TECHNICAL SKILL NEEDS OF TECHNICAL TEACHERS IN SOUTH-SOUTH OF NIGERIA

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Abstract:
The existence of skill gap in technical teachers, particularly those in building technology is currently having a wide spread negative impact on both the teachers and craftsmen in terms of functions and productivity in work place. Lack of attention to tackle the gap will make the young recruits less attractive to employers, resulting in higher unemployment and greater difficulty in improving production to enhance the economy of the country. This study was designed to identify the skill gaps between technical skill needs and technical skill possessed by technical teachers in building technology in South-South Nigeria. Descriptive survey design was used. Two research questions and two hypotheses were raised. The data were analyzed using relevant statistical tools, which include frequency, means, correlation, standard deviation and ANOVA. The study revealed not only that there are skill shortages, but the level of shortages. Solutions proffered include provision of in-service training and the need for the government to provide facilities, machinery, tools and consumables among others in the various technical colleges needed by building technology teachers to build their skills as well as fulfilling the aim of technical education which is producing individuals that are self-reliant.

Key Words: Technical skills, technical teachers, Nigeria

Background of the Study

In March 10-16, 2002, the National Summit on higher education was convened to develop the fourth review in a series of surveys designed to fashion out appropriate strategies for good quality university education in Nigeria in the 21st century (Okebukola, 2002). The implication of this for the vocational teachers generally and technical teachers in particular is that today's training skill shortages are extremely broad and deep, cutting across industrial sectors and impacting more negative tendencies for technical colleges. Consequently, skills shortages in building technology teachers are having a widespread impact on technical college artisan and craftsmen's abilities to achieve production levels, increase productivity, and meet customer demands. The results of the above survey confirm the skill shortages in technical teachers found in earlier reports made by Okebukola and Salawu, (2001) and Oni, (2000). However, the 2002 report goes much beyond earlier findings in detailing the breadth and depth of the skills shortage. It covers the training skill needs of technical education teachers in building technology; the negative impact of the skill shortages in technical teachers that are supposed to provide the highly needed craftsmen and artisan from the technical colleges and the extraordinary increase in craftsmen and artisan performance requirements. The picture that emerges is both more complex and more disturbing than in the past, because it exposes a broadening gap between the availability of skilled teachers and the employee performance requirements of today technical teachers in technical colleges. This human capital performance gap threatens our nation's ability to compete in today's fast-moving and increasingly demanding global economy. It is emerging as our nation's most critical educational issue.

The African Economic Outlook reviews technical skills development systems across 35 African countries, including Nigeria exploring challenges, bottlenecks, highlighting good practices, and in developing, implementing and sustaining successful technical education and training programmes (Association for the Development of Education in Africa, 2008).

Statement of the Problem

- Today's training skill shortages for technical teachers, which are having a widespread impact on technical college artisan and craftsmen's abilities to achieve production levels, increase productivity, and meet customer demands as were earlier pointed in several literatures by Okebukola (2002), Ojo (1993), Olaitan (1996), and Oni (2000).
- The increasingly competitive global environment, the evolution and increase in new knowledge, which have made it difficult for technical teachers in building technology particularly those trained in Nigerian universities, to find the competition for work increasing, and widening beyond that which current programme of study can offer (Okebukola and Salawu, 2001).
- The challenge for the technical teachers in building technology to be obliged to be equipped with better education and newer skills in order to meet the demand of today's workplace and to aspire to an improved quality of life to be self-reliant.
- The fact that today, unemployment and poverty are increasing at alarming rate in Nigeria and thus the major challenge for the technical teachers in building technology to have a kind of training that will make them self-reliant, especially with regard to competencies and skills acquisition in the depressed economy and labour market (Federal Republic of Nigeria, 1991).
- The last challenging task today being for the educationists, researchers, industry, government and the society at large to be able to offer the desired remedies in a responsive way for the skill shortages

Research Questions

1. What are the technical training skill needs of building technology teachers in technical colleges in South-South Nigeria?
2. What are the technical training skills possessed by building technology teachers in technical colleges in South-South Nigeria?

Hypotheses

1.There is no significance difference in the mean ratings of technical teachers from the six states on the technical skill needs of building technology teachers in South-South of Nigeria

2.There is no significance difference in the mean ratings of technical teachers from the six states on the technical skills possessed by building technology teachers in South-South of Nigeria.

Method

The descriptive survey design was used in this study. Questionnaire and checklist were used in educational research to collect data about phenomena that is not directly observable. The total population of this study was made up of 102 respondents, which included all the building technology teachers in 35 technical colleges in South-South Nigeria. Due to the small number of building technology teachers in technical colleges, the entire population for the study. The questionnaire was used containing 21 items on technical training skill needs and 21 items on technical training skill possessed. Both the TSNBTTQ and TSPBTTQ of the questionnaire have been place on a five point Likert-type scale ranging from very highly needed to not needed and ranging from very highly possessed to not possessed respectively addressing the research questions and hypotheses.

Research Question 1: What are the technical skill needs of technical teachers in building technology in South-South Nigeria?

Table1: Technical Training Skill Needs of Technical Teachers in Building Technology in South-South Nigeria.

N	Technical skill needs in building technology	Mean $\overline{X}_1$	Standard deviation	Decision
1	Building drawing skills (manual and computer)	4.431	0.634	Needed
2	Surveying, landscaping and site preparation skills	3.804	0.841	Needed
3	Foundation skills	3.529	0.647	Needed
4	Ability to use machines for construction	3.765	0.854	Needed
5	Ability to use hand tools for practical work	3.370	0.659	Needed
6	Brick and block Laying skills	4.314	0.641	Needed
7	Roofing skills	4.324	0.597	Needed
8	Mansory skills in building	4.500	0.668	Needed
9	Concreting and reinforcement skills	4.431	0.619	Needed
19	Carpentry and Joinery skills	4.118	0.704	Needed
11	Final Finishes skills	4.304	0.725	Needed
12	Plumbing skills	4.039	0.949	Needed
13	Ability to organize laboratory/ workshop practical	3.373	0.640	Needed
14	Structural construction skills	3.961	0.907	Needed
15	Entrepreneurial skills	3.384	0.677	Needed
16	Information and communication (ICT) skills	3.170	0.821	Needed
17	Industrial training skills	3.953	0.519	Needed
18	Upholstery skills	4.520	0.578	Needed
19	Decoration skills	4.382	0.648	Needed
20	Soft ware skills for analysis of practical tests	4.147	0.814	Needed
21	Knowledge of current technical books, journals magazines and monographs	3.363	0.644	Needed

Table 1 indicates that all the 21 items of the technical skills are needed by the building technology teachers. These borders on areas like information and communication (ICT) skills, foundation skills, ability to use hand tools for practical work and knowledge of current technical books, journals magazines and monographs. Other areas include building drawing skills (manual and computer), surveying, landscaping and site preparation skills, ability to use machines for construction and brick and block Laying skills. Others are roofing skills, masonry skills in building, concreting and reinforcement skills, carpentry and Joinery skills, final Finishes skills, plumbing skills, ability to organize laboratory/ workshop practical, and structural construction skills. In the areas of industrial training skills, upholstery skills, decoration skills entrepreneurial skills, and soft ware skills for analysis of practical tests, especially in the last two, which are now be emphasized in any technical study, it was revealed that the skills are highly needed. This supports a report made in another study that there is need to seek a tie that binds, that is, integrating training and development so that there is human resource development, and teacher preparation (Gray, 1997).

Research Question 2: What are the technical skills possessed by technical teachers in building technology in South-South Nigeria?

Table 2: Technical Training Skill Possessed by Technical Teachers in Building Technology in South-South Nigeria.

N	**Technical skill needs in building technology**	**Mean** $\overline{X}_2$	**Standard deviation**	**Decision**
1	Building drawing skills (manual and computer)	2.045	1.879	Not Possessed
2	Surveying, landscaping and site preparation skills	2.745	1.152	Not possessed
3	Foundation skills	2.657	0.822	Not possessed
4	Ability to use machines for construction	2.608	1.230	Not possessed
5	Ability to use hand tools for practical work	2.510	0.968	Not possessed
6	Brick and block laying skills	2.911	0.887	Not Possessed
7	Roofing skills	2.608	1.059	Not possessed
8	Masonry skills in building	2.559	1.543	Possessed
9	Concreting and reinforcement skills	2.882	0.963	Not possessed
19	Carpentry and Joinery skills	2.765	1.113	Not possessed
11	Final Finishes skills	2.221	1.990	Not Possessed
12	Plumbing skills	2.716	0.890	Not possessed
13	Ability to organize laboratory/ workshop practical	2.518	1.930	Not Possessed
14	Structural construction skills	2.441	0.914	Not possessed
15	Entrepreneurial skills	2.529	0.936	Not possessed
16	Information and communication (ICT) skills	2.118	0.993	Not possessed
17	Industrial training skills	2.789	1.571	Not Possessed
18	Upholstery skills	2.667	0.911	Not possessed
19	Decoration skills	2.824	0.944	Not possessed
20	Soft ware skills for analysis of practical tests	2.392	0.992	Not possessed
21	Knowledge of current technical books, journals magazines and monographs	2.500	1.007	Not possessed

Table 2 reveals that in all the 21 items on technical skills, respondents' opinion is that the building technology teachers do not possess the skills. However, a clear picture is presented by Figure 2 that all the technical skills are needed as there is a clear gap between the skills needed and skills possessed by the building technology teacherTable 2 shows that the technical training skills are lowly or moderately possessed by the technical teachers in all the 21 items on technical training skills. The technical skills that are moderately possessed but not up to 3.00 are building drawing skills (manual

and computer), brick and block laying skills and masonry skills in building. Others are final Finishes skills, ability to organize laboratory/ workshop practical, industrial training skills.

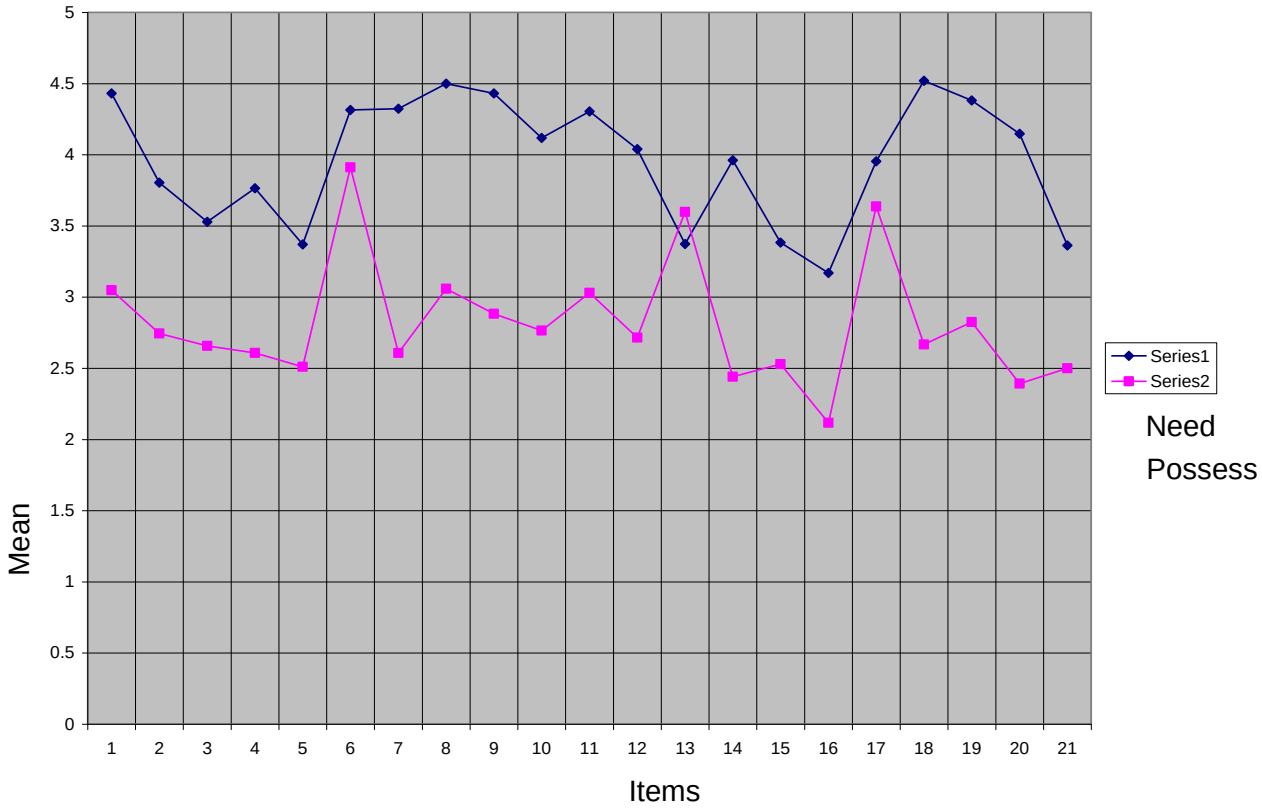

Figure 2: Characteristic Curve of the Responses to Items 1=21 on Technical Skills of Technical Teachers in South-South Nigeria

Hypothesis I: There is no significance difference in the mean ratings of technical teachers from the six states on the technical skills possessed by building technology teachers in South-South of Nigeria.

Table 3: Technical Training Skills Possessed of Building Technology Teachers in Technical Colleges in the States in South-South Nigeria.

N	Technical skills possessed in building technology	Edo	Delta	Rivers	Bayelsa	Akwa-Ibom	Cross River
1	Ability to use building drawing skills (manual and computer)	3.227	3.294	3.188	3.286	3.379	3.364
2	Ability to use surveying, landscaping and site preparation skills	2.455	2.471	2.313	2.286	2.621	2.455
3	Ability to use foundation skills	3.409	3.471	3.250	2.571	3.345	3.182
4	Ability to use machines for construction	2.545	2.471	2.438	2.143	2.655	2.364
5	Ability to use hand tools for practical work	3.136	3.176	3.000	2.286	2.966	2.545
6	Ability to use brick and block Laying skills	3.045	3.059	2.750	2.286	3.138	2.455
7	Ability to use roofing skills	2.818	2.765	2.765	2.286	2.759	2.636
8	Ability to use mansory skills in building	3.273	3.118	2.750	2.857	3.241	3.000

9	Ability to use concreting and reinforcement skills	2.727	2.765	2.688	2.143	2.690	2.545
10	Ability to use carpentry and joinery skills	3.045	3.000	2.688	2.143	3.069	2.364
11	Ability to use final finishes skills	3.182	3.118	2.688	2.286	3.172	2.545
12	Ability to use plumbing skills	3.227	3.294	3.188	3.286	3.379	3.364
13	Ability to organize laboratory/ workshop practicals	2.455	2.471	2.313	2.286	2.621	2.455
14	Ability to use structural construction skills	3.409	3.471	3.250	2.571	3.345	3.182
15	Ability to use entrepreneurial skills	2.545	2.471	2.438	2.143	2.655	2.364
16	Ability to use information and communication (ICT) skills	3.091	3.000	2.750	2.571	3.200	2.636
17	Ability to use industrial training skills	2.909	2.941	2.875	2.714	2.862	2.727
18	Ability to use upholstery skills	3.364	3.529	3.375	3.286	3.414	3.364
19	Ability to use decoration skills	3.227	3.353	3.250	3.571	3.310	3.455
20	Ability to use soft ware skills for analysis of practical tests	2.591	2.588	2.438	2.571	2.552	2.545
21	Using knowledge of current technical books, journals magazines and monograhgs	2.682	2.824	2.750	2.857	2.862	2.909

Anova: Single Factor: Possess

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Edo	21	62.362	2.970	0.107
Delta	21	62.65	2.983	0.126
Rivers	21	59.145	2.816	0.110
Bayelsa	21	54.429	2.593	0.196
Akwa-Ibom	21	63.235	3.011	0.093
Cross River	21	58.456	2.784	0.148

ANOVA

Source of Variation	*SS*	*Df*	*MS*	*F*	*P-value*	*F crit.*
Between Groups	2.724	5	0.545	4.191	0.002	2.290
Within Groups	15.600	120	0.130			
Total	18.322	125				

In the case of table 3, the ANOVA analysis of the means showed that P-value of 0.0.002, which is less than 0.05 or the calculated F value is greater than the critical F value, hypothesis I is rejected, indicating that there is significance difference in the mean ratings of technical teachers on the technical training skills possessed by building technology teachers between and within the States in South-South Nigeria.

Hypothesis II: There is no significance difference in the mean ratings of technical teachers on the technical training skill needs by building technology teachers in the States in South-South of Nigeria

Table 4: Technical Training Skill Needs of Building Technology Teachers in Technical Colleges in the States in South-South Nigeria.

N	Technical skill needs in building technology	Edo	Delta	Rivers	Bayelsa	Akwa-Ibom	Cross River
1	Ability to use building drawing skills (manual and computer)	4.455	4.412	4.438	4.714	4.207	4.455
2	Ability to use surveying, landscaping and site preparation skills	3.864	3.824	3.875	3.571	3.690	4.000
3	Ability to use foundation skills	3.636	3.588	3.438	3.714	3.655	3.364
4	Ability to use machines for construction	3.773	3.882	3.688	3.714	3.655	3.909
5	Ability to use hand tools for practical work	4.045	3.412	3.500	3.286	3.483	3.182
6	Ability to use brick and block Laying skills	4.273	4.353	4.250	4.571	3.966	4.455
7	Ability to use roofing skills	4.318	4.412	4.250	4.286	4.0690	4.364
8	Ability to use mansory skills in building	4.455	4.588	4.563	4.857	4.207	4.727
9	Ability to use concreting and reinforcement skills	4.318	4.529	4.438	4.429	3.966	4.636
10	Ability to use carpentry and joinery skills	4.136	4.176	4.000	4.286	4.034	4.182
11	Ability to use final finishes skills	4.227	4.412	4.313	4.714	4.034	4.545
12	Ability to use plumbing skills	4.182	4.235	3.938	3.714	3.828	4.273
13	Ability to organize laboratory/ workshop practicals	4.227	4.412	4.438	3.857	4.414	4.364
14	Ability to use structural construction skills	3.955	3.824	3.750	3.714	3.621	3.818
15	Ability to use entrepreneurial skills	2.318	2.294	2.563	2.286	2.483	2.286
16	Ability to use information and communication (ICT) skills	3.120	3.412	3.188	3.286	3.345	3.091
17	Ability to use industrial training skills	4.227	4.176	4.125	3.857	4.207	4.182
18	Ability to use upholstery skills	4.182	4.294	4.188	3.857	4.310	3.818
19	Ability to use decoration skills	4.182	4.412	3.875	4.286	3.897	3.909
20	Ability to use soft ware skills for analysis of practical tests	4.045	4.000	3.813	4.143	3.931	3.909
21	Using knowledge of current technical books, journals magazines and monographs	3.455	3.471	3.313	3.429	3.483	3.091

Anova: Single Factor: Skill gap

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Edo	21	83.393	3.971	0.253
Delta	21	84.118	4.006	0.296
Rivers	21	81.944	3.902	0.248

Bayelsa	21	82.571	3.932	0.364
Akwa-Ibom	21	80.485	3.833	0.180
Cross River	21	82.560	3.931	0.385

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0.371	5	0.074	0.258	0.935	2.290
Within Groups	34.541	120	0.288			
Total	34.912	125				

The ANOVA analysis of the means in table 4 showed that p-value of 0.935 is greater than 0.05 or the calculated F value is less than the critical F value; hypothesis II is accepted indicating that there is no significance difference in the mean ratings of technical teachers on the technical training skill needs by building technology teachers between and within the States in South-South Nigeria.

Summary of Findings

The findings can be summarized as follows:

The study indicated that all the 21 items of the technical skills are needed by the building technology teachers. This data reaffirm the fact that there are skill shortages among technical teachers in south-south Nigeria. Technical skills are lowly possessed by the building technology teachers in all the 21 items on technical training skills. There is a clear gap between the skills needed and skills possessed by the building technology teachers in south-south Nigeria.

Hypothesis I is accepted indicating that there is no significance difference in the mean ratings of technical teachers on the technical skill needs by building technology teachers in the States in South-South technical Nigeria

Hypothesis I1 is rejected indicating that there is significance difference in the mean ratings of technical teachers on the technical training skills possessed by building technology teachers in the States in South-South Nigeria.

Conclusion:

The existence of skill gap in technical teachers, particularly those in building technology is currently having a wide spread negative impact on both the teachers and craftsmen in terms of functions and productivity in work place. Lack of attention to tackle the gap will make the young recruits less attractive to employers, resulting in higher unemployment and greater difficulty in improving production to enhance the economy. The major reason for this study is to identify the skill gaps between technical skill needs and technical skill possessed by technical teachers in building technology in South-South Nigeria.

Recommendations

- Building technology teachers in technical colleges should be exposed to in-service training in other to update areas where there are skill shortages and this will help to check skill deficiencies (both teaching and technical) in the teachers.
- There is need for the government to provide facilities, machinery, tools and consumables in the various technical colleges needed by building technology teachers to actualize their skills as well as fulfilling the aim of technical education, which is producing individuals that are self-reliant.
- To enhance technical skills, there should be equal provision of material resources in technical colleges which should be base on the ratio of teachers to students in respective of the location of the technical college in Nigeria.
- Emphasis should be laid on technical skill training rather than theory in other to bridge the gap between theory and practice by adequate provision of workshops and laboratories at the university to enhance adequate practical work while the teachers are on training.

- Out of the 21 items on the skills needed by the technical teachers in building technology, all items are needed by the technical teachers. Based on this result, universities offering building technology should review their curriculum to reflect the skills needed.

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