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CLASSROOM DESIGN AND PRE-SERVICE TEACHERS' PERFORMANCE IN FINE AND APPLIED ARTS IN COLLEGES OF EDUCATION IN SOUTHWEST, NIGERIA

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Abstract

Pre-service teachers' performance and the quality of training in Colleges of Education is still of concern to stakeholders. The persistent poor performance of pre-service teachers especially in Fine and Applied Arts have been traced to many factors including the use of classrooms and learning environment which lack the prerequisite conditions for the teaching of Fine and Applied Arts. This study was therefore carried out to ascertain the relationship between classroom design and pre-service teachers' performance in fine and applied arts in Colleges of Education in Southwest, Nigeria. This study was a descriptive survey research design of the *ex-post facto* type. The population of this study comprised of 300 level Fine and Applied Arts Pre-service teachers and Lecturers in all the Colleges of Education that offer Fine and Applied Arts in South-west, Nigeria. The sample was 250 pre-service teachers and 70 lecturers of Fine and Applied Arts. The research instrument used was the job performance scale. The instrument was subjected to face and content validation using two experienced Fine and Applied Arts Teachers. The researchers along with six research assistants administered the instrument. Data collected was analysed using Multiple Regression. The result showed that there was a significant composite effect of classroom design on pre-service teachers' performance in Fine and Applied Arts. Based on the findings, it was therefore recommended that; a purpose- built studio complex made up of classrooms must be a criterion for accreditation and approval of Fine and Applied Arts Department in Colleges of education.

Introduction

Globally, knowledge, skill, and creativity amongst others are viewed and considered as basic requirements for a workforce that is essentially necessary for the significant development of individuals and nations. Haddad and Draxler (2002) also consider these requirements outside the context of a workforce as necessities for sustaining the educational, political, economic, social, and cultural systems of nations. In recent times however, research, assessment, and reports (Garcia, Ruegenson & Zislin, 2006; Ofoha, 2011) acknowledge that most disciplines and school subjects which should provide the required skilled workforce lack substantial knowledge, relevant skill, and ingenious creativity.

In various assessments of this situation, Murning (2006), Olaitan (2007), Dike (2009) submits that producing the required skilled workforce would demand a multi-disciplinary balance to knowledge acquisition and a skill development process that is supported by considerable creativity from various human endeavors and disciplines. To correct this situation, Matsuura (2008) and Ofoha (2011) advocate that greater opportunities and varied options should be provided for students to learn technical and vocational education subjects like Fine and Applied Arts, Home Economics, Metal Works, Auto-mechanics among others. This supports the position of Mohammad and Bassam (2009), that these subjects would not only help the students to develop their creative thinking and mental capabilities, but also assist them to realise their full potentials and contribute meaningfully to national development. From the foregoing and deducing from Matsuura's (2008) submission and the position of Mohammad and Bassam (2009) opined that since the basic requirements for a skilled workforce which include knowledge, skill and creativity are almost the same rudimentary prerequisites for the study of Fine and Applied Arts; the expectation is therefore that, students who study this discipline would be suitably equipped to contribute to the desired workforce. Similarly in any civilization, Oguibe (2004) notes that there exists an inextricable connection between Fine and Applied Arts and the society as it serves as a medium of communication, information, reformation, education and as a means of documenting history and human existence.

Fine and Applied Arts functions as a creative force in human culture, a catalyst in cultural and industrial development and a means of empowering individuals economically (Adejumo, 2006). Fine and Applied Arts education provides students with valuable opportunities to experience and build knowledge and skills in self-expression, imagination, creative and collaborative problem solving, communication, creation of shared meanings, and respect for self and others (Power & Klopper, 2011). At the Junior Secondary School (JSS) it is a core vocational subject while it is an elective vocational/technical subject at the Senior Secondary School (SSS). The philosophy of Fine and Applied Arts program is to provide academic and professional training for pre-service art teachers. (NCCE, 2009). Fine and Applied Art despite its numerous importance which include; contributions to the development of humanity; potential for creative, technological, and national development; it is highly neglected and despised. Indoshi, Wagah and Agak (2010) observe this neglect as an emerging phenomenon consequent upon the decline in enrolment by students as the subject is being dropped in the curriculum in preference for other subjects in schools and colleges of education in globally.
Klopper and Power (2011) noted that apart from the decline in enrolment and the neglect of the subject, various research, and investigations (Adeyanju, Egbedokun& Idowu, 2006; Herbst, 2007 Wiggins & Wiggins, 2008; Alter, Hays & O'Hara, 2009; Ewing, 2010) report performance in Fine and Applied Arts as falling short of expectations not only in Nigerian schools and colleges of education but also internationally. It is found that in many instances, Pre-service Teacher education do not provide adequate preparation to meet the expectations of the Fine and Applied Arts curriculum due to some factors which include the lack of art facilities, lack of equipment, art materials, curriculum deficiencies, poor teacher preparation, government and parents' attitude and wrong methodologies at the different levels of the school system andespecially at the college of education. These factors considerably affect the teaching and learning of the subject and are also observed to be responsible for the poor performance in the subject (Ofoha, 2011; Rohrer, 2012; Soremi&Sofowora, 2012).

Many studies (Ewing, 2010; McDonald, 2010; Klopper & Power, 2011; Soremi&Sofowora, 2012) have attempted solving some of these problems which are categorised by Russell-Bowie (2006), Herbst (2007) and Israel (2008) into two broad areas: teaching strategies and methodologies with a view of improving the performance of students in Fine and Applied Arts. The studies however observe that where there are qualified art teachers, facilities, furniture, equipment and materials, the context i.e., the classrooms and environment where Fine and Applied Arts is taught and learnt is grossly neglected.

According to Indoshi, Wagah and Agak (2010) some environmental, curriculm and administrative related factors and what happens in schools, homes, cultural norms, and labour market culminate into government, institutions, administrators, and parents' negative attitudes towards Fine and applied Arts. The general aparthy arising from the attitude of governments, institutions and school administrators affect in no small measure the low level of physical and moral commitment towards the teaching and learning of the course. Indoshi, Wagah and Agak (2010) bemoan the lopsided appropriation of financial, material, and physical resources in budgets which are often tilted favourably towards the sciences in institutions because of the negative attitude of school administrators and their preference for the sciences over the arts. Furthermore, in recent times institutions are always relentlessly justifying the huge spending on the provision of facilities and resources for the sciences through their admission policies which are claimed to be geared towards producing graduates for rapid industrialization (Dike, 2009). This development is however prompting

art educators to focus more on providing sustainable alternatives to ameliorating the lapses created by the non-provision of facilities for the study of Fine and Applied Arts by improving instructional delivery strategies and the examination of pedagogical issues that could provide relevant alternatives.

In this direction, investigations on how to evolve classroom practices using minimal and improvised facilities in the effective teaching of the pedagogical content of Fine and Applied Arts were conducted (Pascoe, Leong, MacCallum, Mackinlay Marsh & Smith, 2005; Wiggins & Wiggins, 2008). From these investigations there are consistent and convincing evidence that while some subjects can be largely taught through verbal instructions, it is not possible to teach Fine and Applied Arts verbally as the practical aspects of its curriculum require a controlled setting, special furniture, equipment, and materials at whatever level of education it is being taught (Ewing, 2010). According to UNESCO (2008), for an Art education programme to record considerable performance and high academic achievement, the arts classroom should meet a higher design and construction standard fitted with adequate and relevant facilities than a typical, tradititional/conventional classroom. While schools and Colleges of education fall short of this standard traditional/conventional classroom which lacks all the necessary prerequisites and conditions for learning such as studios, poor training and performance of pre-service teachers continued to be observed (Whiteside &Fitzerad, 2012). As Oguibe (2004), Taylor (2008) and Chan (2009) argued that the quality and conditions of classrooms significantly affects learning as they have great implications for pre-service teachers' training and their performance.

Power & Klopper (2011), suggest that since relationships exist between the quality of teacher training and performance (Majoribanks, 2004; Petegem&Donche, 2006; Sanders & Fisher, 2006; Herbst, 2007) for enhanced performance therefore, it would be necessary to improve the training standards of pre-service teachers based on the reports from the accreditation exercises of Fine Arts and Applied programmes in colleges of education in Nigeria (Hudson & Hudson, 2007; Davis, 2008; Alter, Hays & O'Hara; 2009). This thus corroborates Emi's (2007) suggestion that, arising from the reports of the accreditation exercise, the need for a facility inventorying and surveying process and programme as the first steps toward meaningful facility development and procurement exercises in institutions is urgently desirable. In some of such surveys, Mamza (2007), Puyate, (2008) and Dike (2009) discover that almost all the colleges have no purpose-built studios but rather traditional/conventional classrooms that lack the required design standard for the teaching of Fine and Applied Arts. This study therefore attempts to unravel the connection between the facilities and pre-service teachers' performance

Statement of the Problem

Pre-service Teachers' poor performance and the quality of training in the Colleges of Education continue to be of concern to policy makers, Art educators and researchers. This persistent and prevailing poor performance of Pre-service Teachers in Fine and Applied Arts and the near extinction of this course have been traced to many factors. The use of classrooms and Learning environment which lack the prerequisite conditions for the teaching of Fine and Applied Arts has been found to be one of the contributory factors to the unprofessional training and poor performance of pre-service teachers in Colleges of Education. In Colleges of Education the classroom design requirements in terms of spatial configuration, visual effects, thermal condition, acoustic factor, facilities, and equipment factor are not of the required standard while, students' perception, classroom seats arrangement and class size are not within acceptable range of learning environment conditions for the training of pre-service teachers of Fine and Applied Arts. This study therefore investigated classroom design (spatial configuration, visual effects, thermal condition, acoustic factor, facilities, and equipment factor) and learning environment (students' perception, classroom seats arrangement and class size) of Colleges of Education as predictors of pre-service teachers' performance in Fine and Applied Arts.

Research Questions

1. What is the composite effect of the selected classroom design variables: spatial configuration, visual effects, thermal condition, acoustic factor, facilities, and equipment on pre-service teachers' performance in Fine and applied Arts?
2. What are the relative effects of the selected classroom design variables on pre-service teachers' performance in Fine and Applied Arts?

Methodology

This study was a descriptive research design of the *ex-post facto* type. This is considered appropriate since the variables in the study already existed and were not manipulated by the researcher. The study is also correlation as it determines the relationships among the various variables in the study. The population of this study comprised of 300 level Fine and Applied Arts Pre-service teachers and Lecturers in all the Colleges of Education that offer Fine and Applied Arts in South-west, Nigeria. The Colleges of Education included those in Ekiti, Lagos, Ogun, Ondo, Osun, and Oyo states. Two hundred and fifty 300 level Pre-service teachers were purposively selected from the ten Colleges of Education that offer Fine and Applied Arts in the eleven (State and Federal) Colleges of Education in South-West Nigeria for the study. Seventy lecturers of Fine and Applied Arts were also selected through stratified random sampling technique, one each from the seven areas of Fine and Applied Arts namely; Art history, Art education, Painting, Sculpture, Graphics, Textile and Ceramics from the ten Colleges selected. The research instrument used was the job performance scale which had two sections. The instrument was subjected to face and content validation using two experienced Fine and Applied Arts Teachers. The researcher along with six research assistants administered the instrument. Data collected was analysed using Multiple Regression.

Results

The result of this study is presented below.

Research Question 1: What is the composite effect of the selected Classroom design variables: Spatial configuration, visual effects, thermal condition, acoustic factor, facilities, and equipment factor on pre-service teachers' performance in Fine and applied Arts?

Table 1:

Summary of Regression of Performance on Classroom Design Variables

RR Squared	Adjusted R Square	Std. Error of the Estimate
.355.126	-108	9.2217

Table 1 shows that the five Classroom design variables have positive multiple correlation with pre-service teachers' performance in Fine and Applied Arts (R= .355). This means that the five factors are in good position to determine the level of pre-service teachers' performance. The factor further explained 10.8% of the total variance in the dependent variable (Adjusted R Square= -108). This leaves the remaining 89.2% to other factors and residuals.

Table2:

ANOVA for Classroom Design and Pre-service Teachers' Performance.

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	2988.310	5	597.662	7.028	.000*
Residual	20749.534	244	85.039		
Total	23737.844	249			

* Significant at p < .05

Table 2 shows that the R- value of .355 tested significant (F**(**5, 244**)** = 7.028; P<.05). Hence, there is significant composite effect of Classroom design on pre-service teachers' performance in Fine and Applied Arts.

Research Question 2: What are the relative effects of the Classroom Design factors on pre-service teachers' performance in Fine and Applied Arts?

Table 3:
Relative Contributions of the Classroom Design Variables to Performance in Fine and Applied Arts

	Classroom Design Factors	Unstandardized Coefficients		Standardized Coefficients	Rank	T	Sig
		B	Std. Error	Beta			
	(Constant)	**51.863**	**6.626**			**7.828**	**.000**
1.	**SPATIAL**	**-775**	**.521**	**.093**	4th	-1.487	.138
2.	**VISUAL**	**-309**	**.237**	.081	5th	-1.302	.194
3.	**THERMAL**	**-232**	**.101**	**.139**	**3rd**	**-2.292**	**.023***
4.	**ACCOUSTICS**	**404**	**.176**	**.142**	**2nd**	**2.294**	**.023***
5.	**FACILITIES**	**1.135**	**.245**	**.286**	**1st**	**4.636**	.000*

* Significant at p<.05

From Table 3, facilities and equipment made the highest relative contribution to pre-service teachers' performance in Fine and Applied Arts (β= .286) followed by acoustics (β=.142). The third in the magnitude of these relative contributions is made by thermal condition (β=.139), Spatial Configuration (β=.093) and visual effects (β=.081) took the fourth position and the last position respectively.

Discussion of Findings

The result obtained in the study indicated a positive correlation of classroom design with pre-service teachers' performance in Fine and Applied Arts. It means that spatial configuration is in good position to determine the level of pre-service teachers' performance. Pre-service teachers' performance will likely improve when the design of the classroom is effective and efficient. The teachers will have the space to effectively monitor every student in the classroom. The pre-service teachers will alos find it convenient and easy to practicalise the different teaching methodologies they were exposed to in the school system prior to the teaching process. Obviously, this will have a spillover effect on the performance of the students and quality of education provided to the learners in the school system. The result shows that classroom design has a positive and significant relationship with teachers' performance. This result agrees with the findings of researchers (Bartel, 2007; Strange &Banning, 2002) who reported a positive correlation between classroom design teachers' performance. It however negates the findings of researchers (Chism &Bickford, 2002; Oblinger, 2006; Akinsanmi, 2007; &Baker, 2012) who confirmed that no significant relationship exists between classroom design and teachers' performance.

Conclusion

The training and performance of Pre-service Teachers in Fine and Applied Arts in colleges of education depend largely on the quality and availability of facilities and some environmental conditions. The findings of this study have shown that classroom design contribute to the variance in performance of Pre-service Teachers. The study showed that the lack of purpose-built studios with the required and prerequisite conditions constitute a major hindrance to the training and performance of Pre-service Teachers.

Recommendations

Based on the findings of this study, the following recommendations are considered necessary;

1. For the training of Pre-service Teachers to be in consonance with the minimum standard requirement by NCCE, a purpose- built studio complex made up of classrooms must be a criterion for accreditation and approval of Fine and Applied Arts Department in Colleges of education

2. The National Commission for Colleges of Education (NCCE) should provide comprehensive classroom Design guidelines/parameters which would specify visual, thermal, acoustic, and spatial conditions of a Fine and Applied Arts Learning Environment in all institutions.

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