

**TEACHERS' AND STUDENTS' PERCEPTION OF MATHEMATICS  
PEDAGOGICAL ISSUES IN JUNIOR SECONDARY SCHOOLS IN  
IKORODU, LAGOS STATE**

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**Abstract**

*The study examined teachers' and students' perception of pedagogy of mathematics in junior secondary schools Ikorodu, Lagos State. The population comprises of all the teachers and students in Ikorodu area of Lagos. The study adopted non-experimental design of descriptive research type. A total of 30 teachers and 130 students were randomly selected from the five junior secondary schools in Lagos State to take part in this study. Perception of teachers' and students' pedagogical issues in junior secondary was used for data collection. Validity of the instruments was 0.79 while a general reliability index of 0.96 was determined using Kuder Richardson formula 20 (KR20). The data obtained was analyzed using frequency and percentages and Pearson product moment correlation analysis. The results revealed that majority of the teachers and students had a positive perception of pedagogy of mathematics while a minority of teachers and students had a negative perception. Furthermore, the teachers and students agreed that pedagogy of mathematics promotes learning of mathematics while some few disagreed. It was also found that most (83%) of the teachers and students believed that teachers should make use of pedagogy of mathematics to effectively teach mathematics while only 17% disagreed. The Pearson's correlations coefficient is show a strong strength at 0.605 between perception of students and teaching methods at 0.05 level of significance. Generally, the findings from this study suggest that teachers and students in junior secondary schools in Lagos State have a positive perception of pedagogy of mathematics and believe that it is an effective approach in teaching mathematics. It is therefore recommended that teachers in junior secondary schools in Lagos State should make use of pedagogy of mathematics in their teaching of mathematics to enhance the learning of mathematics.*

**Keywords:** Perceptions, teaching methods, pedagogy, mathematics

**Introduction**

Education is a dynamic process that relies on effective teaching methods to ensure successful learning outcomes. The perceptions of both students and teachers regarding these teaching methods play a crucial role in shaping the educational experience. Understanding and addressing the gap between student and teacher perspectives can significantly enhance the quality of instruction and foster a positive learning environment. To the end the subject Mathematics which is the focal of this paper can be defined as a science of size and numbers of which arithmetic algebra, trigonometry and geometry are the branches. The concept of Mathematics is as old as creation and God is the greatest mathematician of all times – means God works with mathematics in His creation which took Him six days and rested on the seventh day. Mathematics is a vast symbolic logic system possessing a few postulates from which an unimaginable though finite, number of statements or proposition can be proven or disproven Awofala (2014). Mathematics gives students the language through which they can interpret, analyze, describe, make predictions and solve problems in everyday life.

Primarily, Mathematics is a way of thinking, a way of organizing a logical proof. It is a universal part of a human culture, a tool to keep balance in our life and the mother science of the abstract world. It is also widely believed that Mathematics is very important to the economic, scientific and political development of any nation. The Science Teachers Association of Nigeria (1932) referred to Mathematics as the

central intellectual discipline of the technology world. In his submission, Odusoro (2002) affirmed that the knowledge of science remains superficial without Mathematics. It therefore means that, the position of Mathematics in secondary school curriculum in Nigeria is important for scientific development. However, it is disheartening that research and data from West African Examination Council (WAEC) and Joint Admission and Matriculation Board (JAMB) have shown a consistent poor performance in this subject. Students' perceptions of teaching methods significantly influence their engagement, motivation, and overall learning experience. When students perceive a teaching method as relevant, interesting, and interactive, they are more likely to be actively involved in the learning process. Conversely, ineffective or monotonous teaching methods can lead to disinterest, disengagement, and a decline in learning outcomes. Likewise, teachers' perception of teaching methods determines their instructional choices, strategies, and overall pedagogical approach. Their understanding of students' preferences, learning styles, and individual differences shapes the selection and adaptation of teaching methods. Teachers who are aware of the diverse needs and preferences of their students can tailor their instructional techniques to create a more inclusive and effective learning environment.

To buttress the perception of students and teachers to the subject as regard junior secondary school. Students' perception of their teacher's qualification could influence their attitude towards learning Mathematics or any other school subject. Students more often than not judge their teachers in such areas as the teacher knowledge of the subject matter, communication ability and their choice of appropriate teaching method. A teacher who is rated high on these indices in the perception of the students is likely to enjoy the confidence, respect and admiration of his/her students. The way students perceive a subject determines their success or failure in that subject. Some students perceive Mathematics as a no go area because of the negative impression passed down to them by the past generations who had bad experience with unqualified teachers, that Mathematics is the most difficult subject in the school. The aim is to educate the new incoming

generations on the likely variables to be affecting teaching and learning of Mathematics resulting to the persistent rate of failure in the subject. The research intends to find out various problems faced by the teachers and students in the learning and teaching of Mathematics in Junior Secondary School as perceived by both the teachers and the students.

Mathematics education plays a key role in shaping students' analytical thinking, problem-solving abilities, and overall cognitive development. However, the effectiveness of mathematics instruction depends not only on the subject matter but also on the pedagogical methods employed by teachers. Understanding the perceptions of both teachers and students regarding the pedagogy of mathematics is essential for identifying potential gaps and improving teaching practices in junior secondary schools in Ikorodu. Teachers' perception of their pedagogical practices may rely on traditional approaches, such as rote memorization or teacher-centered instruction, without considering more interactive and student-centered methods. This perception gap may hinder the adoption of innovative pedagogical strategies that promote conceptual understanding and critical thinking in mathematics. Students' perception of mathematics instruction greatly influences their engagement, motivation, and learning outcomes. There may be a disconnect between students' perception of mathematics as a challenging subject and their understanding of the pedagogical methods used by teachers. Some students may perceive mathematics as monotonous, abstract, or irrelevant to their daily lives, leading to disinterest and disengagement from the subject.

### **Research Questions**

1. To what extent do teachers' perceptions affect Mathematics teaching methods in Junior Secondary School in Ikorodu, Lagos?
2. To what extent do students' perceptions affect Mathematic teaching methods in Junior Secondary School in Ikorodu, Lagos State?
3. Is there any significant relationship among teacher perception, student

perception and Mathematics teaching methods in Junior Secondary School in Ikorodu, Lagos State?

**Methodology**

The design for this study was non-experimental design of descriptive research type. The population for this study comprises of all junior secondary students and teachers of Ikorodu Local Government in Lagos State. The simple random sampling technique was used to select thirty (30) teachers and 130 junior mathematics students in five schools. The instrument for data collection is **Perception of teachers' and students' pedagogical issues in junior secondary** with validity index of 0.79 while a reliability index of 0.96 was determined using Kuder Richardson formula 20 (Kr20). The data obtained was analyzed using descriptive

statistics and inferential statistics of Pearson product moment correlation coefficient analysis. The questionnaire was divided into two sections A and B. Section A for the demographic information of the participants while section B provides statement that are related to the hypotheses to be tested and analyzed. The options in section B of the questionnaire is structured using 4 points Likert Scale ranging from Strongly Agreed (SA) to Strongly Disagree (SD). The data was analyzed using Pearson Moments Correlation Coefficient to test each hypothesis.

**Results**

**Research Question 1: To what extent do perceptions of Teacher affect teaching method of Mathematics in Junior Secondary Schools?**

**Table 1: Perceptions of Teacher Towards Mathematics Teaching Method in Junior Secondary Schools**

S/N	Items	Strongly Agree	Agree	Disagree	Strongly Disagree
1.	Student learn well under my teaching method	12 (40)	8 (28)	5 (16)	5 (16)
2.	My teaching method is effective	11 (37)	11 (37)	6 (20)	2 (6)
3.	My teaching method enhanced students learning	9 (30)	12 (40)	4 (13)	5 (17)
4.	Students are less motivated with my teaching method	6 (20)	5 (17)	9 (30)	10 (33)
5.	My teaching method is simplified and easy	11 (37)	9 (30)	6 (20)	4 (13)

Table 1 above reveals that 12 respondents representing (40%) strongly agreed that students learn well under teaching method, 8 respondents representing (28%) of the respondents agreed. However, 5 respondents representing (16%) disagreed and 5 respondents representing (16%) strongly disagree that students do not learn well under the teaching method. Table 1 above reveals that 11 teacher respondents representing (37%) strongly agreed their teaching method is effective, 11 respondents representing (37%) of the respondents agreed. However, 6 respondents representing (20%) disagreed and 2 respondents representing (7%) strongly disagreed their teaching method is not effective.

Table 1 also reveals that 9 respondents representing (30%), strongly agreed that their teaching method enhanced students learning, 12 respondents representing (40%) of the respondents agreed. However, 4 respondents representing (13%) disagreed and 5 respondents representing (17%) strongly disagreed that their teaching method does not enhance students learning. It reveals that 6 respondent representing (20%) strongly agreed that students are less motivated with their teachers teaching method, 5 respondents representing (17%) of the respondent agreed. However, 9 respondents representing (30%) disagreed and 10 respondents representing (33%) strongly disagreed that students are more

motivated with their teachers teaching methods. Table also reveals that 11 respondent representing (37%) strongly agreed their teaching method is simplified and easy, 9 respondents representing (30%) of the respondents agreed. However, 6 respondents representing (20%) disagreed and 4 respondents representing (13%) strongly

disagreed that their teaching, method is not simplified and easy.

**Research Question 2: To what extent do students' perceptions affect Mathematics teaching methods of Junior secondary school in Ikorodu, Lagos State?**

**Table 2: Perceptions of Students Towards Mathematics Teaching Method in Junior Secondary Schools**

S/N	Items	Strongly Agree	Agree	Disagree	Strongly Disagree
1.	Lack of instrument materials affect the learning of Mathematics in classrooms	45 (35)	58 (45)	12 (8)	15 (12)
2.	The use of instructional materials in Mathematics helps students to learn Mathematics easily	41 (32)	56 (43)	17 (13)	16 (12)
3.	Instructional materials available in the schools are outdated	16 (12)	43 (9)	58 (45)	47 (36)
4.	Teachers are not provided with enough instructional materials	40 (30)	52 (40)	23 (18)	15 (12)
5.	Some instructional materials are too complicated for students understand	51 (39)	41 (32)	18 (14)	20 (15)

Table 2 above reveals that 35% of the student's respondents strongly agreed that lack of instructional materials affect the learning of Mathematics in classrooms, 45% of the respondents agreed, 8% of the respondents and 12% of the student's respondents strongly disagreed that lack of instructional materials does not affect the learning of mathematics in classrooms. Table 2 also reveals that 32% of the student's respondents strongly agreed that use of instructional materials in Mathematics helps students to learn Mathematics easily, 43% of the respondents agreed, 13% of the respondents disagreed and 12% of the student's respondents strongly disagreed that use instructional materials in Mathematics does not help students to learn Mathematics easily. The table also reveals that 12% of the student's respondents strongly agreed that instructional materials available in the schools are outdated, 7% of the respondents agreed, 45% of the respondents disagreed and 36% of the student's respondents strongly disagreed that instructional materials available in the schools are not outdated. The table also reveals that 30% of the student's respondents strongly agreed that teachers are

not provided with enough instructional materials, 40% of the respondents agreed, 18% of the respondents disagreed and 12% of the student's respondents strongly disagreed that teachers are provided with enough instructional materials. Table 2 also reveals that 39% of the student's respondents are strongly agreed that some instructional materials are too complicated for student to understand, 32% of the respondents agreed, 14% of the student's respondents disagreed and 15% of the respondents strongly disagreed that some instructional materials are not complicated for student to understand.

**Research Question 3: Is there any significant relationship among teacher perception, student perception and Mathematics teaching methods in Junior Secondary School in Ikorodu, Lagos State?**

To determine whether there is no significant relationship between the perceptions of teacher on teaching method of Mathematics among junior secondary school in Ikorodu, Lagos State, correlation was used for the null hypothesis. The result is shown in the table below:

**Table 3: Pearson’s Correlation on the Relationship among Teachers’ Perception, Students’ Perception and Mathematics Teaching Methods**

Variables	Teachers Perception	Students Perception	Mathematics Teaching Methods
Teachers Perception	1		0.692 (0.000)**
Students Perception		1	0.605 (0.000)**
Mathematics Teaching Methods			1

\*\*correlations is significant at 0.05

Table 3 shows the relationship among the variables of the study. The result show that there exists high positive significant relationship between teachers' perception and mathematics teaching methods ( $r = 0.692$ ;  $p < 0.05$ ). Also, there is high positive significant students' perception and mathematics teaching methods ( $r = 0.605$ ;  $p < 0.05$ ). Though, there is enough evidence to suggest that the correlation observed existed in the population.

**Discussion**

There is significant relationship between teachers on teaching method of mathematics among junior secondary school in Ikorodu. The perception of some teaching strategies that investigated this present study was in line with other studies conducted by Mojares (2013) and Daddi & Haq (2014) at the university level. In Mojares' study, result show that the lecturers most often used the lecture method and brainstorming. It indicated that those strategies were appropriate for teaching English. While Haq & Daddi (2014) proposed an audio-based presentation, topic-based presentation, peer share idea, role play, discussion, and simulation as a strategy in teaching English. On the other hand, the study also revealed that students claimed that they learn faster and better when they are taught under an appropriate teaching method. This finding also corroborates Fardon's (2013) and Akdemir & Koszalka (2008) earlier report that matches between students' learning styles and instructional strategies did not affect the students' learning performance.

**Conclusion**

Based on the findings the following conclusion can be drawn, first teaching method is an important factor that affects the learning and teaching of mathematics among junior secondary schools; student. In addition, study revealed that some teaching methods make some junior secondary school mathematics students laid back and less effective to mathematics. More so some teaching methods make mathematics students to hate mathematics thereby failing the subject as a result of lack of passion of the teaching method adopted by their teachers. Lastly, some teachers teaching method is archaic thereby increasing the anxiety and stress level of the mathematics students.

**Recommendations**

1. Teachers must be constantly assessed to evaluate their teaching method and see the need for future upgrade in an attempt to adjust to changing curriculum and content of mathematics that will necessitate global knowledge and participation of mathematics among mathematics students.
2. Competent mathematics teachers that can relate mathematics as a subject to the students better must be considered for gainful employment of mathematics.
3. Previous academic attainment of mathematics teachers to their student must be considered as successful criteria before employment is granted to newly

mathematics teachers seeking employment opportunities in mathematics.

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