Classroom Design and Teachers’ Performance in Selected Secondary Schools in Ogun State, Nigeria

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Classroom Design and Teachers’ Performance in Selected Secondary Schools in Ogun State, Nigeria

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Abstract

Studies on classroom design, most especially in Nigerian secondary schools, are seriously lacking. With particular focus on selected teachers in Ogun State, this ex-post facto research examined classroom design and its influence on teachers’ performance in teaching job. A total of 128 participants were randomly selected from 16 secondary schools in Ijebu Ode and 128 questionnaires titled ‘Scale on Classroom Design and Teachers Performance’ (SCDTP) with reliability coefficient of 0.82 obtained through cronbach alpha method was developed and administered on the target participants. 96 instruments, constituting 75% of the total administered, were however returned and analysed. Simple percentage and Chi-square inferential statistics utilising 0.05 level of significance was adopted in testing the hypotheses. The study revealed a significant positive relationship between classroom design and teachers’ job satisfaction, job performance, teaching and learning outcome. The study concludes that present day classrooms should be restructured in contents, styles, design, shape, layout and sizes. This will enable teachers to start working in environment that soothes them, use facilities that feel good to them and teach the right population of students in class. By this, teaching performance and learning effectiveness will improve.

Keywords: Academic Personnel, Classroom Design, Job Performance, Job Satisfaction, Teaching Effectiveness

INTRODUCTION

At virtually every point in the growth and development of education in Nigeria we are ever reminded that the quality of education depends to a large extent on the quality of its teachers (Afe 2002, FGN, 1998). We are also reminded of the magical feats of teachers as they transform educational objectives into knowledge, skill and educated human labour. With the continued fall in educational standard in Nigeria, one is also reminded of the need to enhance teachers’ skill and performance in order to produce the desired educational results. This explains why educators have always looked for ways to improve educational outcomes in classrooms. It explains why labour and employment relations scholars and practitioners seek ways to improving employee performance through a number of means including built environment of the workplace viz-a-viz ensuring for fair and conducive workstation design, layout, health and safety. One often overlooked area is the place of classroom design as may influence teachers’ teaching performance. Teachers are humans who naturally avoid pains at all cost. They tend to be more comfortable with well structured and ventilated classroom designs. A classroom furnished and flourished with equipment that can cause, channel, sustain and influence teachers’ behaviour towards high performance and academic achievement in schools (Donald, 2009). Unfortunately, classrooms like these are seriously lacking in Nigerian schools resulting in falling standard in education and rapid knowledge declination among Nigerians. Nwadiani (1999) acknowledged that schools in Nigeria are fast decaying. The "rot" in the system ranges from shortage of all teaching and learning resources to lack of effective leadership and proper motivation of teachers. Teachers in Nigeria are resultanty unhappy, frustrated, uninspired and unmotivated (Ukeje, 1991). The school environments are dotted with dilapidated buildings equipped with outdated laboratory facilities without adequate ventilation. The implication of these may be crippling, resulting in teachers’ low morale and poor teaching performance which may, in turn, translate into students’ poor performance in examination, examination malpractices, cultism and other vices detrimental to social cohesion and peaceful co-existence in the society.
Since post-primary education is significant in preparing students for undergraduate and postgraduate education exposing them to see the reality of everyday societal living and professional concepts as well as ethics, desirous to making them acquire the knowledge, attitude, values and skills required to be responsible and discipline members of the profession they may choose and society at large (Tracy, 2006), it becomes factual that the actual performance of the teachers teaching these students at this level of education will influence or affect the Nigerian future professionals and its larger society. This is to say that classroom design and characteristics do not only affect the teachers and their performance, but also, in the long run, influence the social formation of the communities that the students find themselves in later life. Unfortunately, as sensitive as it is, classroom design has received little or no attention from governments, educational policy makers, researchers, writers, curriculum planners and observers. This is why a study of this nature is necessary to investigate the influence of classroom design on teachers’ performance. Hence two research questions were therefore raised: Is there a significant relationship between classroom design and teachers performance? To what extent can teachers’ teaching skills be affected by the layout and structure of classroom environment?

LITERATURE REVIEW

It is noteworthy that scanty researches have been carried out on the influence of classroom design on teachers’ job performance. In fact, none were found focusing on the built layout of classrooms as may affect teachers’ performance in Nigerian. Classroom Design refers to physical designs of instructional materials, environments, and technologies such as classroom implements and equipment, textbooks, audiovisual materials and systems, work stations, computer hardware and software. According to Smith (1999) it includes designs of different skills, tasks, classes of knowledge, and curricula targeted for learning as well as social and interpersonal designs of the interactions of participants (e.g., student-teacher-staff-management relationships) in the system with one another, and the design, management, and administration of jobs, supervisory relationships, organizations, policies, and programs of educational systems. It also includes the designs of communities in which education occurs. De Croon, Sluiter, Kuijer, & Frings-Dresen, (2005) did a review on the effect of office concepts (such as office location, design, layout and usage) on employees’ health status and job satisfaction. They found that these factors are significant in increasing employee convenience at work boosting morale and job satisfaction. A research conducted by Danielsson (2010) shows differences in stress levels between office types as well as differences in perception between men and women no stress in different office types. These differences remain after adjustment for background factors. These studies show that the built environment of work has a lot to do with health status, safety and job satisfaction. Hence it can be said that good health and safety at work may bring about increasing job satisfaction among teachers, and may be two of the best means to strengthening the teaching profession as it encourages the best and brightest prospects to enter the field of teaching and increase the retention of experienced and best performed teachers (Mertler, 2002; Hughes, 2006)

Although Job satisfaction is not easily defined, it is a complex and multifaceted concept connoting different meaning to different people. Job satisfaction may however be described as internal feelings of contentment exhibited in the attitudinal behavior of an employee which is derived from numerous sources among which the work and workplace environment is significant. According to Mullins (2005), job satisfaction is more of an attitude, an internal state which can be viewed form individual’s personal feeling of achievement and content with the job. Job satisfaction is usually linked with motivation. Therefore job satisfaction is necessary in order to achieve a high level of motivation and performance. It is not however in
all cases that job satisfaction boosts performance (especially when pay is considered low), but largely dependent on the work environment and the job holder’s passion. To be passionate about a particular job is usually as a result of a number of factors in the job design and the work environment as a whole. Ala-Adeyemi & Afolabi (1990) submitted that if a teacher experience that the classroom is a well designed, safe, healthy and happy place to work with enough supportive resources and facilities for teaching, the teacher tends not only to improve in teaching performance but also to participate more than expected in the management, administration and overall improvement of the school. Such teacher will command and emit the image of one who improves knowledge and the psychological conditions of the classroom through orderliness, discipline and control (Donald, 2009). Feeling safe, comfortable and having basic classroom requirements and tools at his disposal, a teacher in a classroom is able to make a better diagnosis of students’ feelings and attitudes inferred from their behaviour and responses in the classroom. Therefore, depending on the degree of congruence with classroom practices and school environment, teachers teaching activities may dilute or enhance student performance. This was further noted in a study of economic value of teachers’ quality (in terms of performance) which is assumed to be a function of the depreciation rate of student learning, the total variation of teacher quality when measured by student achievement on certain standardized tests, and the labor market return to one standard deviation of higher achievement of students (Hanushek, 2011)

Corroborating the foregoing, and in respect to teachers’ job performance, as a result of classroom design and layout, Bogler, (2001) and Hughes, (2006) suggested that schools administrators or management should always concentrate adequate attention to increasing teachers’ job satisfaction so as to retain quality performance. This is to emphasize that teachers’ job satisfaction goes a long way in improving teachers’ teaching performance. As such, studies of Colgan, (2004) and Hanushek, (2011) have determined factors contributing to teachers’ satisfaction or dissatisfaction. Hanushek and Rivkin, (2006) examined the link between teachers’ job performance and such variables as education, certification and experience noting that these are logical places to start determining teacher quality and performance. Other studies (such as Singer, 1995; Protheroe, Lewis & Paik, 2002; Morice & Murray, 2003; and Hughes, 2006) however place attention on classroom design and layout as significant factors in teachers’ job performance. The common themes in the findings revolve around emphasizing that job satisfaction is important in terms of teacher retention. It is also reported to be related to teacher empowerment, school culture, quality work environment, and student achievement. Gail, Rhetta &Louis (1999) also conducted a study to determine the use and effectiveness of new design features in hypermedia case studies as well as the actual impact on children when the tools are implemented by teachers. The study only concentrated attention on these new features that are designed to improve the transfer of knowledge and skills to actual job situations for teachers but not on the entire classroom design per se. Whereas, greater job performance is also a critical factor to consider in terms of building or constructing a classroom in schools. A study on classroom design and layout should therefore no longer be neglected, especially in Nigeria, in order to curb the trend of knowledge declination in our post primary schools.

**METHODOLOGY**

This ex-post facto research examined classroom design and its influence on teachers’ performance in teaching job. It is believed that with ex-post facto design, researchers are able to collect data, analyze and infer those data for achievement evaluation of a variables objective; it is also possible to compare both theoretical and operational goals expected against the actual achievement of an action (optimum teaching performance). The population of the study is a census of all teachers in the senior secondary schools located in the Ijebu
Ode Local Government Area of Ogun State Nigeria. A total of 128 teachers were randomly selected from 16 secondary schools within the metropolis of Ijebu Ode. To arrive at the sample size, the researcher endeavoured to collect and compile a list containing the names of all teachers in all the 16 senior secondary schools. Names were serially typed in a plain paper and each name was cut out from the plain paper to be in a single small page of its own. Each cut paper (containing only one name) was folded and dropped in a bucket. The same was done to all names but were dropped in the same bucket. The researcher then steered and rolled the papers in the same bucket and blindly drew a larger number of the papers from the bucket. The total number collected was 128. By this the researcher was confident that all members of the population have been given equal chances of being selected. Hence 128 questionnaires titled ‘Scale on Classroom Design and Teachers Performance’ (SCDTP) developed by the researcher were administered on the target participants (those whose names were chosen). The ‘SCDTP’ has a coefficient reliability of (a = 0.82) using the cronbach-alpha method. 96 instruments (75% of the total administered) were however returned and analyzed for the purpose of this study. Simple percentage and chi-square inferential statistics utilizing 0.05 level of significance was adopted in testing the following hypotheses

H1 Classroom design is not significantly related to teachers’ job satisfaction

H2 There is no significant positive relationship between classroom design and teachers job performance

H3 Climatic condition and layout of the classroom will not significantly influence teaching and learning outcome

DATA PRESENTATION AND ANALYSIS

Majority of the teachers who filled the questionnaire are between the age of 25 and 50 and 68% were men while 61% are married as shown in Table 1. Their average number of years in service in the present teaching job is 15.5% (6 to 10 years), 22.6% (11 to 15 years), 14.9% (15 to 20 years) and 40.5% (21 to 25 years). The level of education of the respondents was 5.5 % (NCE), 18.7 % (Masters Degree), and 64.6% (First Degree). Their area of concentration in subject taught was 33.7% (Science Subjects), 37.1% (Commercial/Management), and 29.2% (Arts/Religion)

The following are tables showing distributions of the hypotheses tested for the purpose of this study. Decisions are made base on the general rule of decision: If $X^2_c > X^2_t$, reject $H_0$ and accept $H_1$ but if $X^2_c < X^2_t$ accept $H_0$ and reject $H_1$. This means that if the value of chi-square calculated ($X^2_c$) is greater than the table value ($X^2_t$) we should reject the null hypotheses ($H_0$) and accept the alternative hypotheses ($H_1$) but if result shows the other way round, then we accept $H_0$ and reject $H_1$.

Table 1: $X^2$ Distribution on Classroom Design and Teachers Job Satisfaction

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>O</th>
<th>E</th>
<th>(o-e)</th>
<th>(o-e)^2</th>
<th>(o-e)^2</th>
<th>(%)</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>29</td>
<td>24</td>
<td>5</td>
<td>25</td>
<td>1.041</td>
<td>30.20</td>
<td>Classroom design is significantly related to teachers job satisfaction</td>
</tr>
<tr>
<td>Agree</td>
<td>43</td>
<td>24</td>
<td>19</td>
<td>361</td>
<td>15.041</td>
<td>44.79</td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>15</td>
<td>24</td>
<td>-9</td>
<td>81</td>
<td>3.375</td>
<td>15.63</td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>9</td>
<td>24</td>
<td>-15</td>
<td>225</td>
<td>9.375</td>
<td>9.38</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>96</td>
<td>96</td>
<td></td>
<td>17.832</td>
<td>100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$X^2_c > X^2_t$ (i.e. 17.83 > 7.81)
$e = Ef = 96/4 = 24$
Table 2: \( X^2 \) Distribution on Classroom Design and Teachers Job Performance

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>O</th>
<th>E</th>
<th>o-e</th>
<th>(o-e)^2</th>
<th>(o-e)^2</th>
<th>(%)</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>36</td>
<td>24</td>
<td>12</td>
<td>144</td>
<td>6</td>
<td>37.5</td>
<td>there is significant positive relationship between classroom design and teachers job performance</td>
</tr>
<tr>
<td>Agree</td>
<td>24</td>
<td>24</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>18</td>
<td>24</td>
<td>-6</td>
<td>36</td>
<td>1.5</td>
<td>18.75</td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>11</td>
<td>24</td>
<td>-13</td>
<td>169</td>
<td>7.042</td>
<td>11.46</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>96</td>
<td>96</td>
<td></td>
<td>16.6</td>
<td>100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[
X^2 \text{c} > X^2 \text{t} \text{ (i.e. 16.6 > 7.81)}
\]

Table 3: \( X^2 \) Distribution on Climatic Condition and Lay of Classroom and Teaching and Learning Outcome

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>O</th>
<th>E</th>
<th>o-e</th>
<th>(o-e)^2</th>
<th>(o-e)^2</th>
<th>(%)</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>25</td>
<td>24</td>
<td>1</td>
<td>1</td>
<td>0.042</td>
<td>26.04</td>
<td>Climatic condition and layout of the classroom will significantly influence teaching and learning outcome</td>
</tr>
<tr>
<td>Agree</td>
<td>36</td>
<td>24</td>
<td>12</td>
<td>144</td>
<td>6</td>
<td>37.5</td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>21</td>
<td>24</td>
<td>-3</td>
<td>9</td>
<td>0.375</td>
<td>21.88</td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>14</td>
<td>24</td>
<td>-10</td>
<td>100</td>
<td>4.17</td>
<td>14.58</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>96</td>
<td>96</td>
<td></td>
<td>10.6</td>
<td>100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[
X^2 \text{c} > X^2 \text{t} \text{ (i.e. 10.6 > 7.81)}
\]

DISCUSSION OF FINDINGS

Findings of this study reveal that the design of classroom goes a long way in influencing the level of job satisfaction of teachers in the studied secondary schools. This conclusion was an inference from the result of Hypothesis one tested on table 1 which reveals that classroom design is significantly related to teachers’ job satisfaction \((X^2 \text{c}=17.8 > X^2 \text{t}=7.81)\). The study also discloses, as depicted in table 2, that there is significant positive relationship between classroom design and teachers job performance. \((X^2 \text{c}=16.6 > X^2 \text{t}=7.81)\) It is therefore safe to say that satisfaction boost morale and entails improved performance. This findings does not only help finding answers to the first research questions in this study, but also in consistence with earlier studies of Singer, (1995); Protheroe, Lewis & Paik, (2002); Morice & Murray, (2003); and Hughes, (2006) who found and emphasized that classroom design and layout are not only significant factors in teachers’ job satisfaction and performance, but also important in terms of teacher empowerment, school culture, quality of working life, student academic achievement, and teacher retention in secondary schools. As much as the classroom layout and design affects almost all aspects of teachers working life, it is sad to report that about 68.2% of the participants (mostly teachers in science subjects) in this study strongly disagree that the classrooms in which they teach students are well structured in designs capable of aiding effective teaching and learning exercise. This problem was echoed in the findings of Afe (2002) and represents a prime suspect among factors responsible for falling standard in Nigeria secondary school education.

In line with the submission of Oluchukwu (2000) and Ala-Adeyemi & Afolabi (1990), this study was able to show that the rot in the post-primary education system in Nigeria (as lamented by Nwadiani, 1999) which undermines the quality of teaching and learning are partly product of poorly designed and layout of classrooms in Nigeria. Table 3 shows that classroom condition and layout has significant influence on teaching and learning outcome. \((X^2 \text{c}=10.6 > X^2 \text{t}=7.81)\) At least 26.04% of the respondents strongly agree to this while a good percentage of 36 also agree. This particular finding provides answer to the second research questions raised in this study. One thing is observable in these finding; the respondents who testified to the above propositions are mainly teachers in science subjects like, Chemistry, Physics, Biology and Mathematics, some Business Studies teachers also show high resentment about the classroom designs in their various schools. This raises certain questions.
Does classroom design have influence on teaching quality of science subjects teachers than it does on teaching quality of teachers in business and social science subjects? Or can we say that classrooms where social science subjects are taught are well structured and designed than classes where science subjects are taught? Further studies may want to inquire into these. But this study has been able to bring to the fore the complete neglect in terms of classroom design and layout with its implication on teachers job performance as well as on teaching and learning effectiveness.

RECOMMENDATIONS

It is of the opinion of the researcher that government, school administrators and principals, educational policy makers including all who have stakes in post secondary education in Nigeria should begin focusing adequate attention on how the constructions of school buildings and classrooms are done. Classrooms should be designed in such a way that teachers will start working in the environment that soothes them, get in touch with classroom facilities that feel good to them and attend to the specific students population that they consider moderate for effective eye-to-eye contact in the room. Where government fails, school administrators may seek community support as well as support from private organizations including NGOs, to uplift classroom ergonomics in Nigerian secondary schools. The unfaithful, selfish and parochial attitude of some government contractors who handle constructions of classrooms should be confronted with rigour and effort should be made by principals and others concerned to ensure that those experts who understand the place of classroom design in teaching and learning are awarded the contract of classroom construction rather than politicizing it. There should be a calculated effort to adopt sophisticated technologies into classroom settings in Ijebu-ode as this will make teachers feel at home when in the class. It is doubtable that there is adequate government investment on educational technologies in classroom at secondary school level and this may undermine teaching and learning quality.

CONCLUSION

The climatic design and structure of classroom are significant for optimum teaching performance and learning effectiveness. This becomes more so with the advent of globalization; it is now palpable that the olden day’s classroom needs are different from present days’ classroom needs. In the past days of pedagogy, teachers’ job arrangements differ. They were mainly lecturers who spent most time doing jobs involving “stand and deliver” mode of teaching. This has changed dramatically in recent times. Today, it is the teachers who translate educational philosophy and objectives into knowledge and skill and transfer such into students in the classroom (Kanu, 2007). Teachers now act in classrooms as facilitators of students learning and creators of productive and learner-friendly classroom environment in which students can develop the skills they will need in their workplaces in the later life. Since all these activities take place in the classroom (as teachers’ workplaces, workstations or workshops), the climate of classroom becomes important in motivating teachers towards ensuring that they perform their duties so effectively that the goal of teaching and learning exercise in the classroom is achieved. Hence, it is the candid conclusion of the researcher, based on the results of these findings, that if today’s classrooms have changed dramatically in contents and styles, the design, shape and size should also change in order that current trend of things will not negatively affect teaching performance and learning effectiveness. In other words, the present day classrooms should be structured to enrich optimum teaching performance of the teachers.
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