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EDITORIAL

Dear Readers,

We are excited to announce the launch of International Journal of Contemporary Issues in Integrated Science Education (IJCIISE). This Association Integrated Science Educators' Association of Nigeria (ISEAN) play a vital role in promoting scientific advancement, supporting science education, informing science policy, recognizing science excellence and fostering community engagement. The desire to float this journal was borne out of the passion to organize a yearly conference of Integrated Science by the Integrated Science Educators' Association of Nigeria, of which selected scholarly articles will be published after a thorough review. The journal dedicated to advancing knowledge and fostering dialogue within. Our mission is to publish high-quality research, innovative ideas, and critical analyses that contribute to the understanding and development of Integrated Science. At IJCIISE, we believe in the power of interdisciplinary collaboration and inclusivity. We welcome contributions from scholars, practitioners, and thought leaders worldwide, providing a space for diverse perspectives and groundbreaking work. As we embark on this journey, we invite you to submit your research, engage with our content, and join us in creating a vibrant academic community. Together, we can push the boundaries of knowledge and inspire future generations. Thank you for your support as we launch this exciting new endeavour.

This edition moves around issues that border on **"Enhancing Quality Assurance in Integrated Science in Nigeria."** It is believed that diverse contributions from scholars and researchers expressed in this edition will provoke the understanding of issues that could foster education for societal transformations on a global scale
We look forward to your contributions!

For further information on future conference activities, visit
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Warm regards,
Professor O. S. Agboola
President, Integrated Science Educators' Association of Nigeria (ISEAN)

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ENHANCING QUALITY ASSURANCE IN BASIC TECHNOLOGY THROUGH PROJECT BASED LEARNING AT THE BASIC LEVELS IN NIGERIAN SCHOOLS

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Abstract
Obsolete teaching and learning processes have been identified as the cause of ineffectiveness in achieving Quality Assurance (QA) in Basic Technology (BT) in Nigerian schools. Literatures have shown that Project Based Learning (PBL) is a learner centred approach that can aid effective Knowledge and skills acquisition particularly in BT. Therefore, this study determined strategies for enhancing QA in BT through PBL. Two research objectives and two research questions guided the conduct of this study. The study employed a survey research design and was conducted in Kano state Nigeria. The population for the study comprised 1,252 BT teachers in the primary and Junior Secondary Schools in Kano state. Simple Random Sampling technique was used to sample 294 respondents from the study's population. Data for the study was collected using a structured questionnaire validated by two Vocational and Technical Education experts and 1 PoBL expert. Cronbach's Alpha was used to determine the reliability coefficient of the instrument which stood at .78. Mean and standard deviation was used to analyse the data for the study. Findings from the study revealed group collaboration, technology application, among the elements of PBL suitable for application in BT at the basic levels in Nigerian schools.
Keywords: Basic Technology, Project based learning, Quality assurance

Introduction
Basic Technology (BT) is one of the prevocational subjects offered in the Nigerian schools at the basic level. BT is intended to train individuals to acquire the necessary skills, knowledge and attitude that will engage an individual in either self or paid employment.   equally proclaimed that among the basic need for BT in schools is to enable the individual acquire appropriate skills, abilities, and competencies as equipment for survival and contribution to development of the nation. BT is a subject taught at the basic levels of primary and junior secondary schools in Nigeria which incorporates many skilled trade areas such as woodwork,

electronics, building, metalwork, mechanics as an introductory insight into the trades in order to keep pupils/students abreast with basic technological skills and be productive citizens . One of the basic aims of BT in schools is to equip pupils with the skills to live in the modern age where technology continues to thrive . Similarly, , stated that BT is accepted to be a foundation on which future technological development and skills of learners can be built particularly at the primary and JSS level. Essentially, BT aims at preparing younger generations for present and future challenges of technological advancement and employment needs. However, to effectively achieve the aims of BT in Nigeria requires embracing quality assurance in schools

Quality assurance is a strategy employed for ensuring continues improvement of educational system for enhancing teaching and learning efficiency, and achieving quality in the learning process . Equally, Fuldiaratman, & Ekaputra, (2023) perceived QA as a process which involves monitoring, assessing and evaluating all aspects of educational activities and communicating the outcome to all concerned with a view to improving the products of the educational system. Additionally, stated that QA embraces the quality of teaching staff, instructional materials, school environment, facility and equipment, as well as quality instructional delivery. Accordingly, quality assurance in basic technology implies the process of ensuring effective teaching and learning through appropriate teaching methods, pupil participation, student/teacher interaction, assessment and evaluation.

However, despite the significant role BT plays in equipping pupils with the knowledge and skills for survival in this era of technological advancement, there has been ineffectiveness in the teaching and learning processes which affected pupils output in the subject. In this regard, observed that pupils/students progressing from primary to JSS and from JSS to the senior secondary level are ill prepared to face the challenges of the world of work as they lacked the required basic technological skills. Accordingly, one of the reasons for pupils' inability to acquire appropriate basic technology skills and knowledge could be attributed to the obsolete teaching methods adopted by teachers. In this regard, proclaimed that teachers inability to adopt appropriate teaching and learning approach that could aid effective technological skills acquisition has been the bane of pupils lacking BT skills in Nigerian schools at the basic levels of primary and JSS. Teachers teaching basic technology in schools have continued to adopt the teacher centred approach in the learning process which does not give pupils the ability to explore their talents and creativity. Equally, stated that the method of teaching BT in primary school has not been encouraging due to teachers continued use of teacher centred method. To curtail BT students inability to possess the required BT knowledge and skills requires a shift from a teacher centred learning to a learner centred learning approach. One of the learner centred approach adopted for teaching and learning at the basics level is the Project Based Learning.

Project Based Learning (PBL) is a 21st century learning considered in pedagogy for effective teaching and learning processes. PBL has been considered as

a learning model that centres around autonomous learning, and engages students in activities that foster creativity and knowledge and skill retention . Equally, described PBL as a learning method that is based on the constructivism learning theory which engages students in activities of real life projects that involves learning by doing. In PBL the teacher plays the role of facilitator or guidance, while the pupils are actively involved in the learning process . Furthermore, to effectively implement PBL in schools requires incorporating its elements into the learning process. In this regard, stated that any school seeking to implement PBL ought to include its elements in the learning process in order to be successful. PBL elements required for effective learning include, ICT application, group collaboration, and autonomy (Muhammad, Bashir, Musa, Halliru, & Abubakar, 2024). Similarly, listed technology application, product presentation, driven question, enquiry and innovation as elements of PBL for a successful PBL implementation in schools. To this end, to enhance quality assurance in BT in schools, an incorporation of PBL elements in the teaching and learning process becomes inevitable.

Studies about Project Based Learning in different subjects at both primary and post primary level have been undertaken across the globe. However, in Nigeria, and particularly in Basic Technology, study about PoBL have been limited, hence the need for this study.

Statement of the Problem

Project Based Learning (PBL) has been recognised across the globe as an effective learning model for pedagogy especially in technology based subjects like Basic technology (BT). PBL has had a positive impact on learners application of knowledge to real world situation. In this regard, it deems essential that appropriate learner centred approach to instruction like the PBL should be employed in the teaching and learning of BT at the primary and junior secondary schools level. However, the method of teaching employed in teaching BT in schools at the basics level in Nigeria has been teacher centred which does not encourage creativity among learners. To this effect BT Pupils/students in primary and JSS levels graduate into Senior Secondary schools and tertiary levels without the basic technological skills for advancement and to also venture into a saleable career. For this reason, BT pupils find it difficult to comprehend technological knowledge and skills at the advance level, and graduate without the required technological skills for employment. The lack of basic technological skills has led to graduates unemployment rate in Nigeria which has resulted to their indulgence in ill vices like arm banditry, thuggery, and kidnapping. This problem of lack of basic technological skills could be linked to the obsolete teaching and learning method adopted in teaching BT in Nigerian schools. To curtail this problem of Lack of basic technology skills by pupils/students require a shift to a learner centred learning approach like the PBL. PBL could enhance learner / students' critical thinking ability and foster creativity through the application of cognitive and psychomotor skills in solving real-life problems. Therefore, the application of PBL in the teaching and learning of BT at the basic level of primary

and junior secondary schools in Nigeria becomes desirable, hence the need for this study.

Objectives
a. To determine Project Based Learning elements suitable for application in enhancing quality assurance in Basic Technology in Nigerian schools at the basic level
b. To identify effective strategies suitable for enhancing quality assurance in Basic Technology through Project Based Learning in Nigerian schools at the basic level.

Research Questions
1. What are the elements of Project Based Learning suitable for application in enhancing quality assurance in Basic Technology in Nigerian schools at the basic level?

2. What are the effective strategies suitable for enhancing quality assurance in Basic Technology through Project Based Learning in Nigerian Schools at the basic level?

Review of Related Literature
Quality Assurance
Quality assurance is the process of ensuring effective resource input control and raising the standards of output in order to meet the set goals to satisfy the needs and aspirations of an educational system . Similarly, perceived QA as the process of reviewing school curriculum, monitoring and supervision of instruction, facilities, staff quality as well as instructional delivery to meet the expectation of the learner and stakeholders. Essentially, QA implies the ability of a an educational program to meet the expectations of employers in relation to the output of the skills required and acquired by its products '. The need for quality assurance in schools particularly at the basic levels of primary and junior secondary school cannot be overemphasised because of its uniqueness in ensuring standards in the teaching and learning process. In this sense, '(2020) .mentioned the following as the major needs of QA for educational programmes in Nigeria:
i) To determine the quality of teachers' inputs
ii) To determine the level of adequacy of the facilities available for quality control
iii) To ensure effective instructional delivery

Basic Technology
Basic Technology (BT) is a subject offered at the basic levels of the primary and JSS level in Nigeria which serve as a foundation for inculcating basic technological knowledge and skills to pupils/students. BT is an integrated subject

and component of Vocational and Technical Education (VTE) where theoretical and practical knowledge and skills are inculcated to pupils/students at the basic levels for proper technological awareness and skills development. The Federal Republic of Nigeria (2014) stipulated that the basic aim of BT as a means for acquisition of basic technical skills to promote technological literacy, career awareness, as well as intelligent understanding of the increasing complexity of technology. Additionally, the Federal Republic of Nigeria (2014) stated the objectives of BT in Nigeria at the basic level, to provide pre-vocational orientation for further training in technology; To promote basic technological literacy for everyday living; To stimulate creativity and innovation. BT is more practically oriented, and encompasses trade areas such as woodwork, electronics, building metal work, and auto mechanic . To this end, BT could be considered as the bases for initial point in the acquisition of appropriate technological competencies to fit into the world of work.

Project Based Learning (PBL)

Project Based Learning (PBL) is a learning model which emphasises leaning through involvement in activities that stimulate students. PBL involve students in problem solving activities and other vital tasks which provide an avenue for the learners to work autonomously. Similarly, describe PBL as a learning model which integrate the application of technology into the learning process and the involvement of learners in project tasks which enhance their innovative and creativity skills. In PBL the learner is engaged in real world activities which stimulate learning by doing. In PBL, students have autonomy in deciding the learning processes with the teacher serving the role of a facilitator or guide. PBL is usually learner centred, and encompasses complex tasks involving projects which culminate into a final product. In PoBL the learners work collaboratively to solve a problem or produce a project and make presentation of the solution or product to an audience . Essentially, PoBL could be perceived as a learner centred approach to instruction which emphasises more on learners independence in learning, and encourages group work through engagement in complex tasks or projects that culminate into a final product presented to an audience.

Furthermore, to effectively implement PBL in schools requires an integration of its elements into the teaching and learning process. In this regard, mentioned group collaboration, challenging questions, and presentations as elements of PBL for effective implementation in schools. Equally, identified basic questions, group work, assessment of outcome, and product evaluation as elements of PBL desirable in instructional processes. Additionally, ;Muhammad, et.al. (2024); listed group collaboration, use of technology, autonomy, public product presentation and assessment as elements of PBL for successful implementation in a PoBL class.

Project Based Learning (PBL) and Basic Technology

Project Based Learning (PBL) has been found to be effective for implementation in teaching technology subjects in schools especially at the initial

stages of technology application. Various studies have been conducted about PBL and have proven its success on pupils and students. conducted a study on student STEM PBL with the findings of the study revealing PBL as an effective instrument for developing JSS students' innovative skills, the author further recommends PBL as an appropriate teaching method for JSS students. Equally, conducted a study on the effectiveness of PBL on student academic achievement and teacher perception of PBL, the findings showed that PBL is effective for application in technology based subjects at the elementary levels. Moreover, conducted a study on PBL in a STEM academy student engagement and interest in STEM careers. Findings of the study discovered that PoBL enhances students 21st century skills. These studies have shown that PBL is an appropriate teaching method to be employed in teaching BT in schools.

Theoretical Framework

The theoretical framework for this study is based on the constructivism learning theory by Piaget (1976) and Situated Learning Theory by Larve and Wenger (1991). Constructivism learning theory centres on autonomous learning and learning in real world context. According to , knowledge is not transmitted from teachers to learners, but constructed by students themselves through interaction with the environment which result to developing students creativity and innovative skills. The central idea about constructivism is that learners construct knowledge independent of the teacher and gain experience through their involvement in activities in the course of PBL . The constructivism learning theory encourages learners autonomy, the use of technology, and building critical thinking in learners which fosters creativity and innovation in learners . In this sense, Constructivism provides a theoretical foundation for implementing PBL in BT especially at the basic levels of primary and JSS.

Situated learning theory propounded by Larve and Wenger (1991) holds that education requires learning that is surrounded in authentic context of practice where learners engage in an increasingly more complex task within the social environment. Situated learning provides students with a learning environment that is a replica of what the pupils/students will encounter in the work environment. Additionally, situated learning theory holds that knowledge should be delivered in an authentic context, and should incorporate social interaction and collaboration within the community (Pengiran & Besar, 2018). Buttressing over this, Vygotsky (1978), and Bruner (1966) each believe that students learn more productively by working together than individually. In this regard, the situated learning theory has much relevance in PBL application in Basic Technology, since PBL encourages practical application of knowledge to real world, encourages group collaboration, teamwork and provides students the opportunity to develop skills needed for employment.

Methodology

The research adopted a survey research design. The study was conducted in

Kano state, North west geo political zone of Nigeria, and involved all primary schools and JSS from basic 1 to 9 in the 44 Local government areas in Kano state. The population for the study comprised 1,252 BT teachers in the primary and JSS schools in Kano state. Simple Random Sampling technique was used to sample 294 respondents from the study's population using Krejcie and Morgan (1976) table of sample size determination for a known population. According to , a sample of 294, is adequate enough to represent a population of 1,252. Data for the study were collected using a 33item structured questionnaire developed by the researcher. The questionnaire comprised a 5-point Likert scale response options of Highly Suitable HS (5); Suitable S (4); Slightly Suitable SS (3); Unsuitable U (2); Highly Unsuitable HU (1). Additionally, the questionnaire was validated by 3 experts, 2 Technical and Vocational Education experts from Bayero University Kano, and Federal College of Education (Technical) Bichi Kano state, and 1 Project Based Learning expert from Federal College of Education (Technical) Bichi, Kano state.

Moreover, in order to determine the reliability of the questionnaire, the instrument was subjected to a pilot study, which was conducted at Katsina state, involving 2 primary schools in Katsina metropolitan city. Data from the pilot study were analysed using Cronbach's Alpha reliability with the help of SPSS version 25 to analyse the reliability coefficient of the instrument. Consequently, the reliability coefficient of the instrument stood at .78 which is a high reliability coefficient. The questionnaire was administered to the respondents through personal visitation to the selected schools (primary and JSS) in Kano state with the help of a research assistant. Data for the study were analysed using the Mean and standard deviation with the help of SPSS version 25. In this regard, items with mean values of 3.50 and above were considered Suitable, while items with Mean values below 3.50 were considered Unsuitable.

Results and Discussion

Research Question One: What are the elements of Project Based Learning suitable for application in enhancing quality assurance in Basic Technology in Nigerian schools at the basic level?

Table 1: Respondents Responses on Elements of PBL suitable for Application in enhancing quality assurance in Basic Technology in Nigerian schools at the basic level

S/N	Item statement	Mean	Std. Deviation	Remark
	Group Collaboration			
1.	Learners are group in 5 or 6 depending on the class size	3.5714	1.22265	Suitable
2.	Learners choose a group leader among themselves	3.7789	1.16054	Suitable
3.	Group members share responsibilities to one another	3.6735	1.22635	Suitable

S/N	Item statement	Mean	Std. Deviation	Remark
4.	Learners collaborate to find solution to problem or task	3.8810	1.16671	Suitable
5.	Group members to focus on achieving same goal	4.1190	.92155	Suitable
6.	Group members mutually criticise one another	3.9082	1.05242	Suitable
7.	Group members mutually support one another	4.0476	.93716	Suitable
8.	Group members share ideas with one another	3.9898	.99310	Suitable
	Autonomy			
9.	Learners take full responsibility of the learning	3.8503	1.13495	Suitable
10.	Learners serve as a guide to the pupils	3.6327	1.23145	Suitable
11.	Learners explore solutions to a problem independently	3.4524	1.36113	Suitable
12.	Learners seek approval of topic from the teacher	3.8197	1.15585	Suitable
13.	Teacher guides the learners on operating light machines	3.6871	1.12254	Suitable
14.	Teacher guide the students on using hand tools minimally	3.8333	1.09113	Suitable
15.	Pupils seek approval for project execution from the teacher	3.7959	1.23619	Suitable
	Technology Application			
16.	Applying sound knowledge of tools on materials	3.8776	1.14420	Suitable
17.	Learners to produce design using the computer	4.0544	1.05016	Suitable
18.	Learners to interpret design	3.8129	1.15181	Suitable
19.	Learners to produce projects using hand tools	3.6463	1.24370	Suitable
20.	Learners use light machine tools in project construction	3.6293	1.29133	Suitable
21.	Learners to apply safety measures in the use of light machines	3.8537	1.07200	Suitable
	Project Presentation			
22.	Learners to present projects in group	3.9456	1.01714	Suitable
23.	Learners to make individual presentations on group project	3.9524	1.09814	Suitable
24.	Learners to demonstrate steps			

S/N	Item statement	Mean	Std. Deviation	Remark
	involved in producing a project	3.8163	1.08367	Suitable
25.	Presentation audience to include pears	3.9592	.99745	Suitable
26.	Presentation audience to include teachers and school administrator	3.7925	1.04888	Suitable
27.	Involve outside community as presentation audience	3.8061	1.17126	Suitable
	Assessment			
28.	Assess learners in group	3.9966	.94018	Suitable
29.	Assess learners individually	4.0340	.96289	Suitable
30.	Assess process and product in project construction	3.8844	1.08365	Suitable
31.	Assess learners' creativity skills	4.0102	1.05960	Suitable
32.	Assess learners' presentation skills	3.8469	1.11782	Suitable
33.	Assess learner's communication skills	3.9626	1.03619	Suitable

Result presented in Table 1 shows that all the items have mean values above 3.50, indicating that the respondents agreed to all items as elements of PBL suitable for application in enhancing quality assurance in Basic Technology in Nigerian schools at the basic level. The standard deviation of all items ranges from .92155 to 1.17126 indicating that the respondents are close to one another in their opinion.

From the result presented in Table 1, findings have revealed group collaboration as element of PBL suitable for application in enhancing quality assurance in basic technology in Nigerian schools at the basic level. This finding is in line with who considered group collaboration as an element of PBL appropriate for utilisation in the teaching and learning processes in schools, adding that, through group collaboration, pupils shear knowledge and experience, and also enhance their collaboration skills. Equally, stated that effective learning takes place through group collaboration and interaction among pears. Furthermore, findings have revealed autonomy as a PBL element suitable for application in enhancing quality assurance in basic technology in Nigerian schools at the basic level. In this sense, stated that a PBL model shifts the role of the teacher from knowledge transmitter to a facilitator who guides students in the learning process which gives pupils the free will to decide on the learning process and explore their abilities. Similarly, proclaimed that the responsibility of the teacher in a PBL learning environment is to guide the students in ensuring that pupils work towards achieving the set goals in project execution without deviating. Equally, in PBL pupil decide independently on issues relating to project execution and also take full responsibility in group tasks .

Moreover, findings of the study have revealed technology application as a PBL element suitable for application in enhancing quality assurance in basic technology in Nigerian schools at the basic level. In support of this finding, stated that application of technology in PBL is vital in this 21st century era because it keep the pupils abreast with the dynamics in technology, and keeps them acquainted with

the use of technology equipment they will encounter in their work environment. Also, conceived technology application as an element of PBL desirable for primary school pupils since it provides an avenue for students to develop their ICT skills as well as the use of various technology tools and machines. Furthermore, findings of the study have revealed product presentation as a PBL element suitable for application in enhancing quality assurance in basic technology in Nigerian schools at the basic level. In support of this finding, asserted that product presentation in PBL is essential in the learning activities, it provides an avenue for students to present projects and report to audience and showcase their talents on a given assignment. Through product presentation students develop presentation skills and feel motivated in the learning process (Muhammad *et. al*., 2024). Findings on Assessment have revealed it as a PBL element suitable for application in enhancing quality assurance in basic technology in Nigerian schools at the basic level. In consonance with this finding, contended that PBL model involves assessment processes done in group or individually in order to encourage learners learning outcome to improve on their strength and weaknesses. In PBL both processes and product are assessed to determine the extent of technical and non-technical skills possessed by the learners.

Research Question Two: What are the effective strategies suitable for enhancing quality assurance in Basic Technology through Project Based Learning in Nigerian schools at the basic level?

Table 2: Respondents Responses on Effective Strategies for Enhancing Quality Assurance in Basic Technology through PBL in Nigerian schools at the basic level

S/N	Item statement	Mean	Std. Deviation	Remark
34.	Organise workshops and seminars for teachers on effective application of PBL in teaching and learning	3.6361	1.18589	Suitable
35.	Refocus BT curriculum towards learner centred	3.6973	1.16557	Suitable
36.	Provision of the necessary workshop facilities for effective teaching of BT	3.7687	1.18907	Suitable
37.	Engage learners in activities that would foster creativity	3.6190	1.16158	Suitable
38.	Encourage learner in activities that will foster collaboration	3.6156	1.22762	Suitable
39.	Encourage learners in using computers for design	3.8844	1.12385	Suitable

S/N	Item statement	Mean	Std. Deviation	Remark
40.	Provision of computers and software for producing design of articles	3.8299	1.21073	Suitable
41.	Encourage learners in the use of light machine tools for projects	3.8435	1.11276	Suitable
42.	Encourage learners in the use of hand tools in project activities	3.6497	1.19000	Suitable
43.	Encourage learners in project presentation	3.6735	1.16644	Suitable

Result presented in Table 2 revealed the mean values of all items above 3.50 indicating that the respondents agreed to all items as effective strategies for enhancing quality assurance in basic technology through PBL in Nigerian schools at the basic level. Similarly, standard deviation of all items ranged from 1.11276 to 1.22762 indicating that the respondents' opinion is close to another.

Furthermore, findings on Effective Strategies for Enhancing Quality Assurance in Basic Technology through PBL in Nigerian schools at the basic level have revealed all items as suitable. This finding is in conjunction with the view of that one of the appropriate approach for a successful PBL implementation in schools is through organising workshop and seminars for teachers in schools to be acquainted with the processes involved. Similarly, attributed the success of a PBL in schools to the presence of adequate and modern instructional facilities like computers, free internet services, tools and machines. Additionally, Muhammad et. al. (2024) suggested involvement of pupils in challenging questions that will help in developing their innovative and creativity skills as appropriate for enhancing the teaching and learning processes through PBL particularly in courses that are technologically oriented.

Conclusion

Quality assurance has been considered as an indices for ensuring quality standards in educational programs in schools. Quality assurance focus much on effective implementation of the teaching and learning processes in schools. In this regard, Basic Technology, a pre-vocational subject offered at the basic level in Nigerian schools is one aspect of educational programs which deserves quality assurance in its implementation in schools. However, it has been observed that BT Pupils/students graduate from primary and junior secondary schools without the basic technology knowledge and skills. The non possession of appropriate technological knowledge and skills by BT pupil/students may not be unconnected with the use of obsolete teacher centred teaching and learning method employed by teachers in schools. Therefore, to enhance BT in schools requires an application of a student-centred learning like the PBL. In this sense, in order to effectively implement PBL in schools, this study has identified elements of PBL suitable for application in

enhancing quality assurance in BT at the basic level in Nigerian schools. To this end, the findings from this study have identified group collaboration, autonomy, technology application, product presentation and assessment as PBL elements suitable for application in enhancing quality assurance in BT at the basic level in Nigerian schools. The study findings also identified refocusing the BT curriculum towards learner centred, provision of facilities, and organising seminars for teachers on PBL implementation as effective strategies for enhancing quality assurance in BT at the basic level in Nigerian schools.

Recommendations

Based on the findings in this study, the following recommendations are made:

1. Government to ensure the necessary support in implementing PBL at the basics levels of primary and JSS in order to enhance QA in BT. This could be through providing the necessary facilities to primary and junior secondary schools for effective implementation of PoBL in schools.

2. BT stakeholders to ensure full enforcement of PBL implementation in primary and junior secondary schools. This could be done through constant monitoring and supervision.

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