

TEACHER-STUDENT RELATIONSHIP AND EVALUATION OF STUDENTS' LEARNING ACTIVITIES AS CORRELATES OF MATHEMATICS TEACHERS TEACHING EFFECTIVENESS IN OGOJA EDUCATION ZONE OF CROSS RIVER STATE, NIGERIA

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Citation: Bernard Diwa Otu , Alfred Denis Oyama, Caroline Iserom Ita , Henrietta Osayi Uchegbue (2022) Teacher-Student Relationship and Evaluation of Students' Learning Activities as Correlates of Mathematics Teachers Teaching Effectiveness in Ogoja Education Zone of Cross River State, Nigeria, *International Journal of Education, Learning and Development*, Vol. 10, No.2, pp.48-55

ABSTRACT: *The purpose of this study was to make an assessment of teacher-student relationship and evaluation of students' learning activities as correlates of Mathematics Teachers teaching effectiveness in Ogoja Education Zone of Cross River State, Nigeria. To achieve the purpose of this study, one hypothesis was formulated to guide the study. Literature related to the variables under this study is reviewed accordingly. Survey research design was adopted for the study. A sample of 420 students were randomly selected for the study. The selection was done through the simple random sampling technique. The questionnaire was the main instrument used for data collection. To test the hypotheses simple linear regression analysis statistical technique was adopted. The .05 level of significance was used for the statistical testing of the hypothesis. The result of the analysis revealed that, effective classroom management and teaching methods as dimensions for teaching effectiveness of Mathematics Teachers in Ikom Education Zone of Cross River State, Nigeria are significant high. Based on the findings of the study, it was recommended that*

KEYWORDS: teacher, student, relationship, evaluation, effectiveness

INTRODUCTION

The teacher is a role model to learners under his/her control and must possess the qualities that can assist the learner to acquire the necessary knowledge and skills. In line with this, Jannana

(2006) held that competent, experienced and effective teachers are those that give their students the opportunity to explore ideas for themselves by engaging them in activities that can enable them learn on their own. Teachers' experience can be observed in terms of the changes in students' attitude towards learning and determining the level of students' learning which also affects teacher's effectiveness. The teacher is the curriculum implementer, a guide to learning, a facilitator and a major factor for instructional effectiveness which is crucial for the improvement of students' academic performance in any subject in school (Adewale, 2004). The task for quality education in Nigeria and the development of citizens and the nations have been placed on the teachers. There is need for adequate qualification, experience, additional training and retraining through pre-service, in-service and other environmental variables to be inculcated into the educational system to enhance effective teaching and learning.

The bedrock of all science related courses is usually said to be Mathematics. It is the foundation of all technological advancement of every nation. Being aware of this, the Federal Government of Nigeria through her National Policy on Education FGN (2014) maintains the compulsory nature of Mathematics in all levels of education, up to tertiary level (though as a general course at the tertiary level). Owing to this, governments at all levels are making serious efforts to provide high quality Mathematics education. It is worthy of note that recognizable attempts, by various stake holders, have been made to enhance teaching and learning of Mathematics.

Every mathematics teacher is an individual and has a different style of teaching and every teacher has something unique to offer to his students. So, by self-evaluation, an individual teacher discovers the ways to become more effective. This demonstrates his knowledge about teaching and his perceived effectiveness in the classroom (Cranton, 2001). Nevertheless, for decades, teacher educators and researchers have struggled to determine various aspects of teacher effectiveness and its related characteristics and have found significant associations between teacher effectiveness and its related characteristics (Harris & Sass, 2007). Effectiveness of a teacher can be described as their success in helping students to learn and the related characteristics of effectiveness can be described as certain qualities which enable the teachers to achieve success in education (Slack, Gronow & Voulvoulis, 2012).

Government in response to various recommendations made, had in recent times reviewed teachers incentive packages, and also encouraged in-service programmes for teachers to update their skills that will enable them become effective in lesson delivery. Nevertheless, the problem still persists in secondary schools in Cross River State and this has led the researcher to ask the question; how do teacher-student relationship and evaluation of students' learning activities influence teaching effectiveness of mathematics teachers in Calabar Education Zone of Cross River State, Nigeria?

LITERATURE REVIEW

Some of the personal qualities that students perceive as characteristics of a good and effective instructor include having a positive outlook on teaching, being kind and approachable, love, care,

sympathy, building a more engaging pedagogical experience through classroom atmosphere and student teacher rapport. Ralph (2013) stated that a teacher that recognizes a student's concern both for his/her appearance, problems with peers or family may promote rapport with the student and eliminate some learning barriers.

Bassey, Owan, Amansoa and Otu (2020) opined that developing a good student-teacher relationship is a great asset for effective teaching. It has been observed that when teachers build the bridge in communication and interaction with students, they get their cooperation, interest and willingness to learn what the teacher is teaching. What these studies show is that there is need for student-teacher interaction both within and outside the classroom. Students perceive teachers' attitude toward them as important as class content, and they perceive teachers who interact in this way as effective. Therefore, interest that the teacher displays in the student will determine to a great extent the interest the student exhibits in the subject. Domike (2002) studied the pattern of classroom interaction of 90 teachers and found that certain teachers are inclined to particular patterns such as integrative, dominative or the capacity to stimulate critical thinking process. The result of her finding through analysis of administered test showed that significant difference exist in achievement scores of students taught by teachers using different interactive styles.

Bagerley (2010) in a study of teacher-student relations as a predictor of teachers' job satisfaction, has found out that teachers who get along better with their students were more satisfied with their job and are more productive and effective in their classroom activities. Supporting this view, Seldin (2007) in a study of 100 high school students reported that a few silent students received proportionately more interaction with the teachers than their classmates. This is so because the teachers dragged them into conversation and make effort to break the chain of silence and also help in removing, some hindrances to social interaction. Adams and Jacob (2009) in a study of 32 mathematics and social studies classes in Kano state, Nigeria observed that most of the verbal interaction comes from students seated in the front rows and centre seats of the class.

Umah (2011) posits that an effective teacher plays the role of a friend and confident to his students. He does this by being warm, mature and sympathetic, thereby making the students to tell him/her their problems and difficulties and thus releasing tension. This is achieved when students believe that the teacher is able to maintain their confidence and has established good rapport with them. Supporting this view, Devlin (2002) posited that friendlier instructors are more likely to be available to listen to students concerns and questions. This is done by coming into the class with a smile, greeting students, and having a 'chat' with them before class begins.

The evaluation process includes a number of techniques that are indispensable to the teacher. Besides, it is a continuous process that underlies all good teaching and learning. Such techniques include observation, oral questioning of students, discussions, tests, quizzes and assignment. Uchegbue, Edet, Otu, Amalu, and Oyo-Ita (2021) considered evaluation as the process of obtaining information that aids decision making, collecting and analyzing obtained data in order to report and make appropriate judgment and selection among alternatives. According to Ralph

(2013) the characteristics that involve evaluation of students learning activities are: providing students with timely, thorough and constructive feedback in their course work. Students feel that the longer it takes to receive comment on their work, the more difficult it is to address the changes suggested by the instructor or to understand the grades.

Another aspect of characteristics according to Ralph (2013) is the instructor's awareness of individuals student's needs. Students believe that effective teaching involves being perceptive, specifically being attentive to signs from students that indicate the course material is too difficult or a particular concept is not well understood. Students' questions and body language during teaching, should help the instructor with that insight. Instructors should accept the fact that everyone does not learn and express ideas at the same pace. For this reason, instructors should be more accommodating with deadlines and flexible in the time frame for examinations. Students believe that an instructor who "cares about being an effective teacher, not just his or her area of expertise, will help them reach their highest potential as students.

Mansray (2007) study found that effective teachers use assessment of students' activities to motivate students. He said that the use of homework, assignment, weekly quizzes, classroom questioning, project reports and examination if administered appropriately and objectively make students to be anxious to receive more what was taught hence improving their academic ability. Mansray concluded that the difference between effective and ineffective teachers depends on the appropriateness of perception and application of those roles in classroom situation.

Test and quizzes are more formal and systematic forms of evaluation. Jones-Hamilton (2002) warned that questioning, whether for oral examination, test or quizzes is a technique that tends to be used incorrectly if care is not exercised. The question should correlate with the objectives facilitating the development of the educational goal. For effectiveness, variation in the questioning style is very important method of evaluation that achieves desired result.

Students' evaluation as a means of measuring teaching effectiveness is more than a double edged sword. To Ralph (2013), it can be used: to clarify the intended learning outcome; as a feedback mechanism for measuring students' progress and reporting same to parents, educational planners and administrations; to fashion shorter goals for which the teacher and student should work towards; and to provide information for research and for overcoming learning difficulties in children.

Sinclair (2002) opine that student evaluation is a means of teacher accountability. The overall implication of this contention is to the effect that, the rate of student performance in an evaluation exercise is to a great extent, a reflection of the teacher's input. This input variable includes the teacher's knowledge of subject matter, classroom management, classroom communication, method of teaching and other inputs required for effective teaching.

Hamilton (2002) has this to say, 'how good is the curriculum design? how good is the lesson plan?, how good is its administration and implementation?, or how good is the instructional

process? By answering these questions, we are ultimately assessing the planners, the administrators of the curriculum, the ministry officials, the school principal and the teachers. The unfortunate situation is that it is sometimes difficult to know to what extent evaluation result can be shared among these parties. At most times it never shared at all. For when things go wrong, the bulk stops at the teacher's desk. Therefore, the teacher should equip himself with adequate skills to perform effectively for he/she carries the heavier responsibility of accounting for students' performance (Jones, Hamilton; 2002).

Laura (2002) summarized a broad class of teacher evaluation instruments used to assess teacher effectiveness encompassing (a) classroom observation, (b) principal evaluation, (c) instructional artifact, (d) portfolio (e) teacher-self report measure (f) student survey and (h) value-added mode (P.15). Ruddick and Flutter (2004) Concluded that student perceive good teachers as; human, accessible, reliable and persistent, respectful of students and sensitive of their difficulties, enthusiastic and positive and professionally skilled.

METHODOLOGY

The research design adopted for this study is ex-post facto design. The design, ex-post facto is suitable for this study because the researcher has no control over the independent variables since they have already occurred in the population. The study area is the Ogoja Education Zone of Cross River State. Geographically, it lies within longitude $5^{\circ} 32'$ and $9^{\circ} 27'$ east of the Greenwich meridian and latitude $5^{\circ} 23'$ and $4^{\circ} 28'$ north of the equator and it is within the tropical region of Nigeria. The population for the study consists of all the 182 Mathematics teachers in Calabar Education Zone. The purposive (census) sampling technique was used in this study. A sample size of 182 mathematics teachers were used for the study.

The instrument used for the study is titled "Teaching Effectiveness of Mathematics Teachers Questionnaire" (TEMTQ). The validity of the instrument was established by experts in Measurement and Evaluation Unit. To ascertain the reliability of the research instrument, a trial test was conducted using 50 mathematics teachers drawn from the population outside the actual sample. Split-half method of reliability was used to determine the reliability estimate of the instrument. The scores derived from the two sets were correlated using Pearson's Product Moment Correlation and corrected with Spearman Brown prophecy formula. The reliability coefficient ranges from .78 to .85 which considered high. The copies of the questionnaire were administered in each of the sampled schools with the help of two research assistants.

PRESENTATION OF RESULTS

Hypothesis one

The levels of teaching effectiveness of Mathematics teachers in terms of teacher-student relationship and evaluation of students' learning activities in Ogoja Education Zone of Cross River State are not significant high.

There is only one variable in this hypothesis, which is levels of teaching effectiveness of Mathematics teachers; but there are two types of teaching effectiveness at focus in this study. These are teacher-student relationship and evaluation of students' learning activities. The researcher reasoned that for a teacher's teaching effectiveness to be considered significant high, his/her effectiveness level should be significant higher than an average level represented by a reference mean score. This reference mean score was obtained by multiplying the average of the scores assigned to the four response categories for each of the items on the questionnaire by the number of items used to measure each type of the teaching effectiveness (which was 10).

$$\text{Thus, the Reference mean score} = \frac{(4+3+2+1) \times 10}{4} = 25.00$$

Testing this hypothesis involved comparing the sample mean on each of the four anxiety disorder with the reference mean score of 25.00. The statistical technique deploy to do this comparison was the t-test of one sample mean (also known as population t-test). The results of the analyses are presented in Table 1.

TABLE 1

Population t-test analysis of whether the levels of teaching effectiveness of Mathematics teachers are significantly high

Teaching effectiveness	N	Sample Mean	Sample SD	Reference Mean	t-value	Sig level
Teacher-student relationship	182	35.9615	2.52800	25.00	57.84*	.000
Evaluation of students' learning activities	182	36.4451	2.60996	25.00	60.26*	.000

* $p < .05$; $df = 181$

The results of analysis presented in Table 1 have shown the mean and standard deviation of the sample on each of the two types of teaching effectiveness at focus in this study. The comparison of each of these sample means with the reference mean score of 25.00 yielded t-values of 57.84 and 60.26. The calculated absolute t-values for teacher-student relationship 57.84 and evaluation of students' learning activities 60.26 are each higher than the p-value of .000 at .05 level of significant with 181 degrees of freedom. With these results, the null hypothesis is rejected in the two instances of teacher-student relationship and evaluation of students' learning activities. This implies that the levels of teaching effectiveness of Mathematics teachers in terms of teacher-student relationship and evaluation of students' learning activities in Ogoja Education Zone of Cross River State are significant high.

DISCUSSION OF FINDINGS

The result of the study revealed that the levels of teaching effectiveness of Mathematics teachers in terms of teacher-student relationship and evaluation of students' learning activities in Calabar Education Zone of Cross River State are significant high. The findings are in line with the view of Bassey, Owan, Amansoa and Otu (2020) who opined that developing a good student-teacher relationship is a great asset for effective teaching. It has been observed that when teachers build the bridge in communication and interaction with students, they get their cooperation, interest and willingness to learn what the teacher is teaching. What these studies show is that there is need for student-teacher interaction both within and outside the classroom. Students perceive teachers' attitude toward them as important as class content, and they perceive teachers who interact in this way as effective. Therefore, interest that the teacher displays in the student will determine to a great extent the interest the student exhibits in the subject.

Mansray (2007) also found that effective teachers use assessment of students' activities to motivate students. He said that the use of homework, assignment, weekly quizzes, classroom questioning, project reports and examination if administered appropriately and objectively make students to be anxious to receive more what was taught hence improving their academic ability. Mansray concluded that the difference between effective and ineffective teachers depends on the appropriateness of perception and application of those roles in classroom situation.

CONCLUSION RECOMMENDATIONS

Based on the findings of the study it concluded that the levels of teaching effectiveness of Mathematics teachers in terms of teacher-student relationship and evaluation of students' learning activities in Calabar Education Zone of Cross River State are significant high. Based on the conclusions of the study it was recommended among others that teachers' should develop good student-teacher relationship to asset for effective teaching.

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