Influence of Art Teachers’ Operational Competence on Students’ Art Learning Achievement

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Abstract: This study examines the influence of art teachers’ operational competence on students’ art learning achievement, using Clustered Students Teaching (CST) approach. Through the exploration of existing relevant literature, the study categorizes the key aptitudes that form an art teacher’s competence and with that, a Model of Aptitudes in Art Teachers’ Operational Competence (MATCo) was developed. Test One of the study tested art teachers’ operational competence through an assessment of practical art-teaching; to assess art teaching skills of the teachers, while Test Two involved data gathering through a Study-Specific Questionnaire on Art Teachers’ Competence (SSQATOCo), consisting of thirty items generated from the objectives. The sample for the study consists of five (5) visual art teachers with Masters’ degree in Visual arts and one hundred (100) Senior Secondary School Visual art students, selected from five (5) schools within Badagry Township who were systematically grouped into 5 clusters. Data gathered was statistically tested using the Chi-square at 0.05 level of significance. Findings from the study reveal that competence in art theory, art practice and instructional methodology are key aptitudes of an art teacher, that not all art teachers have required competence, and that incompetence in these key aptitudes account for the reason why students’ art learning achievement is low. Recommendations are made based on the findings.

Keywords: achievement test, cluster, competence, learning outcome, methodology

I. INTRODUCTION

Engaging in art learning that leads to desirable creative expressions has been the dominant theme of art education in recent years; while it is important to dwell on issues of expression, researchers are also finding connections between visual art learning and art learning for acquisition of knowledge and skills. According to Walling & Davies, (2020), the benefits of a strong art program include intensified student motivation to learn and the development of higher-order thinking skills, creativity, and problem-solving abilities; thus the needed art learning outcomes of the 21st century are substantial, and the teacher must be prepared for its attainment.

Teacher quality is generally believed to be basically dependent on the nature of the training that teachers receive and there is no doubt that teachers differ in their depth of knowledge of the “what” to teach and the “how” to teach (Olasehinde-Williams, Lasiele, & Owolabi, 2018). Similarly, Naz, (2016) notes that the strength of an educational system largely depends upon the quality of teachers. Quality teacher is therefore the major criterion for offering quality education. Quality as being discussed here refers to competency.

The art teacher is a professionally trained personnel and custodian of art knowledge who educates the learners through instruction and demonstration of creativity in a structured and measurable approach; using appropriate methods. However, many art teachers are not attaining the peak of students learning outcomes due to probable deficiencies in their depth of competence. Studies show that, those who are skilled more in art practice are quick to give the students practical tasks, while those who are more proficient in theories rely on theoretical teaching, while they visit the area of practice once in a while to cover their deficiencies. Another group are those who lack the methodologies to lead the learners into meaningful teaching even if they possess practical and theoretical proficiencies. This is because they lack aptitudes in instructional methodology. In all, for the visual art teacher to be considered competent, he must possess some levels of aptitude to receive art training, do art and teach art.

Meanwhile, Koeppen, Klieme, & Leutner (2008) alerts that the goal of education and qualification in modern industrial societies can no longer be described by a fixed set of specialized skills that are transferable from one generation to the next; rather, knowledge must be applicable to different, new and complex situations and contexts. Failure to achieve this goal as a result of issues of teacher quality, would have significant consequences as the children could lack the knowledge and skills to realize their full potential and maximize their contribution to the society.

The approach of this study is a form of system-thinking approach to problem solving and innovation, which relies on analyzing how things and issues relate as part of the whole system and how it functions; in line with UNESCO (2018). It intends to examine the key aptitudes that form an art teacher’s competence and how this relates to art students’ class achievements in Visual arts.

Objectives of the Study

The objectives of the study are to:

i. Categorize the key aptitudes in art teachers’ competence

ii. Examine the influence of these aptitudes on the art teacher’s competence
iii. Investigate the influence of art teachers’ competence on students’ art learning achievement.

II. THEORETICAL FRAMEWORK

This study is anchored on the theoretical perspective of Westera (2001) which holds that there are two distinct denotations of ‘competences’ in education; a theoretical perspective where competence is conceived as a cognitive structure that facilitates specified behaviours and an operational perspective which opines that competences cover a broad range of higher order skills and behaviours that represent the ability to cope with multifaceted situations. It expatiates that competence encompasses knowledge, skills, attitudes, metacognition and strategic thinking, while it also presupposes conscious and intentional decision making; thus, competence in this perspective is considered individuals’ cognitive structures which contain considerable theoretical and practical knowledge and highly professional performance. This perspective is found to have a direct connection to the field of education and teachers’ professional competence, especially visual arts which involves theoretical (cognitive) and practical (operational) experiences; the justification for its adoption for this study.

Research Hypotheses

Ho1: There is no significant relationship between competence in key aptitudes of; art theories, art practice and instructional methodology.

Ho2: There is no significant influence of key aptitudes of; art theories, art practice and instructional methodology on art teachers’ competence

Ho3: There is no significant effect of art teachers’ competence on students’ art learning achievements.

III. METHODOLOGY

Table 1: Clustering of Teachers and Students for Art Teachers’ Competence Investigation

<table>
<thead>
<tr>
<th>School</th>
<th>Teacher 1</th>
<th>Teacher 2</th>
<th>Teacher 3</th>
<th>Teacher 4</th>
<th>Teacher 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sch.1</td>
<td>1  2  3  4</td>
<td>5  6  7  8</td>
<td>9  10 11 12</td>
<td>13  14 15 16</td>
<td>17  18 19 20</td>
</tr>
<tr>
<td>Sch.2</td>
<td>1  2  3  4</td>
<td>5  6  7  8</td>
<td>9  10 11 12</td>
<td>13  14 15 16</td>
<td>17  18 19 20</td>
</tr>
<tr>
<td>Sch.3</td>
<td>1  2  3  4</td>
<td>5  6  7  8</td>
<td>9  10 11 12</td>
<td>13  14 15 16</td>
<td>17  18 19 20</td>
</tr>
<tr>
<td>Sch.4</td>
<td>1  2  3  4</td>
<td>5  6  7  8</td>
<td>9  10 11 12</td>
<td>13  14 15 16</td>
<td>17  18 19 20</td>
</tr>
<tr>
<td>Sch.5</td>
<td>1  2  3  4</td>
<td>5  6  7  8</td>
<td>9  10 11 12</td>
<td>13  14 15 16</td>
<td>17  18 19 20</td>
</tr>
<tr>
<td>Total</td>
<td>Cluster 1 (20 students)</td>
<td>Cluster 2 (20 students)</td>
<td>Cluster 3 (20 students)</td>
<td>Cluster 4 (20 students)</td>
<td>Cluster 5 (20 students)</td>
</tr>
</tbody>
</table>

Also, five staff of the Quality Assurance unit of Local Government Education Authority, Badagry worked as research assistants in the process of supervising the teaching process, collection of data for quantitative analysis and evaluation.

IV. LITERATURE REVIEW

Conceptualizing Competency as an Educational Concept

Competence is the acquisition of quality and ability of the teacher to use his knowledge and attitudes to synchronize...
theory and practice in education (Amsami, Mohammed, & Mazila, 2015). The concept of competencies stems from the world of human resource management and labour markets, and later found its way into education; its pragmatic description affirms that it is a combination of knowledge, skills and attitudes appropriate to the context, that is; a disposition to act or perform successfully and responsibly in a certain domain (Haastra, 2013), in this case: art teaching.

According to Gandonu (2019) competencies are qualities, abilities and attributes held or acquired by an individual that confer her or him the aptitudes to do certain things successfully; they are context specific, trainable and closely related to real life; a blend of skills, knowledge, and aptitudes that are prerequisites for effective performance in a task. Effective learning in schools would require effective teaching to accompany the efforts of the learners, thus teacher’s competence needs to be very high for meaningful teaching and learning to take place (Nchina, 2012). A competent teacher therefore is one that is versatile in nature and possesses variety of knowledge, abilities, skills, techniques and can effectively apply them according to required situations in his job and his students’ shows significant performance and progress in achievement tests (Naz, 2016). Since one of the tasks of the educational process is to help acquire and develop student competences as the basis for further improvement of intrapersonal and interpersonal skills; in this process, the teacher is the key factor whose professional competences influence in which direction and how intensively students will progress and develop (Filipovic, 2018).

While the teacher is required to be competent in order to be able to discharge his duties, the required proficiencies of teachers differ according to teaching subjects; particularly art which generally is a unique subject that requires specific aptitudes. Okonkwo (2014) clarifies that art classes will usually be split between practical knowledge and theoretical knowledge, teaching both how to create artwork and an appreciation for the work others create, while the art teacher will often be an experienced artist with a background both in different types of artistic creation and teaching pedagogies; the quality of being competent.

The complexities are that while some of the art teachers are highly talented with art skills, can draw, paint and engage in many art activities personally, they lack the instructional methodology to impart these skills. On the other hand, some art teachers avoid giving practical guides to students as a result of their weaknesses in the practical fields of art; while a good number of others are deficient in the necessary instructional methodology to teach art practice and art theories for better learning outcomes despite their understanding of it; these are apparent issues of competence. Probably the reason in many schools today why desired art learning achievements for the realization of germane educational objectives have not been meticulously attained as many art teachers pretend to teach and many art students pretend to learn.

While educational stakeholders all over the world are clamouring for inclusive learning and great art learning outcomes that meet the needs of the society, research has shown that many art teachers are not suitably capable to teach the subject effectively; thus, achieving these benchmarks becomes a lacuna as a result of incompetence in key areas of art teaching which consequently causes lack of creativity and poor learning outcomes of students in visual arts. This is because as more children are enrolled in school, many art teachers as duty-bearers obligated to help build creativity in them are collectively failing to improve art learning.

Shyllon (2013) alarms that the general decline in the quality of education can be attributed to poor quality of teachers, bad attitude and lack of commitment of some teachers. Similarly, Amsami, Mohammed, & Mazila (2015) complain that majority of the visual art teachers do not have the knowledge of teaching methodologies, skills and evaluation, though employed to teach art having obtained teaching certificates in it; thus, positing that the operational competence of many art teachers impedes students’21st century art learning outcomes and is consequently questionable. This reveals a gap in operational competence in art teaching; as Oponko & Nwade (2014) clarify that teaching is complex and the teacher is a major stakeholder in the teaching and learning process, however, his pedagogical reasoning can make or mar the outcome.

Sarwat & Shafi (2014) likewise posit that a fundamental variable in the teaching learning framework is the instructor (teacher). Therefore, since art is one of the subjects in school that teaches creativity and productivity as well as leads to entrepreneurship and industrialization required for meaningful living in the 21st century, there is need to discuss the issue of art teachers’ competence in order to improve art learning outcomes for the benefits of individuals and the society.

UNICEF (2019) further highlighted the issue of educational gaps and students achievement, alerting that as the link between the levels of learning which education systems are providing is getting wider, the needs of children, communities and economies are also growing; thus, the breadth and depth of this learning crisis provide the greatest global challenge to preparing children and adolescents for life, work and active citizenship. Although much has been written on art teachers’ competence, there have been few quantitative studies; thus, the main intent of this study is to compare by means of the Clustered Students Teaching (CST) and Achievement test, the key aptitudes in an art teacher’s competence and the influence of art teachers’ competence on Categorization of of Key Aptitudes in Art Teachers’ Operational Competence

The key areas of competence required of an art teacher as revealed through existing studies are expatiated below, and a model of art teachers competence is created accordingly. These key aptitudes are:

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1. Competence in Art Theories:

Like many other disciplines, art as an area of academic endeavour includes theoretical aspects which can be classified as specific scholastic fields in the study of art. These include cultural studies, styles and periods in art history, art appreciation, art philosophy, analysis and criticism, materials and methods as well as existing and contemporaneous theoretical introductory foundations of all practical art fields. In line with this, Onwuasonya (2009) posits that the art teacher should stimulate art appreciation and other cognitive development that is derived for art learning. Opoku & Nwade (2014) explain that the teacher need to present to the students, the theoretical background of the subject matter being taught, which includes basic principles and steps to follow; thus he needs to be equipped in these theoretical facts too.

ii. Competence in Art Practice:

Art is mainly skill based and the areas of practice have been categorized into specific task areas all under umbrella subjects such as fine art, applied arts, visual arts, or creative arts. These task areas include textile designs, drawing, painting, sculpture, ceramics, photography and crafts and so on. Practice is the core of art as a subject in schools thus, an art teacher is expected to have the basic understanding of these art practice areas despite the issue of specialization during the teaching qualification programme, and be able to demonstrate to students. Gandonu, Azeez, Aderinto, & Oridola (2019) posit that demonstration enables the art teacher to talk through his actions and decisions in order to benefit the learners’ understanding. This will lead the students to comprehension of concepts alongside processes and consequent meaningful art making experiences and learning opportunities.

iii. Competence in Instructional Methodology

Onwuasonya (2009) elucidates that the process of instruction refers to teaching and that a good art teacher is one who structures his teaching in relation to the teaching methods that builds on a foundation of knowledge already possessed by his students. According to her, such art teacher is one who uses teaching methods that ensure that learning grows out of useful experiences and experimentation as well as makes effective use of specific art teaching strategies to enhance learning. He creates in the classroom or the art studios environment that promotes optimum learning, therefore, art teaching methods should be such that varies in order to get efficient learning for every type of art lesson; no one method is best in art teaching therefore thus, an effective art teacher uses a variety or a combination of methods that produce the best results.

The practical and theoretical nature of Fine and Applied Arts necessitate the use of different teaching strategies by an art teacher (Federal Republic of Nigeria; 2012). Methodology refers to the processes of teaching and learning which brings the learner into relationship with the skills and knowledge that are specified and contained within the curriculum (Harris & Muijs, 2005)
V. TEST ONE OF THE STUDY

Test of Art Teachers’ Operational Competence based on Practical Teaching Students’ and Achievement Test

The five (5) art teachers from the schools were allocated to teach the topic “The Colour Wheel” in each of the clustered classes as assigned to them, timed 30 minutes under evaluation by the researcher with the help of the research assistants using uniformed set criteria. A uniformed achievement test consisting of Section A - theoretical test of thirty questions drawn from the taught topic along with multiple choice answers optioned A to D timed 30 minutes; and Section B; one-hour timed practical test with the task of making a “well painted colour wheel showing the primary and secondary colours” administered to each clustered class at the end of the lesson.

Achievement tests are used to measure skills and knowledge learned in a given task or grade level through planned instruction; they have generally been categorized as single-subject tests, survey batteries, or diagnostic tests and further dichotomized as group or individually administered tests given in order to obtain an indication of general academic skill competencies or a greater understanding of an individual’s achievement in a particular area of academic performance (Katz & Slomka, 2000). The average percentage of each cluster forms students’ art learning achievement which was used to determine the competence level of the art teachers.

Table 2: Tabulation of Average Percentage of Students’ Achievement Test Result Per-Cluster

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Cluster 1</th>
<th>Cluster 2</th>
<th>Cluster 3</th>
<th>Cluster 4</th>
<th>Cluster 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section A - (Theory)</td>
<td>44%</td>
<td>56%</td>
<td>51%</td>
<td>57%</td>
<td>30%</td>
</tr>
<tr>
<td>Section B - (Practical)</td>
<td>35%</td>
<td>42%</td>
<td>60%</td>
<td>50%</td>
<td>52%</td>
</tr>
</tbody>
</table>

Results of Test One

Breakdown of average percentage of students’ achievement test result per-cluster and inference on art teacher’s operational competence above shows that Clusters 1 and 5 performed low in the theoretical aspect of the achievement test while Clusters 2, 3 and 4 performed averagely well. In the practical test, Clusters 1 and 2 performed low whereas Clusters 3, 4, and 5 performed well. Overall, the performance of Cluster 1 in both the theoretical test and art practice is low; Clusters 2 and 5 performed well in either of the sections while Clusters 3 and 4 performed well in both. Analysis of the achievement test results here, presents three sets of art teachers’ competence. If students’ art learning achievement thus depends the teacher’s competence, then:

i. Teachers 1 and 5 could be perceived to lack theoretical competence or instructional methodology to teach it.

ii. Teachers 1 and 2 could be considered to lack practical competence or instructional methodology to teach it.
iii. Teachers 3 and 4 could be considered competent in art theory, art practice and instructional methodology.

iv. Teacher 1 could be considered an incompetent art teacher; lacking aptitudes in either of or all the key competence areas of art teaching

VI. TEST TWO OF THE STUDY

Study-Specific Questionnaire on Art Teachers’ Operational Competence (SSQATOC):

This instrument, which consists of thirty items generated from the objectives, was administered to the students to gather data on the teachers, their teaching during the Clustered Students Teaching session and what influence these have on their performances in the achievement test.

This is in line with Little, Goe, & Bell (2009) that advances that students may assess various aspects of teaching, from course content to specific teaching practices and behaviours, given that they have the most contact with the teacher. They further expatiated that with the nature and frequency of the students’ contact with the teacher, it can be said that students are the most direct consumers of teachers’ services; thus, valuable information could be obtained from evaluation of their experience. They also note that other scholarly studies also recommend that student ratings be included as part of the teacher evaluation process. This makes students’ achievement test very relevant in the study of teachers’ competence.

All the one-hundred questionnaires administered to the respondents were properly completed, collected and used for data analysis using the Chi-square at 0.05 level of significance.

Results of Test Two

Quantitative Analysis of Students’ Questionnaires on Art Teachers’ Competence (SQATC):

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>%</th>
<th>X² cal</th>
<th>Table Value</th>
<th>df</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA</td>
<td>50</td>
<td>50</td>
<td>43.77</td>
<td>15.75</td>
<td>9</td>
<td>Rejected</td>
</tr>
<tr>
<td>A</td>
<td>25</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>10</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD</td>
<td>15</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CalX² = 43.77, Table Value = 15.75, Alpha level = 0.05, df = 9

Ho₁; which states that there is no significant relationship between competences in key aptitudes of; art theories, art practice and instructional methodology was statistically tested in the above table. Analysis shows that the calculated chi-square value of 43.77 was greater than 15.75 table value at 0.05 level of significance. Based on this, the above stated hypothesis was rejected. This means that there is significant relationship between the key aptitudes: art theory, art practice and instructional methodology. This is in line with Opoko and Nwade (2014) which concludes that a qualified teacher possesses both content and pedagogic knowledge.

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>%</th>
<th>X² cal</th>
<th>Table Value</th>
<th>df</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA</td>
<td>58</td>
<td>58</td>
<td>60.23</td>
<td>15.75</td>
<td>9</td>
<td>Rejected</td>
</tr>
<tr>
<td>A</td>
<td>26</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>12</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD</td>
<td>04</td>
<td>04</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td></td>
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</tr>
</tbody>
</table>

CalX² = 60.23, Table value + 15.75, Alpha level = 0.05, df = 9

Ho₂; states that there is no significant influence of key aptitudes of; art theories, art practice and instructional methodology on art teachers’ competence. Statistical test in the above table however shows that the calculated chi-square value of 60.23 was greater than 15.75 table/critical value at 0.05 level of significance. Based on this result, the above stated hypothesis was rejected. With the result, it can be considered that key aptitudes of; art theories, art practice and instructional methodology are significant in art teachers’ competence.

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>%</th>
<th>X² cal</th>
<th>Table Value</th>
<th>df</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA</td>
<td>55</td>
<td>55</td>
<td>58.24</td>
<td>15.75</td>
<td>9</td>
<td>Rejected</td>
</tr>
<tr>
<td>A</td>
<td>26</td>
<td>26</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>D</td>
<td>15</td>
<td>15</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>SD</td>
<td>04</td>
<td>04</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CalX² = 58.24, Table/critical value = 15.75, Alpha Value = 0.05, df = 9

Ho₃; which states that there is no significant effect of art teachers’ competence on students’ art learning achievements was statistically tested in the above table, where the calculated chi-square value of 58.24 was greater than 15.75 Table/critical value at 0.05 level of significance. These analyses therefore mean the above hypothesis was rejected. Thus, the effect of art teachers’ competence on students’ art learning achievements is significant.

VII. SUMMARY OF THE FINDINGS

Exploration of relevant literature has been able to open up and categorize the key aptitudes that make up an art teachers’ art competence including sub-competencies that aids the teacher in achieving desirable art learning achievement for the students were discovered and categorized. These are competence in art theory, art practice and instructional methodology. Through the discourse, a Model of Aptitudes in Art Teachers’ Operational Competence desirable students’ art learning achievement upon which further tests were conducted was thus developed.
Findings from Test One of this study, which is the test of art teachers’ operational competence through their teaching and subsequent students’ achievement test, using the key aptitudes in the model developed from the literature review shows that; achievement tests could be used to rate teacher’s competence level by testing the students on what the teacher had taught. Through the results in this phase, clarifications on teachers’ competence in key aptitudes: art theory, art practice and instructional methodology emerged.

The result reveals that an art teacher could actually lack competence in one, two or all areas of art teaching or could as well be competent in all; and that these abilities are discoverable through teachers’ operational tests and students’ art achievement tests rather than by academic qualification.

Test Two involves a Study-Specific Questionnaire on Art Teachers’ Competence (SSQATC), a qualitative study from the angle of the students’ encounter with the teacher indicates that there is significant relationship between the key aptitudes: art theories, art practice and instructional methodology; that these key aptitudes are significant in art teachers’ competence and also that art teachers’ competence has noteworthy effects on students’ art learning achievements.

VIII. CONCLUSION AND RECOMMENDATIONS

Through the result from the three phases of this study, it concludes that art theory, art practice and instructional methodology are key aptitudes of an art teacher. It also puts forward that not all art teachers are competent, and that is why students’ art learning achievement is low despite the abundance of creativity in children. According to the study, art teachers’ competence in required key aspects is important if desirable students’ art learning achievement is to be achieved. The study thus recommends that:

i. Apart from the academic qualifications, intending art teachers should be put to Operational Competence Test that involve Micro Teaching combining art theory, art practice and instructional pedagogy before employment.

ii. Schools and Governments at all levels should give adequate consideration to professional growth of art teachers through relevant developmental programmes such as conferences, seminars, workshops, pre-service as well as in-service training programmes so as to help them improve in competencies and keep in tune.

iii. Co-teaching and aspect-specific art teaching should be encouraged so that art teachers can be engaged to teach the aspects they are best in; in order to achieve greater art learning achievements in the students.

REFERENCES


