

(3D) modelling skills required for self- reliance of students of Technical colleges in Rivers State.

Research Question 4: What are the installation of Plaster of Paris (POP) skills required for self- reliance of students of Technical colleges in Rivers State?

Table 4: Mean and Standard Deviation on Installation of Plaster of Paris (POP) Skills Required for Self- reliance

S/NO	Installation of Plaster of Paris (POP) Skills Required for Self-reliance	Teachers			Instructors		
		X	SD	RMK	X	SD	RMK
1	Take accurate measurement.	4.22	.856	A	4.03	.929	A
2	Estimate the quantity of POP material from a building drawing.	3.58	.706	SA	4.02	.876	A
3	Correctly use hand tools for POP.	4.09	.785	A	4.22	.932	A
4	Identify and select the appropriate mould.	3.98	.719	A	4.39	.840	A
5	Prepare the mould.	4.17	.921	A	4.03	.982	A
6	Create different designs.	4.11	.994	A	3.98	.744	A
7	Determine the quantity of yarn required in a project.	4.27	.877	A	3.88	.982	A
8	Separate the yarn.	3.93	.863	A	4.07	.923	A
9	Determine the quantity of water and POP powder to be mixed.	4.34	0.86	A	3.63	0.59	A
10	Molding of plane.	3.55	0.67	A	3.86	0.49	A
	Grand Mean	4.02	0.83	A	4.01	0.83	A

Data in Table 4 revealed that teachers had a mean range of 3.55-4.34 and standard deviation range of 0.67-0.99. While the Instructors had a mean range of 3.63-4.39 and standard deviation range of 0.49 - 0.98. The standard deviation shows the homogeneity of the respondents. The mean shows that the respondents agreed on the installation of Plaster

of Paris (PoP) skills required for self- reliance of students of Technical colleges in Rivers State.

Hypotheses

H₀₁ There is no significance difference between the mean responses of brick block laying and concreting teachers and instructors on the tiling skills required for self- reliance of students of Technical colleges in Rivers State.

Table 5: t-test Analysis on Tiling Skills Required for Self- reliance of Students

Respondents	N	\bar{X}	SD	α	DF	t-Cal	t-Crit	RMK
Teachers	38	4.31	0.88	0.05	61	1.22	1.96	No Sig
Instructors	23	4.19	0.83					

Result in Table 5 revealed that t-cal (1.22) is less than t-crit (1.96) which indicates that the hypothesis stated was accepted. Therefore, there is no significance difference between the mean responses of brick block laying and concreting teachers and instructors on the tiling skills required for self- reliance of students of Technical colleges in Rivers State.

H₀₂ There is no significance difference between the mean responses of brick block laying and concreting teachers and instructors on the production and installation of baluster’s skills required for self- reliance of students of Technical colleges in Rivers State.

Table 6: t-test Analysis on Production and Installation of Baluster’s Skills Required for Self- reliance of Students.

Respondents	N	\bar{X}	SD	α	DF	t-Cal	t-Crit	RMK
Teachers	38	4.12	0.85					

0.05 61 1.23 1.69 No Sig

Instructors 23 4.19 0.83

Result in Table 6 revealed that t-cal (1.32) is less than t-crit (1.69) which indicates that the hypothesis stated was accepted. Therefore, there is no significance difference between the mean responses of brick block laying and concreting teachers and instructors on the production and installation of baluster’s skills required for self- reliance of students of Technical colleges in Rivers State.

H₀₃ There is no significance difference between the mean responses of brick block laying and concreting teachers and instructors on the three-Dimensional (3D) modelling skills required for self- reliance of students of Technical colleges in Rivers State.

Table 7: t-test Analysis on Three-Dimensional (3d) Modelling Skills Required for Self- reliance of Students.

Respondents	N	\bar{X}	SD	α	DF	t-Cal	t-Crit	RMK
Teachers	38	4.08	0.93	0.05	61	1.21	1.96	No Sig
Instructors	23	4.11	0.92					

Result in Table 7 revealed that t-cal (1.21) is less than t-crit (1.96) which indicates that the hypothesis stated was accepted. Therefore, there is no significance difference between the mean responses of brick block laying and concreting teachers and instructors on the three-Dimensional (3D) modelling skills required for self- reliance of students of Technical colleges in Rivers State.

H₀₄ There is no significance difference between the mean responses of brick block laying and concreting teachers and instructors on the installation of Plaster of Paris (PoP) skills required for self- reliance of students of Technical colleges in Rivers State.

Table 8: t-test analysis on Installation of Plaster Of Paris (Pop) Skills Required For Self- reliance of Students.

Respondents	N	X	SD	α	Df	t-cal	t-tab	RMK
Teachers	38	4.02	0.82	0.05	61	1.46	1.96	No Sig
Instructors	23	4.01	0.82					

Result in Table 8 revealed that t-cal (1.46) is less than t-crit (1.69) which indicates that the null hypothesis stated was accepted. Therefore, there is no significance difference between the mean responses of brick block laying and concreting teachers and instructors on the installation of Plaster of Paris (POP) skills required for self- reliance of students of Technical colleges in Rivers State.

Discussion of Findings

The findings of the study revealed that the respondents agreed on the tiling skills required for self- reliance of students of Technical colleges in Rivers State. The findings of the study is in line with the Akpan and Williams (2014) who stated that synergizing TVET with Work-Base Learning (WBL) may be a powerful tool for national development, economic enlightenment and self-reliance and citizenship empowerment. Previous studies revealed that fourth industrial revolution has mixed feelings in the minds of the graduates, for instance; mass job losses and newer jobs that may require highly skill graduates to perform. The solution to nib the challenges in the bud is to shift from predominantly skills acquisition through school-based training to blending it with work-based training.

The findings of the study showed that the respondents agreed on the production and installation of baluster's skills required for self- reliance of students of Technical colleges in Rivers State. The findings of the study is in agreement with Akpan and Umana (2017)

who states that TVET provides relevant skills and knowledge to the learners for the economic and technological advancement of any nation. This study also corroborates the views of Aliyu and Kabiru (2014) who posits that technical vocational education and training has trained many Rivers youths in building construction and bricklaying for employment generation.

The findings of the study showed that the respondents agreed on the three-Dimensional (3D) modelling skills required for self-reliance of students of Technical colleges in Rivers State. The findings of the study is in accordance with Ayonmike and Okeke (2015) who stated that TVET as an instrument for employment and wealth creation that inculcates in learners, adequate technical skills and knowledge for productive work in a chosen occupation. Similarly, this finding corroborates Badawi, (2013) who posit that TVET has trained many youths in electrical and electronic maintenance and repair skills for employment generation in Rivers State.

The findings of the study showed that the respondents agreed on the installation of Plaster of Paris (PoP) skills required for self-reliance of students of Technical colleges in Rivers State. The findings of the study is in agreement with Ezeani and Urama (2014) who opines that TVET institutions in Nigeria experienced infrastructural decay in the areas of inadequate workshops, laboratories, machines, computers, tools and other educational resources thereby making technology students suffer in the practical aspect of their training.

The apparent low level of exposure of students in training to acquire practical skills in the school workshops is largely dependent on lack of physical facilities (workshop, laboratories, equipment and tools). Agreeing to this fact, Mohamad, Mohd, Napsiah, Mohammad and Abd Rauf, (2010) observed that the shortfall in training facilities has led to little or no practical experience from the school before graduation. Nwankwo and Obeta

(2013) stressed that failure rates have been associated with quality and quantity of teacher, and quality of teaching methods and facilities.

Conclusion

To be self-employed, bricks/block laying and concreting students must be capable of laying tiles. Ability to measure accurately, cure the interlocking blocks and laying different types of interlocking patterns competencies required in the production and laying of interlock paver blocks bricks/block laying and concreting students should be capable molding and installing POP. Mixing of concrete of concrete, interpreting working drawings are technical competencies required in the production and installation of balusters.

Recommendations

The following recommendations are made on the basis of the findings of the research

- i. Seminars, workshops and conferences should be regularly organized for teachers and workshop attendants. Where experts in the industries will train the teachers, workshop attendants and on the current technical competencies and skills in order for them to be updated with the current trends in the production and installation of interlock concrete paver.
- ii. Block-laying and concreting students should be placed on industrial training and should be strictly supervised since this will create excellent opportunities to acquire the technical competencies required for production and installation of balusters.
- iii. Greater emphasis should be made on practical classes by the teachers and attendants in order to acquire the tiling and other skills required for employment.

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