afloat and flourishing. According to Juliana, et al., (2021), creative thinking and innovative businesses excel by encouraging creative problem solving, driving innovation forward, improving problem-solving, increasing efficiency, and providing a competitive advantage to a company. Innovation benefits business transformation, transition, performance, management, and overall sustainability (Hofmann, & Jaeger-Erben, 2020). It's also a lever for people to be empowered, engaged, and encouraged to make major improvements to structures, cultures, people, goods, and processes. It contributes to improved organizational productivity, scope, and participation, as well as faster business growth and greater value (Barauskaite, & Streimikiene, 2021).

Research Questions

The following research questions were raised to guide the study;

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1. To what extent does partnership integration between EI and MEI develop marketing entrepreneurial skills among MTE students in north-east Nigeria?
2. To what extent does partnership integration between EI and MEI develop creative thinking entrepreneurial skills among MTE students in north-east Nigeria?

entrepreneurship and vocational and technology education for the content and face validity.

Reliability of the Instrument: The instrument was trial tested outside the study area, and the data collected was subjected to the Cronbach Alpha reliability coefficient which was found as the index value of 0.803.

Procedure for Data Collection

The researcher and research assistants directly administered the questionnaires to the respondents and the questionnaires were retrieved immediately.

Method of Data Analysis

The data collected was analyzed using descriptive and inferential statistics. Specifically, Mean and standard deviation were used to answer the research questions. The decision rule considered was that mean rating of 2.5 and above was agreed and mean rating that is below 2.5 was considered disagreed.

Results

Research Question One: To What extent does the partnership between educational institutions (EI) and mechanical engineering industries (MEI) develop marketing entrepreneurial skills among metalwork technology education (MTE) students in North-east Nigeria?

The data that provided the answer to the research question were analyzed and presented in the table 1.

METHODOLOGY

The research design used for this study was cross-sectional survey research design. Anas, et al., (2022) opined that survey research design is a procedure in quantitative research in which investigators administer a survey to a sample or to the entire population of people to describe the attitudes, opinions, behaviors, or characteristics of the population. In this procedure, survey researchers collect quantitative, numbered data using questionnaires. The total population for the study was 175 respondents; which comprised 25 lecturers, 10 technicians, 60 industrial staff and 80 NCE III Students from colleges of education in North East Nigeria offering metalwork (Mechanical) technology education.

Instrument for Data Collection

The instrument for data collection was structured questionnaire, Lecturers, Technicians, Industries staff and Students for developing entrepreneurial skills among technical education students. The instrument has two (2) constructs; Marketing entrepreneurial skills, having (10) items and creative thinking entrepreneurial skills, with (15) items.

Validation of Instrument: The instrument of the study was validated by three experts in the field of

Table 1: The Mean Responses of Respondents on the Extent to which Partnership Between (EI) and (MEI) Develop Marketing Entrepreneurial Skills among Metalwork Technology Education (MTE) Students in North-east Nigeria.

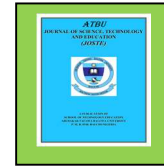
Items	\bar{X}_L NL= 24	SD _L	\bar{X}_T NT= 10	SD _T	\bar{X}_I NI= 52	SD _I	\bar{X}_S NS= 66	SD _S	GM	Rem
1 Extent to which Partnership between EI & MEI develop the Ability to carry out effective	3.21	1.0	3.30	0.9	3.87	0.9	3.58	0.9	3.49	ME

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Items	\bar{X}_L NL= 24	SD _L	\bar{X}_T NT= 10	SD _T	\bar{X}_I NI= 52	SD _I	\bar{X}_s NS= 66	SD _s	GM	Rem
marketing/ information research in Production technology										
2 Extent to which Partnership between EI & MEI develop the Ability to determine the needs of customers in Production technology	3.17	0.9	4.00	1.2	3.87	1.0	3.67	1.0	3.67	HE
3 Extent to which Partnership between EI & MEI develop the Ability to capture, maintain and retain the attention of customers in in Production technology	3.00	1.1	3.50	0.7	3.92	0.8	3.45	1.0	3.47	ME
4 Extent to which Partnership between EI & MEI develop the Ability to develop good negotiation skills with customers of Production technology	3.29	1.1	3.90	0.9	3.98	0.8	3.70	0.9	3.72	HE
5 Extent to which Partnership between EI & MEI develop the Ability to acquire effective sales techniques related to Production technology	3.04	0.9	3.90	0.6	4.12	0.8	3.61	1.0	3.67	HE
6 Extent to which Partnership between EI & MEI develop the Ability to determine demand and supply situation when working on Production technology	2.92	0.9	4.40	0.7	4.08	0.7	3.58	1.0	3.74	HE
7 Extent to which Partnership between EI & MEI develop the Ability to make Production technology 's goods and services available to customers at the right place, price and with appropriate advertising technique	3.25	0.9	4.30	0.7	4.04	0.8	3.55	0.8	3.78	HE

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Items	\bar{X}_L NL= 24	SD _L	\bar{X}_T NT= 10	SD _T	\bar{X}_I NI= 52	SD _I	\bar{X}_s NS= 66	SD _s	GM	Rem
8 Extent to which Partnership between EI & MEI develop the Ability to identify new trends in the marketing of environment when marketing Production technology	2.88	1.0	4.20	0.8	4.13	0.7	3.67	1.0	3.72	HE
9 Extent to which Partnership between EI & MEI develop the Ability to determine factors that indicate the strength and weakness of competitors of Production technology	3.17	1.0	4.10	0.6	3.98	0.8	3.73	1.0	3.74	HE
10 Extent to which Partnership between EI & MEI develop the Ability to identify seasonal fluctuation of goods and services of Production technology.	3.33	1.1	4.10	0.7	3.92	0.8	3.47	0.9	3.71	HE
Grand Mean	3.13		3.97		3.98		3.60		3.67	HE

Table 1 presented the result of research question 1, which indicated the extent to which partnership between educational institutions (EI) and mechanical engineering industries (MEI) develops marketing skills among MTEs, the table revealed that most of the items were of high extent, with item 6,7 and 9 having the highest mean of 3.74, 3.78 and 3.74, respectively. This indicated that there is high extent to which Partnership between EI & MEI develop students' the ability to determine demand and supply situation when working on Production technology, there is high extent to which Partnership between EI & MEI develop the students' ability to determine factors that indicate the strength and weakness of competitors of Production technology and high extent to which Partnership between EI & MEI develop the students' ability to make Production,

goods and services available to customers at the right place, price and with appropriate advertising technique. This implies that Partnership between EI & MEI will develop marketing entrepreneurial skills of students among MTE students at a high extent, mean = 3.67

Research Question Two

To What extent does the partnership between educational institutions (EI) and mechanical engineering industries (MEI) develop creative thinking entrepreneurial skills among metalwork technology education (MTE) students in North-east Nigeria? The data that provided the answer to the research question were analyzed and presented in the table 2.

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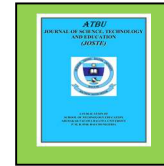


Table 2: The Mean Responses of Respondents on the Extent to which Partnership Between (EI) and (MEI) Develop Creative Thinking Entrepreneurial Skills among Metalwork Technology Education (MTE) Students in North-east Nigeria.

S/N	Items	\bar{X}_L NL= 24	$SD_L\bar{X}_T$ NT= 10	$SD_T\bar{X}_I$ NI= 52	$SD_I\bar{X}_S$ NS= 66	SD_SGM Rem
1.	Extent to which Partnership between EI & MEI increase speed and accuracy for asking questions	3.750.9	3.800.9	3.560.93	3.421.0	3.63HE
2.	Extent to which Partnership between EI & MEI increase Speed and accuracy for responding to questions.	3.670.8	4.000.7	3.730.83	3.561.1	3.74HE
3.	Extent to which Partnership between EI & MEI increase speed and accuracy for making conclusion of the problems being discussed	3.710.8	3.670.9	3.441.03	3.451.1	3.57HE
4.	Extent to which Partnership between EI & MEI increase spark many ideas in solving problems.	3.711.0	4.001.1	3.630.93	3.581.1	3.73HE
5.	Extent to which Partnership between EI & MEI increase and provide many ways or suggestions to do various things.	3.961.0	3.701.3	3.561.03	3.621.1	3.71HE
6.	Extent to which Partnership between EI & MEI make work faster and do more in solving problems.	4.000.8	4.300.7	3.671.03	3.531.0	3.88HE
7.	Extent to which Partnership between EI & MEI produce a problem-solving idea or answer a variety of questions.	3.790.8	4.001.2	3.691.03	3.650.9	3.78HE
8.	Extent to which Partnership between EI & MEI increase can see a problem from different points of view.	3.880.8	3.900.9	3.520.93	3.561.1	3.71HE
9.	Extent to which Partnership between EI & MEI increase presenting a concept in a different way (with slate from presentation, style, expression or expression).	3.920.8	3.801.1	3.461.03	3.621.0	3.70HE
10.	Extent to which Partnership between EI & MEI give new ideas in solving problems.	3.791.0	4.100.6	3.600.93	3.471.0	3.74HE
11.	Partnership between EI & MEI increase develop or enrich the ideas of others.	3.750.9	3.900.9	3.460.93	3.731.0	3.71HE
12.	Extent to which Partnership between EI & MEI increase, add or specify an idea so as to improve the quality of the idea.	4.041.0	3.900.6	3.690.93	3.611.1	3.81HE
13.	Extent to which Partnership between EI & MEI can determine the truth of a truth of the question or the truth of a problem-solving plan.	4.001.0	3.501.2	3.670.93	3.531.0	3.68HE
14.	Extent to which Partnership between EI & MEI can trigger ideas to solve a problem and can implement it correctly.	3.831.1	4.101.0	3.690.93	3.731.1	3.84HE
15.	Extent to which Partnership between EI & MEI increase and provide a sense of reason that can be accounted for to reach a decision.	3.830.7	4.200.8	3.690.93	3.591.0	3.83HE
16.	Extent to which Partnership between EI & MEI increase and express the reasons for the truth of the answers / statements.	3.420.9	4.001.1	3.581.13	3.741.0	3.68HE
Grand mean		3.81	3.93	3.60	3.59	3.73HE

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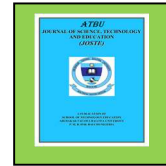


Table 2 revealed the result of research question 2, which indicated the extent to which partnership between educational institutions (EI) and mechanical engineering industries (MEI) develop creative thinking skills among MTEs, the table revealed that all the items were of high extent, with item 6,14 and 15 having the highest mean of 3.88, 3.84 and 3.83, this indicated that there is high extent to which Partnership between EI & MEI make work faster and do more in solving problems., there is high extent to which Partnership between EI & MEI do trigger ideas to solve a problem and can implement it correctly and highest extent to which Partnership between EI & MEI increase and provide a sense of reason that can be accounted for to reach a decision. This implies that Partnership between EI & MEI will develop creative thinking entrepreneurial skills of students among MTE students at a high extent, mean = 3.73

DISCUSSION OF FINDINGS

The findings of the study in research question one which was supported with the test of its null hypothesis revealed to a high extent that Partnership between EI & MEI will develop marketing entrepreneurial skills among metalwork technology education (MTE) students in north-east Nigeria (Mean = 3.67) and revealed that there was a significant difference in the mean responses of Lecturers, industrial staff and students in favour of Industrial staff and Students, while non-significant difference existed in the mean response of Lecturers and Technicians, as well as Technicians, Industrial staff and Students. This finding is similar to the findings of Ayozie, (2020); Morrishh and Jones (2020) who revealed that an entrepreneur needs to train his staff on marketing skills on how to communicate and collaborate with other employees. Otherwise, lack of proper marketing skills in a business leads to a poor employee experience. The findings also agreed with the findings in the study of Kuzminov, Sorokin and Hadiza, (2023) which revealed that partnership between schools and industries promotes quality training that has not received adequate attention in Nigeria.

The findings of the study in research question two which was supported with the test of its null hypothesis revealed to a high extent that Partnership between EI & MEI will develop creative thinking entrepreneurial skills among metalwork technology education (MTE) students in north-east Nigeria (Mean = 3.73) and indicated that there was a significant difference in the mean responses of Lecturers, Technicians, Industrial Based Supervisors IBS and Students on the extent to which partnership between EI and MEI developed creative skills among MTE students in North east Nigeria. The findings of this study was in line with the findings of Dewi and Mashami (2019) on creative thinking where they revealed that partnership is effective in the learning and teaching process with indicator of percentage given at the pre-test and post-test recapitulation report. Also, the finding indicated that partnership was effective in improving students' creative thinking ability. The study is similar to the current study as it was conducted on creative thinking skills of student but differ with the present as its design was experimental and a survey was the design of the present study. The findings of this study is in agreement with that of Halyna, Iryna and Iryna (2021) which the study revealed that partnership has improved students creative thinking skills and has positive impact on students' intentions to engage in online entrepreneurship.

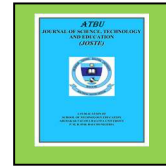
CONCLUSION

It can be concluded that partnership between colleges of educations and industries can significantly improve students' marketing and creative thinking entrepreneurial skill, which can easily sale them to industries upon their graduation and may even make them self—reliance economically without waiting and or searching for the non-existing white color job.

RECOMMENDATIONS

The following recommendations were made based on the findings of the study:

1. Educational institutions and industries should work together to provide students with practical experiences. This might include real-world projects,



internships, or collaborative research opportunities to improve students' abilities to understand and address demand, competition, and advertising techniques.

2. The development of creative thinking skills can be further supported by encouraging problem-solving challenges, innovation contests, and entrepreneurial programs within the curriculum.

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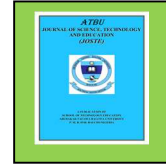
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