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Research Article

# CONSTRAINTS TO EFFECTIVE UTILIZATION OF STUDENT-CENTERED INSTRUCTIONAL STRATEGIES FOR TEACHING BLOCKLAYING, BRICKLAYING AND CONCRETING AT TECHNICAL COLLEGE LEVEL IN NIGER STATE, NIGERIA

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## ABSTRACT

*This study was designed to determine the constraints to effective utilization of student-centered instructional strategies for teaching Blocklaying, Bricklaying and Concreting (BBC) at technical colleges in Niger State, Nigeria. Three research questions and three hypotheses guided the study. A descriptive survey research design was adopted for the study. The study was conducted in the seven technical colleges in Niger state. The target population was 55 respondents consisting of 38 experienced and 17 less experienced teachers. The instrument for data collection was Questionnaire titled Constraints to Effective Utilization of Student-centered Instructional Strategies for Teaching Blocklaying, Bricklaying and Concreting (CEUSISTBBC). The instrument was validated by three lecturers from the Department of Industrial and Technology Education, Federal University of Technology, Minna. Cronbach Alfa was used to ascertain the reliability coefficient of the instrument which was found to be 0.89. Mean and standard deviation was used to answer the research questions while t-test statistic was used to test the hypotheses at 0.05 level of significance. The findings of the study revealed that all the teaching strategies identified are student-centered instructional strategies. The study further revealed among others, that lack of facilities, poor students relationship with one another, longer time required for student to achieve curriculum target, students demand to some specific nature, were the challenges hindering effective utilization of students-centered instructional strategies for teaching BBC at technical college level. Based on the findings, it was recommended that student-centered instructional strategies identified in the study should be made a requirement for teaching/learning situation at technical colleges in Niger state. Federal and state ministry of education should provide adequate funding, training and retraining opportunities, readily available teaching materials and resources, provide suitable learning environment, improve students ability to work together among others for effective utilization of student-centered instructional strategies for teaching BBC at technical colleges.*

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## INTRODUCTION

The act of every student's to do successfully in any given examination is usually a consequence of the quality of education or instruction, the course of action and the ways for teaching/learning situation. However, it has been observed that, this act of student to perform well in school examinations has persistently grow worse especially in technology education where the craft of laying Block, Brick and Concreting is achieved. This issue has posed lots of worry to all stakeholders in education and has resulted in many researches. Various researchers have advanced reasons for the unpleasant development in technology education among which is lack of adequate resource material for teaching and over dependency on the lecture method (Raymond & Ogbunya, 2013). The lecture and demonstration method have been the method used for teaching at technical colleges earlier than now. In spite of this method being considered good and is mostly used as the main teaching/learning methods for accomplishing the curriculum at technical colleges, the lecture method has some clear negative manifest. Brainsford, Brown, Cocking and Washington (2000) Noted that although, the traditional lecture course may be effective for efficiently disseminating a large body of content to a large number of students, these one-way exchanges often promote passive and superficial learning and fail to stimulate student motivation, confidence and enthusiasm (Weimer, 2002). Also, Eze (2001) stated that lecture method has some inherent limitations which have made it ineffective for teaching manipulative skills to student. For example, the traditional lecture and demonstration method often promote passive and superficial learning which fails to stimulate student's motivation, confidence and enthusiasm leading to student completing their studies without the required skills for employment. However, Abdulkadir and Abdullahi (2019) noted that, teachers use of instructional technique is a major factor that has been viewed by many to have an over bearing consequences on effective teaching and learning.

Effective teaching and learning can be described by the teacher's use of suitable instructional methods and resources. Based on the foregoing, researchers such as Ogundele, Abiodun and Jonathan (2010), Ogbuanya and Owodunni (2013), Raymond and Ogbuanya (2013), Atsumbe, Raymond and Maxwell (2017), Ibrahim, Ohize, Omozokpia and Raymond (2017), Abdulkadir and Abdullahi (2019) among others have recommended the use of the following instructional strategies for teaching at technical colleges in a way to promote meaningful learning, problem solving and critical thinking among technical college student in Nigeria. For example Ogundele, et al., (2010) recommended the use of constructive instructional approach for teaching practical skills to mechanical related trade students in western Nigeria technical colleges, Ogbuanya and Owodunni (2013) recommended the use of reflective inquiry instructional technique for teaching radio television and electronics works in technical colleges. Also Raymond and Ogbuanya (2013) recommended the use of cognitive and traditional task analysis-based instructional guide for teaching electronics works;

Atsumbe, et al., (2017) recommended that Teachers of Electronics and other related subjects in secondary schools should adopt collaborative instructional approach for teaching their subjects in technical colleges and secondary schools. On the other hand, Ibrahim, et al., (2017) recommended the use of video-taped and text based computer assisted instruction for teaching Blocklaying, Bricklaying and Concreting work in technical colleges, Abdulkadir and Abdullahi (2019) recommended the use of cognitive apprenticeship instructional method for improving teaching and learning of automobile technology student in technical colleges and so many others. These and many other instructional strategies have been recommended for use as student-centered instructional strategies for teaching at technical colleges in Niger state.

A student-centered instructional strategy is a teaching method premeditated for the learners. This means planning of the lesson oftentimes begin with the learners in mind as opposed to the plan of action or curriculum. Student-centered teaching method places student at the centered of the learning process. By placing student at the center of instruction, this approach shift the focus from teaching to learning and promotes a learning environment more amenable to the metacognitive development necessary for learners to become independent and critical thinkers (Brainsford, et al., 2000). Example of student-centered instructional strategies according to Teach, (2019), includes; index card instructional approach, active learning instructional strategies, collaborative instructional approach and simulation learning strategies. This is important for educating or instructing BBC students at technical college level where skill acquisition has been hampered. Concomitant to this, Experience Teachers (ET) and Less Experience Teachers (LET) of BBC at technical colleges are expected to adopt the uses of student-centered instructional strategies for teaching in technical colleges. This is because experience plays most important role in helping teachers in identifying and utilizing student-centered instruction strategies for teaching BBC at technical colleges. Hence, an experience teacher in search for and utilization of student-centered instructional strategies for implementing BBC curriculum at technical college level in Nigeria live much to be desired. This is because experienced teachers are more efficient in fostering student's achievement than their less experienced counterparts. An experienced teacher provides an intended effect of teaching and so reduces waste of resources in the teaching/learning experiences. Nonetheless, this study cannot be concluded without giving it special importance to the experienced teachers who fortify education in ways beyond just improving test scores. Therefore, the study was designed to determine the constraints to effective utilization of student-centered instructional strategies for teaching BBC in technical colleges in Niger state, Nigeria.

## RESEARCH OBJECTIVES

The aim of the study is to establish the constraints to effective utilization of student-centered instructional strategies for teaching Blocklaying, Bricklaying and Concreting at technical colleges in Niger state. Precisely, the study established the followings:

1. The student-centered instructional strategies for teaching BBC at technical colleges in Niger state
2. The challenges hindering effective utilization of student-centered instructional strategies for teaching BBC at technical colleges in Niger state
3. The solution to effective utilization of student-centered instructional strategies for teaching BBC at technical colleges in Niger state

### RESEARCH QUESTIONS

1. What is the student-centered instructional strategies for teaching BBC at technical colleges in Niger state
2. What are the challenges hindering effective utilization of student-centered instructional strategies for teaching BBC at technical colleges in Niger state?
3. What is the solution to effective utilization of student-centered instructional strategies for teaching BBC at technical colleges in Niger state

### SIGNIFICANCE OF THE STUDY

Blocklaying, Bricklaying and Concreting teachers as well as the learners at technical colleges would gain from this study. The findings if put to use would mitigate BBC teachers to effective utilization of student-centered instructional strategies for teaching thereby, contributing to a greater extent, the process of acquiring skills that is more liable of improving students to become autonomous and decisive thinkers in life.

### HYPOTHESES

**$Ho_1$:** There is no significant difference in the mean responses of respondents on student-centered instructional strategies for teaching BBC at technical colleges in Niger state

**$Ho_2$:** There is no significant difference in the mean responses of respondents on the challenges hindering effective utilization of student-centered instructional strategies for teaching BBC at technical colleges in Niger state

**$Ho_3$:** There is no significant difference in the mean responses of respondents on the solution to effective utilization of student-centered instructional strategies for teaching BBC at technical colleges in Niger state

## METHODOLOGY

Descriptive survey research design was used as an anticipated outcome for the study. The design was suitable as it looked for the view of respondents on the constraints to effective utilization of student-centered instructional strategies for teaching BBC at technical college level in Niger state.

The estimated number for the study was 55 respondents composed of 38 Experienced Teachers (11 – 30 years) and 17 Less Experienced Teachers (1 – 10 years) working experience.

Definite and highly organized questionnaire title "Questionnaire on the Constraints to Effective Utilization of Student-Centered Instructional Strategies for Teaching BBC at Technical Colleges in Niger State" (QCEUS-CISTBBCTCNS) was used as document for data collection.

The document was made valid by three experts from the Department of Industrial and Technology Education, Federal University of Technology of Technology, Minna.

Four point rating system of Strongly Agree = SA, Agree = A, Disagree = D and Strongly Disagree = SD, was used for the study to answer research question. See table I, II & III below. Reliability co-efficient of the documents was 0.89 and the internal consistency was 0.86 using Cronbach Alpha statistic.

Average and standard deviation were used to analyzed the value collected for the study.

## RESULTS

**Table I:** Average Responses of the two groups on Student-centered Instructional Strategies for Teaching Blocklaying, Bricklaying and Concreting at Technical Colleges in Niger State $N_1$ =38 $N_2$ = 17

| S/N | Items | $\bar{x}_1$ | $\bar{x}_2$ | $\bar{x}_A$ | $SD_1$ | $D_2$ | $SD_A$ | D |
|---|---|---|---|---|---|---|---|---|
| 1 | Active-learning instructional strategies | 3.03 | 3.35 | 3.19 | .79 | .70 | 0.74 | Agree |
| 2 | Cooperative learning | 2.87 | 2.88 | 2.88 | .91 | 1.05 | 0.98 | Agree |
| 3 | Jigsaw learning | 2.97 | 2.80 | 2.89 | .78 | .95 | 0.87 | Agree |
| 4 | Simulation learning | 2.77 | 2.92 | 2.85 | .67 | .85 | 0.76 | Agree |
| 5 | Computer based (video and text) | 2.76 | 3.35 | 3.05 | .99 | .99 | 0.99 | Agree |
| 6 | Reflective Inquiry Instructional Strategies | 2.76 | 2.59 | 2.68 | .91 | .94 | 0.93 | Agree |
| 7 | Role play method | 2.76 | 2.76 | 2.76 | .88 | 1.20 | 1.04 | Agree |
| 8 | Index-card instructional approach | 3.29 | 3.41 | 3.35 | 1.01 | 1.18 | 1.09 | Agree |
| 9 | Problem-based teaching strategies | 2.66 | 3.06 | 2.86 | 1.02 | 1.03 | 1.02 | Agree |
| 10 | Collaborative teaching strategies | 2.66 | 2.94 | 2.79 | .85 | .83 | 0.84 | Agree |
| 11 | Modeling Apprenticeship instructional strategies | 3.00 | 3.00 | 3.00 | .77 | .79 | 0.78 | Agree |
| 12 | Coaching Apprenticeship instructional approach | 3.11 | 2.82 | 2.96 | .69 | 1.07 | 0.88 | Agree |
| 13 | Cognitive task analysis-based instructional guide | 2.79 | 2.59 | 2.69 | .91 | 1.18 | 1.04 | Agree |
| 14 | Traditional task analysis-based instructional guide | 2.53 | 2.72 | 2.62 | .95 | .99 | 0.97 | Agree |
| 15 | Scaffolding instructional approach | 3.03 | 3.35 | 3.19 | .82 | .78 | 0.80 | Agree |
| 16 | Collaborative instructional approach | 2.58 | 2.76 | 2.67 | .89 | .97 | 0.93 | Agree |
| 17 | e-content base instructional guide | 2.78 | 3.00 | 2.89 | 1.04 | 1.06 | 1.05 | Agree |

**Key:** D = Decision, $SD_A$= Average standard deviation, $\bar{x}_1$= Mean of ET, $\bar{x}_2$= Mean of LET.
SD1= Standard deviation of ET, SD2= Standard deviation of LET

Results in Table I above made it known that the respondents are in accord to all the 17 items as Student-centered Instructional strategies for teaching BBC at technical colleges in Niger State with grand mean ranging from 2.62 – 3.35. This connote that all the teaching strategies identified are student-centered instruction strategies for teaching.

**Table II:** Average Responses of the two groups on the Challenges Hindering Effective Utilization of Student-centered Instructional Strategies for Teaching Blocklaying, Bricklaying and Concreting at Technical Colleges in Niger State

$N_1$ =38 $N_2$ = 17

| S/N | Items | $\bar{x}_1$ | $\bar{x}_2$ | $\bar{x}_A$ | $D_1$ | $D_2$ | $SD_A$ | D |
|---|---|---|---|---|---|---|---|---|
| 1 | Lack of facilities | 3.61 | 3.82 | 3.71 | .55 | .53 | 0.54 | Agree |
| 2 | Lack of mind set towards student-centered instructional approach | 2.82 | 3.18 | 2.99 | .65 | .88 | 0.77 | Agree |
| 3 | Inadequate Teachers knowledge-based | 2.53 | 3.18 | 2.85 | .95 | .88 | 0.92 | Agree |
| 4 | Poor student attitude | 2.95 | 2.94 | 2.94 | 1.14 | 1.20 | 1.17 | Agree |
| 5 | Lack of power supply | 3.21 | 3.71 | 3.46 | .91 | .59 | 0.75 | Agree |
| 6 | Lack of available resources | 3.16 | 3.47 | 3.31 | .75 | .72 | 0.74 | Agree |
| 7 | Lack of training opportunities | 3.05 | 3.24 | 3.14 | .73 | .66 | 0.69 | Agree |
| 8 | Lack of readily available teaching materials | 3.50 | 3.18 | 3.34 | .65 | .88 | 0.77 | Agree |
| 9 | Lack of ICTs facilities | 3.13 | 3.29 | 3.21 | .96 | 1.16 | 1.06 | Agree |
| 10 | Poor funding | 3.50 | 3.12 | 3.31 | .86 | 1.17 | 1.01 | Agree |
| 11 | Corruption | 3.50 | 3.24 | 3.37 | .83 | 1.09 | 0.96 | Agree |
| 12 | Too much emphasis on the conventional methods | 2.84 | 3.00 | 2.92 | .82 | 1.00 | 0.91 | Agree |
| 13 | Absence of qualified teachers | 2.89 | 2.59 | 2.74 | .92 | 1.23 | 1.08 | Agree |
| 14 | Poor learning environment | 3.11 | 3.06 | 3.08 | .76 | 1.09 | 0.93 | Agree |
| 15 | Longer time required for student to achieve curriculum target | 3.05 | 2.71 | 2.88 | .89 | .92 | 0.91 | Agree |
| 16 | Student demand to some specific nature (ability to work together) | 2.68 | 2.65 | 2.67 | .77 | .61 | 0.69 | Agree |
| 17 | Student relationship with one another | 2.99 | 2.58 | 2.78 | .79 | 1.00 | 0.89 | Agree |

**Key:** D = Decision, $SD_A$= Average standard deviation, $\bar{x}_1$= Mean of ET, $\bar{x}_2$= Mean of LET. SD1= Standard deviation of ET, SD2= Standard deviation of LET

The answer in Table II above clearly shows that the two groups were in agreement to all the items as challenges hindering effective utilization of student-centered instructional strategies for teaching BBC at technical colleges in Niger State with grand mean ranging from 2.67 – 3.71. Hence, the probability of not put into use the student-centered instructional strategies for teaching at technical college level in Niger State

**Table III:** Average Responses of the two groups on the Solution to Effective Utilization of Student-centered Instructional Strategies for Teaching Blocklaying, Bricklaying and Concreting at Technical Colleges in Niger State

N1 =38 N2 = 17

| S/N | Items | $\bar{x}_1$ | $\bar{x}_2$ | $\bar{x}_A$ | $SD_1$ | $SD_2$ | $SD_A$ | D |
|---|---|---|---|---|---|---|---|---|
| 1 | Improved facilities | 3.51 | 3.22 | 3.36 | .55 | .53 | 0.54 | Agree |
| 2 | Positive mind set towards student-centered instructional approach | 2.62 | 3.11 | 2.86 | .65 | .88 | 0.77 | Agree |
| 3 | Adequate Teachers knowledge-based | 2.73 | 2.68 | 2.70 | .95 | .88 | 0.92 | Agree |
| 4 | Good student attitude | 2.90 | 2.94 | 2.92 | 1.14 | 1.20 | 1.17 | Agree |
| 5 | Adequate power supply | 3.01 | 3.41 | 3.21 | .91 | .59 | 0.75 | Agree |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 6 | Provision of available resources | 3.16 | 3.47 | 3.31 | .75 | .72 | 0.74 | Agree |
| 7 | Regular training opportunities | 3.05 | 3.24 | 3.14 | .73 | .66 | 0.69 | Agree |
| 8 | Provision of adequate and readily available teaching materials | 3.00 | 3.18 | 3.09 | .65 | .88 | 0.77 | Agree |
| 9 | Adequate ICTs facilities | 3.13 | 3.29 | 3.21 | .96 | 1.16 | 1.06 | Agree |
| 10 | Adequate funding | 3.17 | 3.22 | 3.19 | .86 | 1.17 | 1.01 | Agree |
| 11 | Total war against corruption | 3.20 | 3.14 | 3.17 | .83 | 1.09 | 0.96 | Agree |
| 12 | Less emphasis on the conventional methods | 2.84 | 3.00 | 2.92 | .82 | 1.00 | 0.91 | Agree |
| 13 | Employment of qualiied teachers | 2.89 | 2.59 | 2.74 | .92 | 1.23 | 1.08 | Agree |
| 14 | Suitable learning environment | 3.11 | 3.06 | 3.08 | .76 | 1.09 | 0.93 | Agree |
| 15 | Good time management for student to achieve curriculum target | 3.09 | 2.71 | 2.90 | .89 | .92 | 0.91 | Agree |
| 16 | Improve Student ability to work together | 2.60 | 2.55 | 2.57 | .77 | .61 | 0.69 | Agree |
| 17 | Strengthen good Student relationship with one another | 2.59 | 2.88 | 2.73 | .79 | 1.00 | 0.89 | Agree |

**Key:** D = Decision, $SD_A$= Average standard deviation, $\bar{x}_1$= Mean of ET, $\bar{x}_2$= Mean of LET.
SD1= Standard deviation of ET, SD2= Standard deviation of LET

The results on Table III exposed that the two groups were concurrence of opinion on the solution to effective utilization of student-centered instructional strategies for teaching BBC at technical college level as the two groups agree to all the 17 items with mean ranging from 2.57 – 3.36.

## HYPOTHESES:

**Table IV: t**-test techniques of the average responses of the two groups on student-centered instructional strategies for teaching Blocklaying, Bricklaying and Concreting at technical colleges in Niger State

| Group | N | $\bar{x}$ | SD | Df | t-value | p-value, Sig. (2-tailed) | Alpha Level | Decision |
|---|---|---|---|---|---|---|---|---|
| ET | 38 | 2.61 | 0.40 | 53 | 0.058 | 0.954 | 0.05 | Accept (NS) |
| LET | 17 | 2.62 | 0.55 | | | | | |

**Key:** NS = Not Significant, p-value = probability value calculated by the computer,

From Table IV, the p-value, Sig. (2-tailed) (0.954) is greater than 0.05. This pointed out that there is no significant difference in the mean responses scores of the two groups on student-centered instructional strategies for teaching BBC at technical colleges in Niger State. Thus, the null hypothesis one was upheld (accepted) at 0.05 level of significance.

**Table V:** t-test Analysis of the average responses of the two groups on the challenges hindering effective utilization of student-centered instructional strategies for teaching Blocklaying, Bricklaying and Concreting at technical colleges in Niger state

| Group | N | $\bar{x}$ | SD | Df | t-value | p-value, Sig. (2-tailed) | Alpha Level | Decision |
|---|---|---|---|---|---|---|---|---|
| ET | 38 | 2.14 | 0.39 | 53 | 1.504 | 0.138 | 0.05 | Accept (NS) |
| LET | 17 | 1.97 | 0.38 | | | | | |

**Key:** NS = Not Significant, p-value = probability value calculated by the computer,

Table V above, the p-value, Sig. (2-tailed) (0.138) is greater than 0.05. This indicates that the mean response of the two groups of respondents was too closely correlated to be attributed for on the challenge hindering effective utilization of student-centered instructional strategies for teaching. So, the null hypothesis two was accepted (upheld) at 0.05 level of significance.

**Table VI:** t-test method of the average scoring of ET and LET on the solution to effective utilization of student-centered instructional strategies for teaching Blocklaying, Bricklaying and Concreting at technical colleges in Niger State

| Group | N | $\bar{x}$ | SD | Df | t-value | p-value, Sig. (2-tailed) | Alpha Level | Decision |
|---|---|---|---|---|---|---|---|---|
| ET | 38 | 3.05 | 0.35 | 53 | 0.573 | 0.569 | 0.05 | Accept (NS) |
| LET | 17 | 3.11 | 0.39 | | | | | |

**Key:** NS = Not Significant, p-value = probability value calculated by the computer,

Table VI above, shows the p-value, Sig. (2-tailed) (0.569) is greater than 0.05. This explain that there is no significant difference in the mean responses of the two categories of respondents. Thus, the null hypothesis three was upheld at 0.05 level of significance.

## FINDINGS

Answers on research question 1 discovered that Active learning instructional strategies, modeling apprenticeship, computer based, index-card approach, among others are the student-centered Instructional strategies for teaching, research question 2 asserted that corruption, poor funding, lack of ICTs facilities, Students demand to some specific nature, poor learning environment, lack of facilities among others are the challenges hindering effective utilization of students-centered instructional strategies while research question 3 maintained that improved facilities, adequate power supply, adequate funding, regular training opportunities, among others are the solution to effective utilization of student-centered instructional strategies. The three null hypotheses were accepted.

### DISCUSSION OF FINDINGS

The findings of the study on Table I reveals that the respondents agree with all the 17 items on student-centered instructional strategies for teaching BBC at technical colleges in Niger State with grand mean ranging from 2.62 -3.35. This signifies that all the teaching strategies identified are student-centered instruction strategies for teaching. This finding is in line with the view of Raymond and Ogbuanya (2013) who noted that, the lecture method has some evident short comings. In support of the view, Eze (2001) stated that lecture method has some inherent limitations which have made it ineffective for teaching manipulative skills to student. Similarly, Abdulkadir and Abdullahi (2019) also noted that, teachers use of instructional technique is a major factor that has been viewed by many to have an over bearing consequences on effective teaching and student's performance.

Findings on Table II above revealed that the respondents agree to all the 17 items as challenges hindering effective utilization of student-centered instructional strategies for teaching BBC at technical colleges in Niger State with grand mean ranging from 2.67 – 3.71. Hence, the likelihood of not using the student-centered instructional strategies for teaching at technical college level in Niger State. This findings is in line with the views of Abdulkadir and Abdullahi (2019) who noted that, teachers use of instructional technique is a major factor that has been viewed by many to have an over

bearing consequences on effective teaching and student's performance. Also Ibrahim, et al (2017) noted that the continuous deterioration of student' performance in school examinations particularly in the area of technology education may not be unconnected to the used of appropriate instructional teaching strategies for teaching/learning situation at technical colleges in Niger state. Also, Brainsford, et al (2000) who stated that by placing student at the center of instruction, this approach shift the focus from teaching to learning and promotes a learning environment more amenable to the meta-cognitive development necessary for student to become independent and critical thinkers

Findings on Table III above revealed that the respondents agree to all the 17 items as the solution to effective utilization of student-centered instructional strategies for teaching BBC at technical colleges in Niger State with mean ranging from 2.57 – 3.36. This signifies that the items identify are the solution to effective utilization of student-centered instructional strategies for teaching BBC at technical college level. This finding is in line with the views of Armbruster, et al (2009) who emphasized that, available resources will provide significant support to organization committed to implementing student-centered instructional strategies in their courses both in terms of training opportunities and readily available teaching materials.

Findings on hypothesis 1 revealed that the p-value, Sig. (2-tailed) (0.954) is greater than 0.05. This implies that, there is no significant difference in the mean ratings of the experienced teachers and less experienced teachers on student-centered instructional strategies for teaching BBC at technical colleges in Niger State. Thus hypothesis one was upheld at 0.05 level of significance. The correlation in the responses of the respondents shows that the respondents both agree to student-centered instructional strategies for teaching BBC at technical colleges in Niger State.

Findings on hypothesis 2 (Table V) above, revealed that the p-value, Sig. (2-tailed) (0.138) is greater than 0.05. The null hypothesis two was accepted at 0.05 level of significance. This implies that, there is no significant difference in the mean ratings of the experienced teachers and less experienced teachers on the challenges hindering effective utilization of student-centered instructional strategies for teaching BBC at technical colleges in Niger State. In view of the closeness in the opinion of the respondents, the responses shows that the respondents both agree on the challenges hindering effective utilization of student-centered instructional strategies for teaching BBC at technical colleges. This finding is in line with the view of Brainsford, et al (2000) noted that the important of using student-centered instructional strategies for teaching at technical college level particularly where a major setback in skill acquisition has been noted.who stated that by placing student at the center of instruction, this approach shift the focus from teaching to learning and promotes a learning environment more amenable to the meta-cognitive development necessary for student to become independent and critical thinkers.

Findings on hypothesis 3 (Table VI) shows that the p-value, Sig. (2-tailed) (0.569) is greater than 0.05. This signifies that there is no significant difference in the mean responses of the two categories of respondents. Thus, the null hypothesis was upheld (accepted) at 0.05 level of significance. The opinion of the respondents was closed to one another. This shows that the respondents both agree on the solution to effective utilization of student-centered instructional strategies for teaching BBC at technical colleges.

## CONCLUSION

The study established the constraints to effective utilization of student-centered instructional strategies for teaching BBC at technical colleges in Niger state, Nigeria. Based on the findings of the study, the following conclusion was made. The findings of the study revealed that the teaching strategies identified are the student-centered instructional strategies in for teaching at technical colleges in Niger state. This approach of shifting focuses from teaching to learning will promotes a learning environment more amenable to the meta-cognitive development necessary for student to become independent and critical thinkers otherwise a continuous deterioration of learners to succeed in examination particularly in the area of technology education in Niger state. However, poor funding, inadequate teachers knowledge-based, lack of power supply, lack of facilities, poor learning environment, time duration and student demand to some specific nature were some of the challenges hindering the use of student-centered instructional strategies for teaching at technical colleges in Niger state. Thus, providing adequate funding, training and retraining opportunities, adequate power supply, adequate facilities, conducive learning environment and readily available teaching materials and resources among others will provide significant support to organization committed to implementing and effective utilization of student-centered instructional strategies for teaching in Niger state and in Nigeria as whole.

## RECOMMENDATIONS

1. All the student-centered instructional strategies identified in the study should be made a requirement for teaching/learning situation of BBC at technical colleges in Niger state.
2. Federal and state ministry of education should provide adequate funding, training and retraining opportunities, readily available teaching materials and resources for effective utilization of student-centered instructional strategies for teaching BBC at technical colleges.
3. Government should provide adequate power supply, adequate facilities and conducive learning environment in technical colleges in Niger state.
4. Federal and state ministry of education should enact law to punish violators of using student-centered instructional strategies for teaching at technical colleges

5. BBC Teachers and other related subjects teachers in technical colleges should work on seeing how to improve student demand to some specific nature to achieve curriculum target.

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