

## Infrastructure facilities available for the implementation of blocklaying, bricklaying and concreting curriculum in technical colleges in Niger state

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### Abstract

The purpose of the study was to determine the availability of the infrastructure facilities for the implementation of Blocklaying, Bricklaying and Concreting (BBC) curriculum in technical colleges in Niger State. Descriptive survey research was adopted for the study and the population consisted of 30 respondents made up of 6 Principals, 6 BBC Heads of Department and 18 BBC Teachers in Technical Colleges in Niger State. A checklist questionnaire containing 10 items was used to collect data from all the respondents and there was no sampling conducted. The instrument was validated by three experts. Cronbach Alpha statistic was used to establish the reliability of the instrument which yielded 0.82. Frequency count and percentage was used to answer the research questions for the study. It was found that all the infrastructure facilities outlined were needed for the implementation of BBC curriculum but in the other hand some of the infrastructure facilities were not available for the implementation of the BBC curriculum in Technical Colleges in Niger State. It was recommended that Niger State government should provide these infrastructure facilities needed for effective implementation of the BBC curriculum and also Parent Teachers' Association (PTA) of Technical Colleges in the State should devise a means of assisting the Technical Colleges towards the provision of these infrastructure facilities as contained in the NBTE minimum standards for the implementation of the BBC curriculum.

**Keywords:** Infrastructural Facilities, Curriculum Implementation, Blocklaying, Bricklaying and Concreting

### Introduction

The economic transformation of any nation depends largely on functional Technical and Vocational Education and Training (TVET) programmes. In recognition of this the Federal Republic of Nigeria included TVET in the National Policy on Education document and defined it as "a comprehensive term referring to those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life" (Federal Republic of Nigeria, 2013). Blocklaying, Bricklaying and Concreting (BBC)



curriculum is an aspect of technical and vocational education that is meant to equip students with technical knowledge and vocational skills that will make them enterprising or self-reliant. The goals of BBC curriculum, according to National Board for Technical Education (2001) are to: introduce the trainee in the building trades to the basic construction principles, materials and methods, so that he/she may be able to appreciate the roles of the various trades in the building industry, introduce the trainee to the basic principles of residential building design and to enable him/her make and interpret building drawings, provide the trainee with the essential knowledge and skills that will enable him/her perform competently in all aspects of brickwork and blockwork, provide the trainee with the basic knowledge of the properties and application of concrete as well as the skill in the production of sound concrete structures, and provide the trainee with the basic knowledge of finishing materials related to the builders work and to enable him apply such finishes proficiently. To achieve these laudable objectives of the BBC curriculum, NBTE (1992) recommended a specified number of each infrastructure facilities, tools, equipment and machinery for a specified number of students intended for admission in academic year for the programme in technical colleges in Nigeria.

Infrastructure facilities in technical colleges are those basic necessities, services and installations needed for which curriculum implementers used in performing the job of instruction to occur smoothly. This implies that infrastructure facilities are those things that help the school management and teachers in achieving the goal of the curriculum. Knezevich (1999) noted that the school infrastructure facilities needs are met through provision of safe structures, adequate sanitary facilities, a balanced visual environment, appropriate thermal environment, and sufficient shelter space for work and play. The learner's emotional needs are met by creating pleasant surroundings, a friendly atmosphere, and an inspiring environment that gives total support for learner comprehension and attentiveness during the curriculum implementation. Obanya (2004) defined implementation of curriculum as day-to-day activities which school management and classroom teachers undertake in the pursuit of the objective of any given curriculum. It means the processes involved in translating educational plan into action through utilization of the specified instructional materials required to bring about the changes in the learner as they acquire the planned experiences, skills and knowledge that are aimed at enabling them function effectively in the society. Implementation in this regard is seen as a building process rather than the design process and cannot occur in the absence of the specified infrastructure facilities for the implementation. In order to ensure successful implementation of technical college curriculum, NBTE as a regulatory body, released guidelines on infrastructural facilities and minimum standards or benchmark for the implementation of BBC curriculum. But how these infrastructure facilities are available based on the NBTE minimum standards still remain undetermined, hence this study is designed to determine the availability of the infrastructure facilities for the implementation of BBC curriculum in technical colleges in Niger State.



### Statement of the problem

The BBC curriculum was designed to produce graduates who are competent to be employed or self-employed when properly implemented. The implementation of the BBC curriculum required adequate supply of infrastructure facilities as outlined in the NBTE minimum standards, this is to say that, there exist a significant relationship between technical skills acquisition programmes in the training institutions and the infrastructure facilities for the training, but as it is today Technical Colleges are experiencing short fall of these infrastructure facilities as noted in some literatures and therefore as a result of this lack of infrastructure facilities the graduates were not properly trained and do not possess the technical skills ability to be employed without further retraining. Hence the question is; what are the infrastructure facilities available for the implementation of BBC curriculum in Technical Colleges in Niger State?

### Research questions

1. What are the infrastructure facilities needed for the implementation of BBC curriculum in Technical Colleges in Niger State?
2. Are the infrastructure facilities available for the implementation of BBC curriculum in Technical Colleges in Niger State?

### Methodology

The research was carried out using descriptive survey research design. The study was conducted in 6 technical colleges in Niger State namely: Government Technical College, Minna, Government Technical College, Eyagi-Bida, Government Technical College, Kontagora, Suleiman Barau Technical College, Suleja, Government Technical College, New Bussa, and Mamman Kontagora Technical College, Pandogari. The population of the study consisted of 6 Principals, 6 BBC Heads of Department and 18 BBC Teachers. Therefore, the entire population of the study was 30 and no sampling was conducted as population is manageable. A 10 items checklist questionnaire instrument was used to solicit information from the respondent. The instrument was validated by three experts in the Department of Industrial and Technology Education of the School of Science and Technology Education, Federal University of Technology, Minna. The reliability of the instrument was tested using the Cronbach Alpha statistic and a coefficient of 0.87 was obtained. The researcher distributed and collected back the completed questionnaire with the help of 2 research assistants. The instrument distributed was returned at 100% and it was used in analyzing data. The data collected in the study presented and analyzed using frequency count and percentage. Based on the checklist response scale that was employed for the study, any item with 50% and above was accepted as being agreed by respondents while any item with the percentage less than 50% was deemed to have been disagreed by respondents.



Results

Table 1: Frequency count and Percentage on the Infrastructure Facilities Needed for the Implementation of BBC Curriculum in Technical Colleges in Niger State

S/N	Infrastructures Facilities	NBTE Min. Qty Rqrd	Yes		No		Total	Remark
			N <sub>1</sub> =6	N <sub>2</sub> =6	N <sub>1</sub> =6	N <sub>2</sub> =6		
			N <sub>3</sub> =18			N <sub>3</sub> =18		
			F	%	F	%		
1.	Workshop (Platform)	1	30	100	0	30	30	N
2.	Drawing Studio	1	30	100	0	00	30	N
3.	Library	1	28	93	2	07	30	N
4.	Health Clinic	1	30	100	0	00	30	N
5.	Internet service	1	28	93	2	07	30	N

Key: F = Frequency count, % = Percentage, N = Needed, NN = Not Needed, N<sub>1</sub> = Number of Principals, N<sub>2</sub> = Number of BBC Heads of Department, N<sub>3</sub> = Number of BBC Teachers.

Table 1 shows the frequencies counts and percentages of the respondents on the infrastructure facilities needed for the implementation of BBC curriculum in technical colleges in Niger States of Nigeria. All the outlined infrastructure facilities were considered needed for the implementation of BBC curriculum with percentages above the cut-off point of 50%.

Table 2: Infrastructure Facilities Available for the Implementation of BBC Curriculum in Technical Colleges in Niger State

S/N	Infrastructures	NBTE Min. Qty rqrd	GTC Minna		GTC Eyagi-Bida		GTC Kontagora		SBTC Suleja		GTC New Bussa		MKTC Pandogari	
			Remark	Remark	Remark	Remark	Remark	Remark	Remark	Remark	Remark	Remark		
1	Workshop (Platform)	1	1	A	1	A	1	A	1	A	1	A	1	A
2	Drawing Studio	1	1	A	1	A	1	A	1	A	1	A	1	A
3	Library	1	0	NA	1	A	0	NA	0	NA	0	NA	1	A
4	Health Clinic	1	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA
5	Internet service	1	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA

Key: A = Available NA = Not Available



Table 2 revealed the availability of infrastructure facilities outlined in the NBTE minimum standards in technical colleges in Niger State. All the technical colleges in the state have workshop (platform), 4 out of 6 technical colleges in the state have drawing studio and all the technical colleges in the state have no library, health clinic and internet service available for the implementation of BBC curriculum.

**Findings**

1. All the outlined infrastructure facilities were considered needed for the implementation of BBC curriculum.
2. All the technical colleges in the state have workshop (platform), 4 out of 6 technical colleges in the state have drawing studio and all the technical colleges in the state have no library, health clinic and internet service available for the implementation of BBC curriculum

**Discussion of findings**

The results in Table 1 revealed that all the infrastructure facilities outlined considered needed for the implementation of BBC curriculum in technical colleges in Niger State with percentage score above 50%. The finding is in support of the view of Adeboyeje (2000) and Emetarom (2004) facilities in schools are the physical and spatial enablers of teaching and learning which will increase the production of results. School facilities serve as pillars of support for effective teaching and learning. Teaching facilities include all of the infrastructure and material resources that are used to support the delivery of quality education. Infrastructure refers to basic physical and organizational structures needed for the successful running of the institution (Bakare, 2009). Good quality and standard institution of learning depend largely on the provision, adequacy, utilization and management of educational facilities (Audu, Umar and Idris, 2013). Also Asiyai (2012) who referred infrastructures as physical resources that make teaching and learning effective thereby, making it necessarily available for a purposeful teaching and learning is very paramount. Infrastructural facilities could be described as institutions facilities which students, teachers and administrators utilize for the management and administration of the institutions, for major purpose of conducting effective and efficient teaching and learning experiences in the training institutions. Also in support of Larson (2007) who maintained, that the school building could be referred to as physical facility because of its function of housing and protecting other physical facilities inside it. Design and construction of the technical workshop building and effectiveness in technical instruction cannot be fully effective when adequate provision is not made for other physical facilities contained in the building.

The result in Table 2 revealed that all the technical colleges in the state have workshop (platform), 4 out of 6 technical colleges in the state have drawing studio and all the technical colleges in the state have no library, health clinic and internet service available for the implementation of BBC curriculum. The finding confirmed Ademola (2013) who



explained that many infrastructure facilities in majority of the technical colleges in Nigeria are inadequate or not even available. He further explained that technical colleges suffered from scanty and broken furniture, lacking equipment and vital consumables, power and water supply problems are the order of the day, while many schools were running what can be termed as dry laboratory as they do not have reagents and tools for carrying out proper practical experience. This finding also agreed with the submission of Umar and Ma'aji (2010) who found out that lack of infrastructural facilities such as workshop, library, laboratory and others leading to poor implementation of technical college curriculum in Nigeria. At all levels of the nation's educational system and for all known and existing school types, infrastructure facilities or teaching and learning materials are an indispensable factor in the attainment of the goals of different educational programme (Mkpa, 2001).

### Conclusion

Based on the findings of this study, it was concluded that none of the technical colleges in Niger State of Nigeria have all the infrastructure facilities outlined in the NBTE minimum standards for BBC curriculum implementation and as result of this shortage the implementation is suffering, hence contributed to the poor production of BBC graduates with low practical skills and low performance in academic achievement of student. It was also concluded that when teaching and learning environment is fully install with the infrastructure facilities as outlined in the NBTE minimum standards the learner's emotional needs are met and pleasant surroundings is created, a friendly atmosphere, and an inspiring environment with necessary infrastructure facilities gives total support for learner comprehension and attentiveness during the curriculum implementation.

### Recommendations

1. Government should ensure that all technical colleges in the State be provided with all the needed infrastructure facilities as contained in the NBTE minimum standards for the implementation of the BBC curriculum in technical colleges in the State.
2. All the relevant companies/industries/establishment where these graduates are expected to work after graduation should come to the aid of these technical colleges in the state towards the provision of these infrastructure facilities as outlined in the NBTE minimum standards for the implementation of BBC curriculum.
3. Parent Teachers' Association of technical colleges should devise a means of contribution for the provision of these infrastructure facilities as contained in the NBTE minimum standards for the implementation of the BBC curriculum.
4. Technical College Management should devise a means of building some of the infrastructure facilities as outlined in the NBTE minimum standards through students' project.



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