

Evaluation of Societal Needs for Government Technical Colleges' Curriculum in Gombe State

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ABSTRACT

This research evaluated the societal needs for government technical college curriculum in Gombe State, three research questions were designed to guide the study. The study adopted a survey research design. The population for this study comprised three main groups: students, educators, and industry employers. A total of 200 stakeholders were sampled, with a breakdown as follows: 80 students, 50 educators, and 70 industry employers. The students were randomly selected while the entire population of educators were used as sample from the Government Science and technical colleges within Gombe Metropolis, and the industry employers were purposively selected from a range of industries within Gombe State. The instrument used for data collection was a questionnaire, designed to capture the perceptions and views of respondents on various aspects of the technical school curriculum. The reliability of the instrument was determined using the split-half method, yielding a reliability coefficient of 0.72, which indicated a satisfactory level of consistency. The data collected were analyzed using mean and standard deviation, and findings clearly suggests a positive perception of how well the curriculum aligns with the technical skill requirements in the local labor, there is consensus among respondents that technical education is vital for addressing industry needs, improving employment opportunities, and bridging skill gaps, results also underscore the need for updates to the curriculum, stronger industry partnerships, and a more focused effort to bridge skill gaps, especially in high-demand technical fields. However, most stakeholders believe the curriculum is effective in preparing students for societal challenges, job markets, and the workforce. The study concluded that there is a clear need for reform in the technical school curriculum in Gombe State, therefore several recommendation were provided and suggestions were made for further research.

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INTRODUCTION

In the face of rapidly evolving global and national economies, technical education has become an essential pillar for promoting sustainable development and economic

transformation. Technical Colleges, which offer specialized programs in various fields such as engineering, information technology, and vocational training, play a critical role in equipping students with the practical skills and knowledge

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needed to meet the demands of modern industries. In Nigeria, including Gombe State, technical education has garnered increasing attention as a key solution to addressing the challenges of youth unemployment, poverty reduction, and industrialization. However, despite the growing emphasis on technical education, there remains a significant gap between the skills imparted in technical schools and the skills needed in the local labor market.

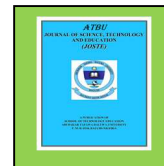
The importance of aligning technical colleges' curricula with societal needs cannot be overstated. According to Adebayo (2020), the rapid pace of technological advancements and the diversification of industries require a shift in how education, particularly technical education, is structured. In Nigeria, technical education has been historically viewed as a second-tier option for students, often overshadowed by academic-oriented curricula. This perception, combined with outdated educational frameworks and misalignment with industry trends, has contributed to a growing skills gap, leaving many graduates unemployable despite the availability of job opportunities (Nwogu, 2021). In Gombe State, this issue is particularly pronounced, as the state is striving to transition from a largely agrarian economy to one that incorporates diverse sectors such as manufacturing, services, and information technology (Ibrahim, 2022).

The mismatch between the skills produced by technical colleges and the skills required by employers has led to a mismatch in the labor market, exacerbating youth unemployment and underemployment in the region (Usman & Salisu, 2023). For instance, while Gombe State has seen significant growth in sectors such as agriculture, construction, and information technology, the technical school curriculum has largely remained traditional, focusing on outdated trade skills that do not reflect current industry needs (Ali & Mohammed, 2020). This disconnect is not unique to Gombe, but is a widespread challenge across Nigeria, as highlighted by Adedeji et al. (2019), who noted that the country's technical education system

often fails to adapt to the changing dynamics of the labor market.

In response to these challenges, policymakers, educators, and industry stakeholders have increasingly called for a reevaluation of the technical education curriculum to ensure it better addresses the needs of the labor market. A curriculum that is responsive to societal needs can enhance the employability of graduates, foster innovation, and support economic growth. As noted by Eze & Abiola (2021), aligning the curriculum with industry demands is critical in helping students acquire the relevant competencies and skills needed to thrive in the workforce. Moreover, integrating new technologies and modern practices into technical education can increase its relevance and contribute to a more competitive economy. For Gombe State, the alignment of technical education with societal needs is even more pressing due to the state's ongoing efforts to improve local infrastructure, expand its industrial base, and increase its participation in the national economy. A study by Yusuf, Alhaji, & Umar, (2024), emphasized that while Gombe State has the potential to become a regional economic hub, this will require a skilled workforce that can meet the demands of modern industries, such as technology, construction, and agro-processing. Therefore, evaluating the societal needs for the technical school curriculum in Gombe State is crucial in shaping a more relevant and future-ready educational framework.

This study aims to evaluate the societal needs for the Government technical colleges' curriculum in Gombe State, with a focus on identifying the skills that are most critical for the region's current and future labor market. By gathering data from key stakeholders, including industry employers, educators, and students, this research seeks to highlight the gaps in the existing curriculum and propose actionable recommendations to improve its alignment with societal needs. Ultimately, the goal is to ensure that technical education in Gombe State contributes effectively to the state's socioeconomic development by equipping



students with skills that enhance their employability and support the region's economic growth.

PURPOSE OF THE STUDY

The study is meant to achieve the following specific objectives:

1. To assess the current technical skill requirements in the labor market of Gombe State and their alignment with the existing technical college curriculum.
2. To identify key societal expectations and demands from technical education in Gombe State, focusing on industry trends, employment opportunities, and skill gaps.
3. To recommend curriculum adjustments or improvements that would better equip technical college graduates with relevant skills to meet the evolving demands of the local economy in Gombe State.

RESEARCH QUESTIONS

The following research questions were formulated to guide the study;

1. What are the current technical skill requirements in the labor market of Gombe State and their alignment with the existing technical college curriculum?
2. What are the key societal expectations and demands from technical education in Gombe State, focusing on industry trends, employment opportunities, and skill gaps?
3. What are the recommended curriculum adjustments or improvements that would better equip technical college graduates with relevant skills to meet the evolving demands of the local economy in Gombe State?

METHODOLOGY

This study adopts a descriptive survey research. The selection of this design was based on its effectiveness in capturing and describing the current situation without manipulating variables. Descriptive survey research is widely recognized for its ability to gather data on the characteristics, opinions, and behaviors of a population (Baba, 2005; Osuala, 2005). The research was

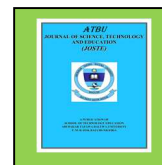
conducted in the Gombe Metropolitan Area, the capital of Gombe State, located in northeastern Nigeria. The population for this study comprises 107 industry stakeholders and employers, 50 state government technical college educators, and 140 NTC 2 Technical students, giving a total population of 297. In this study, a combination of simple random sampling and purposive sampling techniques was employed to ensure a diverse and representative sample of participants. Simple Random Sampling was utilized to select students' participants from the technical colleges within Gombe Metropolis i.e Government Science and Technical College Gombe and Government Science and Technical College Barunde. Specifically, 40 NTC 2 technical students were randomly chosen from each of these institutions making a total of 80 NTC 2 technical students from these technical colleges. On the other hand, a Purposive Sampling was employed to select 70 industry stakeholders, including employers, and vocational trainers while the entire population of 50 technical educators from the technical schools was used as sample, making a total sample of 200 respondents. This technique allows for the intentional selection of participants who possess specific knowledge or experience pertinent to the study, particularly in relation to the alignment of the technical school curriculum with industry needs (Etikan, Musa, & Alkassim, 2020). a structured questionnaire titled the Societal Needs for Technical College Curriculum in Gombe State Questionnaire (SNTCCGSQ) was employed as the primary instrument for data collection, which underwent a rigorous validation process to ensure its content and construct validity by three experts in the school of education Federal College of Education (Technical) Gombe. The reliability of the SNTCCGSQ was assessed through a pilot test administered to technical two Technical Colleges teachers and students in Bauchi state i.e Government Day Technical College Bauchi and Tafawa Balewa, and also industry stakeholders in Bauchi State. The split-half method was used to determine the reliability, this results to a coefficient of 0.72 indicating a satisfactory level of reliability, consistent with the standards outlined by

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Anikweze (2008), who asserts that a coefficient above 0.70 generally reflects acceptable reliability for educational instruments. The data collected for this study were analyzed using the Statistical Package for the Social Sciences (SPSS), version 23. To address the research questions, descriptive statistical methods, including the mean and standard deviation, were employed to analyze the responses related to Research Questions 1, 2, and 3. These statistical measures were selected

to capture the central tendencies and variability within the data, taking into account the sample size and the nature of the respondents' answers.

RESULTS

Research question 1: What are the current technical skill requirements in the labor market of Gombe State and their alignment with the existing technical College curriculum?

Table 1: Mean and standard deviation of current technical skill requirements in the labor market of Gombe State and their alignment with the existing technical school curriculum

S/N	Items	N	\bar{x}	SD	Remark
1	The current technical school aligns with the technical skill requirements in the labor market.	200	4.62	0.76	Accepted
2	The curriculum adequately covers the key technical skills needed by employers	200	3.81	1.44	Accepted
3	The technical school curriculum is frequently updated to meet evolving labor market demands	200	.62	0.76	Accepted
4	Employers in Gombe state prioritize skills that are currently taught in technical schools.	200	4.56	0.78	Accepted
5	The curriculum emphasizes the most in-demand technical skills in Gombe state's labor market.	200	4.45	0.76	Accepted
6	The skills taught in technical schools are sufficient to secure employment	200	4.48	0.81	Accepted
7	The skills taught in technical schools are sufficient to secure employment	200	3.81	1.42	Accepted
8	There is a gap between the technical skills taught in schools and those required.	200	2.40	1.25	Rejected
9	Graduates of technical schools in the state lack practical skills that are needed for the market.	200	2.90	1.45	Rejected
10	Current technical school curriculum does not prepare students for the technological advancements in the labor market.	200	3.30	1.49	Accepted
11	Employers in often provide additional training to new hires due to insufficient technical skills from school graduates.	200	3.30	1.37	Accepted
12	Employers consider technical certifications from schools in the state valuable when hiring.	200	3.30	1.37	Accepted
12	The technical schools in the state adequately teach both soft and hard skills that are necessary for employment.	200	4.02	1.03	Accepted

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13	Technical schools in Gombe state have the necessary resources and equipment to train students according to current labor market needs.	200	4.15	1.25	Accepted
14	The infrastructure of technical schools in Gombe state supports the development of hands-on technical skills.	200	3.77	1.32	Accepted
15	Overall, the current technical school curriculum in Gombe state adequately prepares students for the technical job market.	200	3.48	1.23	Accepted
Total \bar{x} = 55.95 $G\bar{x}$ of table = 3.83					

\bar{x} = Mean Response of Industry of respondents **SD** = Standard Deviation **$G\bar{x}$** = Grand mean

From table 1, the results of the survey indicate a generally favorable evaluation of the current technical school curriculum in Gombe State, with most items receiving mean scores ranging from 3.30 to 4.56. This suggests a positive perception of how well the curriculum aligns with the technical skill requirements in the local labor market. The standard deviations, ranging from 1.37 to 0.78, further indicate a moderate level of agreement and consistency among respondents. A notable exception in the results arises in the areas of skill gaps. Item 8, which addresses the practical skills gap among graduates, received a mean score of 2.40, well below the benchmark of 3.0. This suggests that there is significant concern among respondents regarding the inadequacy of practical skills training in Gombe's technical schools. Similarly, Item 9, which addresses the

preparedness of students for technological advancements, scored 2.90. While this score is closer to the threshold, it still indicates a perceived gap in the curriculum's ability to equip students for emerging technologies in the labor market. The results also suggest that employers in Gombe State value the technical certifications provided by the Colleges, with scores on items related to employer expectations (Items 10, 11, and 12) indicating agreement with the importance of soft and hard skills training, as well as the need for additional training provided by employers due to skill gaps.

Research question 2: What are the key societal expectations and demands from technical education in Gombe State, focusing on industry trends, employment opportunities, and skill gaps?

Table 2: Mean and Standard Deviation key societal expectations and demands from technical education in Gombe State, focusing on industry trends, employment opportunities, and skill gaps

S/N	Items	N	\bar{x}	SD	Remark
16	Industry needs should drive the curriculum of technical education	200	4.73	0.55	Accepted
17	Technical education should be updated regularly to align with emerging trends.	200	3.70	1.34	Accepted
18	There is a growing demand for skilled workers in Gombe State's local industries.	200	4.30	0.93	Accepted
19	Technical education in should focus more on practical skills than theoretical knowledge.	200	4.80	0.41	Accepted



20	The current technical education system in adequately prepares students for industry needs.	200	2.12	0.80	Rejected
21	Technical education is crucial for improving employment opportunities for youth	200	4.33	0.90	Accepted
22	Graduates from technical programs in the State have good job prospects in the labor market.	200	4.40	0.87	Accepted
23	Employers in the State are satisfied with the skills of graduates from technical school.	200	4.20	1.26	Accepted
24	Technical education should be designed to address the specific labor market needs	200	4.65	0.76	Accepted
25	Government and industry partnerships are necessary to improve the employment outcomes of technical school graduates.	200	4.32	0.91	Accepted
26	There is a significant gap between the skills taught in technical education programs and the skills needed by industries in Gombe State.	200	2.40	1.18	Rejected
27	Technical education programs in Gombe State should include soft skills to match industry demands.	200	2.37	1.07	Rejected
28	There is a shortage of skilled workers in specific technical fields in Gombe State (e.g., engineering, ICT, etc.).	200	2.23	1.03	Rejected
29	The current technical education system in Gombe State should be expanded to address more skill gaps in high-demand sectors. Industry leaders should be involved in designing technical education programs in Gombe State to address skill gaps effectively.	200	1.73	0.82	Rejected
30		200	4.08	1.06	Accepted
Total \bar{x} = 54.36 $G\bar{x}$ of table = 3.62					

\bar{x} = Mean Response of Industry of respondents **SD** = Standard Deviation **$G\bar{x}$** = Grand mean

The results of the survey on table 2, focusing on societal expectations regarding technical education in Gombe State, reveal a generally favorable outlook, with most items achieving mean scores between 3.70 and 4.73 and standard deviations ranging from 0.55 to 1.34. This indicates a consensus among respondents that technical education is vital for addressing industry needs, improving employment opportunities, and bridging skill gaps. Items related to industry trends (16-19) received positive

feedback, with mean scores well above the benchmark of 3.0. Respondents strongly agreed that technical education should be driven by industry needs, regularly updated to align with emerging trends, and focus on practical skills over theoretical knowledge. The mean scores for these items suggest that there is widespread recognition of the importance of aligning technical education with industry demands to ensure its relevance and effectiveness.

However, Item 20, which addresses whether the current technical education system adequately prepares students for industry needs, fell below the threshold with a mean score of 2.12, indicating a significant concern. This suggests that respondents feel the existing system may not be effectively equipping students with the necessary skills and knowledge required by industries in Gombe State. The relatively low score and high standard deviation (0.89) imply diverse opinions on this issue, highlighting potential dissatisfaction with the current curriculum's industry relevance. In terms of employment opportunities (Items 21-25), there is strong agreement that technical education plays a crucial role in enhancing youth employment prospects. With mean scores ranging from 3.70 to 4.73, respondents express the view that technical education is vital for improving job prospects, and partnerships between government and industry are essential for improving

employment outcomes. This suggests a shared belief that technical education can enhance local labor market opportunities, although this view is somewhat tempered by the low score for Item 23 (3.37), which addresses employer satisfaction with the skills of graduates. This lower mean suggests a perceived gap between the skills graduates acquire and the expectations of employers in Gombe State. The results underscore the need for updates to the curriculum, stronger industry partnerships, and a more focused effort to bridge skill gaps, especially in high-demand technical fields.

Research question 3: What are the recommended curriculum adjustments or improvements that would better equip technical school graduates with relevant skills to meet the evolving demands of the local economy in Gombe State?

Table 4: Mean and Standard Deviation of the recommended curriculum adjustments or improvements that would better equip technical school graduates with relevant skills to meet the evolving demands of the local economy in Gombe State

S/N	Items	N	\bar{x}	SD	Remark
31	The current technical curriculum adequately prepares students for local job market demands.	200	4.77	0.50	Accepted
32	There is a need for more hands-on training in the current technical curriculum.	200	4.23	0.96	Accepted
33	The curriculum should integrate more digital literacy and IT skills.	200	4.28	1.03	Accepted
34	The inclusion of entrepreneurship training is essential for technical graduates.	200	3.20	1.46	Accepted
35	The curriculum should focus more on industry-specific skills rather than general knowledge.	200	4.45	0.99	Accepted
36	More industry partnerships are needed to align the curriculum with local economic needs.	200	4.35	1.01	Accepted
37	The curriculum should be updated regularly to reflect technological advancements.	200	4.20	0.99	Accepted
38	Practical internships should be a mandatory part of the technical education program.	200	3.88	1.21	Accepted
39	Soft skills such as communication and teamwork should be integrated into the curriculum.	200	4.02	1.11	Accepted



40	There is a need for more focus on sustainable practices and green technologies in the curriculum.	200	3.05	1.27	Accepted
41	The current curriculum does not adequately address the needs of local industries in Gombe State.	200	4.03	1.28	Accepted
42	Technical education should include more exposure to local economic sectors, such as agriculture and construction.	200	4.33	1.02	Accepted
43	The current curriculum should place greater emphasis on problem-solving and critical thinking.	200	4.13	1.11	Accepted
44	More training in modern tools and equipment is necessary for students to be job-ready.	200	4.55	0.70	Accepted
45	The curriculum should offer more flexibility for students to specialize in high-demand areas.	200	4.60	0.64	Accepted
Total \bar{x} = 62.07, $G\bar{x}$ of table = 4.14					

\bar{x} = Mean Response of Industry of respondents **SD** = Standard Deviation **$G\bar{x}$** = Grand mean

The results on table 3, designed to assess the alignment of the current technical curriculum with the evolving demands of Gombe State's local economy indicate a generally favorable evaluation. All items received mean scores between 3.05 and 4.77, surpassing the benchmark mean of 3.0, which signifies that respondents view the curriculum favorably in most areas. The standard deviations ranged from 0.50 to 1.27, suggesting a moderate level of agreement among respondents, with some items showing greater consensus than others. The total grand mean of 4.14 reflects an overall positive evaluation of the curriculum, indicating that, on average, respondents believe the current technical curriculum needs only some improvements, rather. Inadequate Current Curriculum (Items 1, 11): Although the majority of the items reflect a positive outlook, two items suggest some dissatisfaction with the current curriculum. Item 1 (mean = 3.05) suggests that while the curriculum is viewed as somewhat adequate for job market demands, it may require

significant updates. Item 11 (mean = 3.20) indicates that the curriculum does not fully address the needs of local industries, highlighting the need for more specific adjustments to better align with the local economic landscape.

The results provide clear recommendations for curriculum improvements to better equip technical school graduates in Gombe State. The most prominent adjustments include increasing hands-on training, integrating digital literacy and entrepreneurial skills, enhancing industry-specific education, and fostering stronger industry partnerships. Additionally, the curriculum should adapt to technological advancements, include more focus on soft skills, and provide flexibility for specialization in high-demand sectors. While the current curriculum is seen as somewhat adequate, there is strong consensus on the need for targeted updates to better align technical education with the evolving demands of Gombe State's local economy.



FINDINGS OF THE STUDY

1. Findings from table 1, clearly suggests a positive perception of how well the curriculum aligns with the technical skill requirements in the local labor market. The overall grand mean of 3.73 suggests that the curriculum is largely perceived as adequate, though there is room for enhancement in specific areas, particularly in bridging the practical skills gap.
2. Findings from Table 2 reveal a generally favorable outlook, with most items achieving mean scores between 3.70 and 4.73 with Grand mean of 3.62. This indicates a consensus among respondents that technical education is vital for addressing industry needs, improving employment opportunities, and bridging skill gaps. However, significant concerns were raised about the alignment of the current education system with industry needs, particularly regarding the adequacy of the technical education curriculum and the skill gaps in critical sectors.
3. The results from table 3 indicate a generally favorable evaluation, which signifies that respondents view the curriculum favorably in most areas. The total grand mean of 4.14 reflects an overall positive evaluation of the curriculum, indicating that, on average, respondents believe the current technical curriculum needs only some improvements, rather than a complete overhaul, to better equip graduates for the local job market. Additionally, the curriculum should adapt to technological advancements, should focus on soft skills, and provide flexibility for specialization in high-demand sectors.

DISCUSSION OF FINDINGS

The findings regarding research question one agrees with a study by Zhang and Yang (2019) which highlights the importance of collaboration between educational institutions and industries in ensuring that technical education remains relevant. They argue that the curricula need to be flexible and continuously updated to reflect technological innovations and shifts in the

labor market. For instance, the rise of automation and artificial intelligence (AI) has created new skill demands, prompting educational systems in various countries to incorporate training in these emerging technologies (Zhang & Yang, 2019). It is also in agreement with Bolognese et al. (2020) that noted that many countries have adopted dual systems of education that combine theoretical learning with practical experience in industry settings. The dual education system, popular in Germany and Switzerland, provides a model for how technical education can be integrated with real-world industry needs (Bolognese et al., 2020). In this model, students spend part of their learning time in companies, where they gain hands-on experience in their chosen field. This approach helps students to acquire the skills that are directly applicable to their future careers, while employers benefit from a steady pipeline of work-ready graduates.

From research question two, findings is in line with Nassir et al., (2020) who stated that One of the central expectations from technical education is its capacity to equip individuals with skills that align with the evolving job market. As further expressed that, technological advancements drive changes in industry demands, the importance of providing adaptable, industry-relevant skills has never been more pronounced, however, and also Iwu and Eze (2021), asserted that, one of the key challenges faced by technical education in Nigeria is the lack of coordination between technical schools, universities, and industries. This disconnects often results in graduates who possess theoretical knowledge but lack practical skills required by employers. In Nigeria, the relationship between technical education and industry needs remains a work in progress. Despite efforts by the government to promote technical and vocational education and training (TVET) as a key driver of economic growth, there exists a significant mismatch between the skills imparted by educational institutions and the demands of the labor market (Olaniyan, 2020). This is also supported by Abubakar et al., (2023), who asserted that, the primary societal expectation

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from technical education is its role in preparing individuals for employment. With rapidly changing industry standards, technical schools must provide a curriculum that is responsive to emerging technologies and the demands of modern industries.

From the findings of research question three, agrees with Boud et al. (2020), who asserted that effective technical curricula must incorporate hands-on experiences that mirror the actual work environments students will enter upon graduation. These experiences not only enhance the students' employability but also increase their ability to apply theoretical concepts in real-world contexts. Similarly, Choi et al. (2022) argue that a curriculum that prioritizes both technical proficiency and soft skills such as communication, teamwork, and problem-solving better prepares students for the complexities of modern industries. This is also in line with Khan et al. (2021), who highlight the importance of continuous curriculum review and adaptation to ensure that it remains relevant to both the evolving job market and advancements in technology. Incorporating emerging methodologies, such as project-based learning and flipped classrooms, has shown promising results in improving student engagement and learning outcomes in technical fields (Brown & Green, 2020).

CONCLUSION

The evaluation of the societal needs for the technical school curriculum in Gombe State has highlighted critical gaps in the alignment of the current educational offerings with the demands of the labor market. The findings underscore the necessity of reforming the curriculum to better equip students with the practical, hands-on skills required by employers. Despite some positive feedback from educators and students on the curriculum's theoretical aspects, the employers' assessment indicates a significant shortfall in terms of practical application and industry relevance. The lack of sufficient collaboration between technical schools and local industries has been identified as a primary factor contributing to this misalignment. Given the rapid evolution of

technological and industrial landscapes, it is essential that technical education curricula adapt to meet the changing needs of the workforce. This study has shown that such adaptations are not only necessary for the educational development of students but also crucial for the economic growth of Gombe State, as a well-trained workforce is key to enhancing local industries and fostering socio-economic development.

RECOMMENDATIONS

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

1. The current curriculum should undergo a comprehensive review to ensure it incorporates more hands-on, practical training. This would help bridge the gap between theoretical knowledge and industry-specific skills, equipping students with the competencies needed in the workforce.
2. It is imperative to build closer collaborations between technical schools and local industries. These partnerships can facilitate curriculum updates based on real-time industry requirements, offer students internship opportunities, and ensure that training facilities are equipped with the tools and technologies that are in demand in the job market.
3. Continuous professional development programs should be instituted for educators to ensure they are up-to-date with industry trends and new teaching methodologies. These programs can also include industry-based training, allowing educators to bring practical insights into the classroom.

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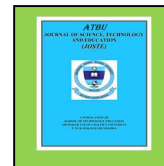
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