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Effects of innovative pedagogies on skill attainment of Brick/Block laying and concreting students of technical colleges in Kano State, Nigeria

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Abstract

The study was carried out to determine Effects of Innovative Pedagogies on Skill Attainment of Brick/Block laying and Concreting Students in Technical Colleges in Kano state, Nigeria. Survey research design was used for the study. The population for the study was 28 block laying, bricklaying and concreting teachers in technical colleges. Structure questionnaire was used as instruments for data collection. Two research questions and two null hypotheses were formulated. Cronbach alpha method was used for the reliability of the instrument which yielded a coefficient of 0.83. Mean was used to analyze the data for answering research questions while t- test was used to test the hypotheses of no significant difference at 0.05 levels of

significances. Recommendation: The skills identified in this study should be integrated into the curriculum of block laying, bricklaying and concreting for training students in Technical Colleges, Workshop and seminars should be organized for Brick/Block-laying and concreting teachers on current technologies/issues in Brick/Block-laying and concreting from time to time, Teachers of block laying, bricklaying and concreting should endeavor to adopt identified teaching and evaluation strategies for training their students and Training equipment, machines and books should be donated to schools offering Brick/Block-laying and concreting by government and employers of labor in order to teach skills to students.

Keywords: Pedagogies, Skill Attainment, Brick/Block-laying and Concreting, and Technical Colleges

Introduction

Technical Colleges are regarded as principal vocational institutions in Nigeria that give full training intended to prepare students for entry into various occupations. Technical Colleges are set up by Federal or State Government as principal vocational institutions intended to prepare individuals for entry into various occupations as craftsmen or Technician (Okoro, 2006) ^[9]. The Federal Government of Nigeria FGN (2004) stated that Technical Colleges are designed to prepare craftsmen and technicians at sub-professional levels. Technical College is a segment of Technical and Vocational Education (TVE) designed to produce craftsmen at the secondary school level and master craftsmen at the advanced craft level. According to Ndomi (2005) ^[5], Technical Colleges provide technical training in a number of courses which include General Education, Electrical/electronic trades, Woodwork trades, Printing trades, Motor Vehicle Mechanic Work and Brick/Block-laying and Concreting.

Pedagogy is a term that refers to the method of how teachers teach, in theory and in practice. According to Farooq, Chaudhry, Shafiq and Behanu (2011), stated that the Pedagogy is formed by an educator's teaching beliefs and concerns the interplay between culture and different ways to learn. In order to help students to build on prior learning, meaningful classroom relationships must exist. Pedagogy refers to the study of teaching in Brick/Block-laying and Concreting approaches and how they affect students. A carefully considered pedagogy is essential in enabling students to learn more effectively and can help them develop high-order thinking skills. There are four common forms of pedagogy: social (education as supporting social development), critical (deconstructing normative perspectives), culturally responsive (encouraging the sharing of diverse backgrounds and experiences) and Socratic (developing intellectual and social skills to live in a democratic society) (Rono, 2013).

Brick/Block laying and Concreting is one of the Vocational programmes offered in Technical Colleges. It is designed to produce building technicians for the construction/building industry. In Block-laying, Bricklaying and Concreting according to Okparaeké (2004) ^[10], students are expected to work with materials, tools, equipment and machines to mould blocks, carry out preliminary site operations, concreting, block wall construction and finishing in the building industry.

In Brick/Block laying and Concreting according to Odu (2001) students learn building construction, brick/block laying, and technical drawing, building drawing, construction management, surveying and quantity surveying. The curriculum for Brick/Block laying and Concreting by the National Board for Technical Education (NBTE) is made up of 60 percent theory and 40 percent practical. The aim of this initiative is to increase the technological growth of the country and to allow students to acquire more technical skills. In spite of Federal Government's emphasis on improving technology, Brick/Block laying and Concreting students still find it difficult to acquire building skills that can make them functional in the society after graduation. Students of Brick/Block laying and Concreting graduate with little or no building skills at all to enable them work in building industries or firms or to be self-employed.

These graduates need necessary Brick/Block laying and Concreting skills in order to take up job in building industries that are now springing up here and there (Okoro, 1993)^[8]. Skills are needed to service the sophisticated technical equipment that is now being imported into the country (Aliozor, 2004)^[1]. Attainment of saleable skills is the answer to the unemployment among the youths. Erewani (2004)^[2] explained that the level of unemployment in a state is indicative of the quality and quantity of manpower available. Nzeagu (1997)^[6] also said that the main cause of unemployment among school leavers is lack of training and skills. In order to reduce unemployment among Block laying, Bricklaying and Concreting students after graduation and for them to contribute their quota to the development of the state, building skills need to be taught by technical teachers, modern Brick/Block laying and Concreting tools and equipment for teaching relevant skills in building must be readily available, also good teaching with pedagogies must be used to teach building skills to the students and correct evaluation innovation pedagogies are to be applied to evaluate students' performance both with and outside school. Without attainment building skills, graduates Brick/Block laying and Concreting can never be functional in the society. Building skills are teachable skills they can only be acquired when relevant materials, tools and equipment are available for teaching. Relevant tools and equipment enhance practical teaching and learning process. Quality of instructions offered to the students depends on the teaching pedagogies employed. The process of offering quality instructions to students involves the use of sophisticated tools, equipment and machines, delicate materials and complex methods of work. This now demands for skilled graduates to be involved in building technology practices in the state. Hence, it is imperative to determine Effects of innovative pedagogies in skill attainment of Brick/Block laying and Concreting Students in Technical Colleges in Kano state, Nigeria.

Statement of the Problem

Brick/Block laying and concreting program in Technical Colleges is aimed at producing skilled craftsmen who will be able to perform basic functions in Brick/Block laying and Concreting both in private and public sector (NBTE, 2013)^[4]. Brick/Block laying and Concreting is a skill oriented program whose graduates are expected to be self-employed or set – up their businesses after graduation but rather than being self – employed or set up businesses in the area they were trained. Pedagogy is formed by an educator's teaching beliefs and concerns the interplay between culture and

different ways to learn. In order to help Brick/Block laying and concreting program students to build on prior learning, meaningful classroom relationships must exist.

It has been observed that the objectives have not been achieved over the years. This is because the graduates of Vocational Technical education from Technical Colleges, especially in Brick/Block laying and concreting, still roam the street jobless. This may be due to little or no skill acquired by the students during training program in technical colleges. The consequences of joblessness among youths are burglaries, robbery, psychological and financial stresses, fear, anxiety, aggression, frustration, prostitution, drug addition, vagrancy, poverty, hunger and diseases. It is a common observation that youths today do not want to work but want to become millionaires overnight. This has become a national issue; hence many youths have involved themselves in social vices such as Armed Robbery, Kidnapping, Banditry, Book-Haram, and Cultism, Yahoo Yahoo, in order to make quick money.

These categories of people do not realize that there is dignity in labour. The reason is simply because they do not possess necessary skills in the area that they were trained, and as a result they have no confidence in themselves to set up business. Good possession of relevant skills that will enable Brick/Block laying and Concreting students set up businesses or become self-reliance may reduce joblessness and social vices among the students after graduation. Therefore, there is need for carrying out a study to determine Effects of innovative pedagogies in skill attainment of Brick/Block laying and Concreting Students in Technical Colleges in Kano state, Nigeria.

Purpose of the Study

The major purpose of this study is to determine the Emerging technologies and innovative pedagogies in skill attainment of Block-Laying, Bricklaying and Concreting Students in Technical Colleges in Kano state, Nigeria. Specifically; the study determined;

1. Teaching Practical innovative Pedagogies of Block-laying, Bricklaying and concreting it will enhance skill attainment of Students in Technical Colleges in Kano State, Nigeria.
2. Evaluation Technologies and Innovative Pedagogies skill attainment of Block-laying, Bricklaying and Concreting students in Technical Colleges in Kano State, Nigeria.

Hypotheses

The following null hypotheses were tested at 0.05 levels of significance:

H₀₁ There is no significant difference between the mean responses of qualified and unqualified Block-laying, Bricklaying and concreting teachers on the Technologies and Innovative Pedagogies in Skill Attainment of Block-Laying, Bricklaying and Concreting Students in Technical Colleges in Kano state, Nigeria.

Presentation of the Result

Research Question One

What are the methods of teaching practical of innovative Pedagogies of Block-laying, Bricklaying and concreting it will enhance skill attainment of Students in Technical Colleges in Kano State, Nigeria?

Table 1

S/n	Items	Mean	S/D	Decision
1	Allowing students to participate in evaluation process	4.00	0.89	Agree
2	Always inviting building experts from building industries to give lectures to students on practical innovations	4.00	0.80	Agree
3	Always teaching practical's in a well-organized and equipped workshop	4.06	0.72	Agree
4	Visiting relevant building industries for practical skill acquisition (field trip	3.83	0.77	Agree
5	Allowing students to teach themselves the acquired practical skills after the trip	3.80	0.63	Agree
6	Giving project works or model to students to constructed at the end of each lesson Making it compulsory for Building Technology students to have their own basic hand tools for practical	3.61	0.83	Agree
7	Allowing knowledgeable students to teach colleagues practical concepts	3.90	0.98	Agree
8	Providing practical manuals to guide students during practical's	4.09	0.83	Agree
9	Allowing students to handle basic Building Technology tools during practical's	3.87	0.63	Agree
10	Using provided equipment/machines for teaching practical's at all time	3.83	0.83	Agree

The data presented in Table 1 revealed that 10 on method of teaching practical pedagogies have their mean value ranged from 3.61 to 4.09. This showed that the mean value of each item was above the cut-off point of 3.50, indicating that all the 10 method of teaching strategies can be used for teaching practical of innovative pedagogies to students in Technical Colleges. The table also showed that the standard deviations (SD) of the items are within the range of 0.63 to 0.98 and are

positive. This indicated that the respondents were very close in their means responses.

Research Question Two

What are the evaluation Technologies and Innovative Pedagogies in skill attainment of Block-laying, Bricklaying and Concreting students in Technical Colleges in Kano State, Nigeria?

Table 2

S/n	Items	Mean	S/D	Decision
1	Using rating scale for evaluating students during practical in the laboratory	3.96	0.75	Agreed
2	Using psycho productive test to measure student's practical ability after instruction	3.51	0.94	Agreed
3	Evaluating students based on their practical experience	3.74	0.74	Agreed
4	Giving different assignment to each student at the end of each lesson	3.61	0.74	Agreed
5	Giving oral examinations to students at the end of every lesson	3.96	0.75	Agreed
6	Interviewing and rating each student on the topic of the lesson all the time	3.51	0.94	Agreed
7	Measuring students' abilities with standardized test every	3.74	0.74	Agreed
8	Evaluating students during practical's using relevant evaluation strategies such as rating scale or observation	3.61	0.98	Agreed
9	Allowing students to participate in evaluation process	3.96	0.75	Agreed
10	Using practical work to evaluate students performance in the class	3.51	0.94	Agreed

The data presented in Table 2 revealed that 10 items on evaluation Technologies and Innovative Pedagogies in skill attainment have their mean value ranged from 3.51 to 3.96. This showed that the mean value of each item was above the cut-off point of 3.50, indicating that all the 10 items evaluation Technologies and Innovative Pedagogies in skill attainment of Block-laying, Bricklaying and Concreting Students in Technical Colleges. The table also showed that the standard deviations (SD) of the items are within the range of 0.74 to 0.94 and are positive. This indicated that the

respondents were very close in their means responses.

Hypothesis One

There is no significant difference between the mean responses of qualified and unqualified Block-laying, Bricklaying and concreting teachers on the Technologies and Innovative Pedagogies in Skill Attainment of Block-Laying, Bricklaying and Concreting Students in Technical Colleges in Kano state, Nigeria.

Table 3: The t-test Analysis of the Mean Responses of the Respondents on Teaching Technology and Innovation Pedagogies of Block-laying, Bricklaying and concreting it will enhance skill attainment of Students in Technical Colleges in Kano State, Nigeria

S/n	Items	X ₁	S ₁	X ₂	S ₂	t-cal	Remark
1	Allowing students to participate in evaluation process	3.95	0.68	3.54	0.81	0.61	NS
2	Always inviting building experts from building industries to give lectures to students on practical innovations	4.30	0.86	3.90	0.83	0.77	NS
3	Always teaching practical's in a well organized and equipped workshop	4.35	0.81	3.81	0.98	1.11	NS
4	Visiting relevant building industries for practical skill acquisition (field trip	4.35	0.67	3.63	0.69	0.61	NS
5	Allowing students to teach themselves the acquired practical skills after the trip	4.50	0.76	3.72	0.73	0.32	NS
6	Giving project works or model to students to constructed at the end of each lesson Making it compulsory for Building Technology students to have their own basic hand tools for practical	4.25	0.63	3.54	0.81	0.21	NS
7	Allowing knowledgeable students to teach colleagues practical concepts	4.20	0.89	3.65	0.60	0.11	NS
8	Providing practical manuals to guide students during practical's	4.15	0.81	3.36	0.60	0.04	NS
9	Allowing students to handle basic Building Technology tools during practical's	4.25	0.63	3.80	0.78	1.47	NS
10	Using provided equipment/machines for teaching practical's at all time	4.35	0.67	3.88	0.87	0.08	NS

Data presented in Table 3 revealed that each of the strategies had their calculated t- values ranged from 0.08 to 1.47 which were less than t-table value of 1.52 (two tailed test) at 0.05 level of significance and at 29 degree of freedom (df). This indicated that there was no significant difference between the mean response of qualified and unqualified teachers of teaching practical pedagogies of Block-laying, Bricklaying and concreting it will enhance skill attainment of Students in Technical Colleges in Kano State, Nigeria. Therefore, the null hypothesis of no significant difference between the mean response of qualified and unqualified teachers of Teaching practical pedagogies of Block-laying, Bricklaying and concreting it will enhance skill attainment of Students in Technical Colleges in Kano State, Nigeria was upheld

Conclusion

Based on the findings of the study, the following conclusions are drawn: Block-laying, Bricklaying and Concreting at Technical College level is all about teaching skills to students for employment and wealth creation after graduation. In order for students to attain these skills, teachers are required to teach relevant skills to students by employing appropriate teaching and evaluation Emerging technologies and innovative pedagogies in skill attainment of Block-Laying, Bricklaying and Concreting Students in Technical Colleges.

Recommendations

Based on the findings of the study, the following recommendations are made:

1. Training equipment, machines and books should be donated to schools offering Block-laying, Bricklaying and Concreting by government and employers of labour in order to teach skills to students
2. Workshop and seminars should be organized for Block-laying, Bricklaying and Concreting teachers on current technologies/issues in Block-laying, Bricklaying and concreting from time to time.
3. The skills identified in this study should be integrated into the curriculum of Block-laying, Bricklaying and Concreting for training students in Technical Colleges.
4. Teachers of Block-laying, Bricklaying and Concreting should endeavour to adopt identified teaching and evaluation strategies for training their students.

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