



ISSN: 1117-1669
e-ISSN: 2971-7841

*Journal of Science Education and
Humanities (JOSEH), 2023, Vol. 7 (1):
October, 2023. Full-text Available Online at
<https://www.akscoejoseh.org.ng>*



An Expository Data Analysis of Student Teachers' Perception of Interest in Mathematics and Sciences in Uyo Educational Zone in Akwa Ibom State, Nigeria

***¹Esuong, U. U., ²Ibok, E. O. & ³Udo, O. F.**

^{*1,2&3}Department of Mathematics, College of Education, Afaha Nsit, P.M.B. 1019 Etinan, Akwa Ibom State, Nigeria

*Corresponding Author Email: uwaseesuong@gmail.com, Tel: +2348063274768

Abstract

Teaching practice is a compulsory training exercise undertaken by final year students in every College of Education in Nigeria. While in the field for the practice, the student teachers develop certain perception of students' interest in the classroom regarding mathematics and other science subjects. Thus, the paper ensures an interpretative analysis of the perception of these student teachers on the student's interest in mathematics compared with other science subjects. Seventy-one (71) student teachers of mathematics and other science courses in school of science of 2019/2020 academic session were involved in the study. The Mathematics and Science Students Interest Questionnaire (MSSIQ) was used for the collection of data, the data was analyzed descriptively using percentage. Findings of the study indicated that there is variation in the interest of students in mathematics and sciences. It is recommended that teachers should devise a means of inspiring student in the process of their teaching to enable them have interest in mathematics because of its relevance in their career later in life.

Keywords: Perception, Interest, Student-teachers, Mathematics performance

INTRODUCTION

Teaching practice refers to the preparation of student-teachers for teaching by practical training using teaching methods, teaching strategies, teaching principles, teaching techniques; and exercise of different activities of daily school life. "The term teaching practice embraces all the learning experience of student- teachers in schools". According to the Nigeria Commission for Colleges of Education (NCCE) guideline teaching practice exercise occupies a key position in the programme of teacher preparation. Perhaps, in order to improve the teaching profession in Nigeria, the National Universities Commission (NUC) in its Benchmark Minimum Academic Standards for undergraduate Programmes in Nigerian universities (2007) stipulates that all faculty of education students in the university should undergo a compulsory teaching practice

exercise and it is a necessary condition for graduation. This is also stipulated in the Colleges of Education Minimum Academic Standards of the National Commission for Colleges of Education (NCCE) for students in the colleges of education (FGN 2006). "It provides a culminating experience in teacher preparation and also provides opportunity to student teachers to become socialized into the profession". Performance of teaching practice exercise provides basis for predicting the future success of the teacher. The entire process involved in teaching practice exercise is an important contributing factor towards the quality of teacher education programme. "During teaching practice exercise, interaction with students in the school provide a high degree of emotional stability within the student -teacher because such process of socialization enables the student -teacher to gain experience by linking to a culture of teaching and also feeling engaged, challenged and even empowered ". It should therefore be noted that going into teaching profession without undergoing teaching practice exercise could result in future poor performance (Ofonime, Esuong, & Enyekeme, 2018). Teaching effectiveness criteria involve content knowledge, knowledge about learners, lesson preparation and teaching methods as well as understanding learners' behaviours (Esuong and Enyekeme 2022). Student- teachers gain various experiences in schools with different resulting assumptions about teachers' role such as abilities, methods and qualities.

However, during teaching practice Students tend to have varying opinion regarding mathematics and sciences. These differences range from subject performance in mathematics, attention accorded to the subjects when they are being taught by their respective teachers, performance in the subjects in the examination, behavior towards the teachers taking mathematics and other sciences and how students view the teaching of mathematics and other sciences.

This study is important because of what Ekwueme (2013) described mathematics to be, as the subject area that is proven to be imperative for society in terms of progress and success whereby it's importance for students to have a deeper understanding of the concepts of these subjects in the beginning of their education.

However, Nyamba and Mwajombe (2012) citing Francis (2000) on subject preference of students referred to it as liking, interest or wants on something or as the real or imagined choice between alternatives and the possibility of rank ordering of these alternatives. In this respect, students at secondary school are confronted with mathematics and other science subject to study, whereby the former is most often considered difficult that latter (Esuong. U. U., Udom U.D. & Udo. O. F., 2019). Hence, the need to find out the preferences of students in mathematics has become necessary. It is against the backdrop that the study was conducted to actually have an interpretative analysis of students teachers' perception of students interest in mathematics in Uyo education zone in Akwa Ibom State, Nigeria.

Statement of the Problem

The dwindling performance of students over the years in mathematics has become a major source of concern and attention for educationist all over the globe. Students teachers who have firsthand interaction with students as they learn the pedagogy of teaching school subjects used the opportunity to observe the interest of students in school subjects. Students' abilities are of different magnitude at a certain level of learning and they have various degrees of interest in mathematics and other sciences. While some are more inclined to learn mathematics, others are more inclined to learn other science subjects. This unhidden interest of students in mathematics is reflected in their attention and love for the subject which in turn affect their learning process and inculcation of the basic mathematics concepts. Going by the growing concern over the performance of students in mathematics by students teachers who have returned from the teaching practice exercise. this paper seeks to offer an investigative analysis into the perception of students teachers over the interest of students in mathematics and other science subjects.

Objectives of the Study

The following were the objectives of the study:

- (i) to determine student teachers' perception of student subject preference between Mathematics and Science;
- (ii) to determine student teachers' perception on the performance of students between Mathematics and other Science subjects;
- (iii) to determine students-teachers' perception on students' stereotyping of Mathematics teachers.

Research Questions

Based on the objectives of the study, the following research questions were generated:

- (i) What is the perception of student teachers on students' subject preference between Mathematics and other science subjects?
- (ii) What is the perception of student teachers on the performance of students between Mathematics and other science subjects?
- (iii) What is the perception of student teachers on students' stereotyping of their Mathematics and science teachers?

RESEARCH METHODOLOGY

Population of the Study

The population of the study includes all the three hundred level (300) School of Science students, College of Education Afaha Nsit. The students who offered, Biology, Chemistry, Mathematics and Physics as major teaching subjects were considered. The following table represents the distribution of student teachers according to teaching subjects.

Table 1: Students' Teachers' Population Distribution

S/N	Students' Teachers' Population Distribution		
1	Biology	31	31
2	Chemistry	19	19
3	Mathematics	13	13
4	Physics	08	08
Total	Fours (04)	71	71

Source: teaching practice office department of curriculum and teaching

The Table 1 above indicates that thirty one (31) students were posted to teach biology as their major teaching subject Nineteen (19) students were posted to teach chemistry as their major teaching subject. Thirteen (13) students were posted to teach mathematics as their major teaching subject and only eight (08) students were posted to teach physics as their major teaching subject. This brings the total number of students posted to seventy-one (71) and this formed the population for the study.

Research Design

The research design employed in the study was a descriptive survey design. In this type of design, participants answer questions administered through interviews or questionnaire (Hale, 2011). As such questionnaires were designed and used for the study. Questions in the questionnaire were directed to the student teachers who are in direct contact with the students during their teaching practice programme.

Sample and Sampling Techniques

The sample drawn from the population of all students' teachers is the seventy-one (71) student teachers of science and mathematics.

Instrumentation

The instrument developed for the study is Mathematics and Science Students Interest (MSSI). The instrument was constructed with likert scale options of SA-Strongly Agree, A-Agree, SD-Strongly Disagree and D-Disagree. The instrument contained twelve items in which the student teachers ticked option from the scale provided.

RESULTS

Research question One (I)

What is the perception of student teachers on students' subject preference between mathematics and science?

Table 2: Perception of students' teachers on students' preference between mathematics and science

S/N	Items	No.	Agreed Freq. %	Disagreed	Freq. %
1	Students prefer mathematics to science.	71	20 28%	51	72%
2.	Students prefer science to mathematics	71	56 79%	15	21%
3.	Students tend to listen attentively in math's class than in science class.	71	24 34%	47	66%
4.	Students tend to listen attentively in science class than in math class.	71	44 62%	27	38%

In table 2 above, a total of seventy-one (71) frequency of response were obtain, out of which twenty equivalents to 28% agreed that students prefer mathematics to science and fifty-one (51) equivalent to 72% disagreed that students prefer mathematics to science. In this regard, it can be concluded that most students prefer to study science than mathematics. In the second item, fifty-six (56) student teachers, equivalent to 79% agreed that students prefer science to mathematics. Likewise, fifteen (15) which is equivalent to 21% disagreed that students prefer mathematics to science. On paying attention in teaching mathematics and science, twenty-four (24) student teachers, equivalent to 34% agreed that students tend to listen attentively in mathematics class than in science class whereas forty-seven (47) student teachers, equivalent to 66% disagreed. Conversely, in the last item forty-four (44) student teachers, equivalent to 62% agreed while twenty-seven (27) student teachers, equivalent to 38% disagreed.

Research question Two (2)

What is the perception of student teachers on the performance of students between mathematics and science?

Table 3: Perception of students teachers on the performance of students between mathematics and sciences

S/N	Items	No.	AgreedFreq (%)	DisagreedFreq(%)
	Students perform better in maths than science.	71	30 42%	41 58%
2.	Students perform better in science than maths.	71	45 63%	26 37%

Research Field work

Table 3 above shows a total of seventy one frequency of response were observed. Thirty student teachers, equivalent to 42% agreed that students perform better in mathematics than in science but forty one student teachers which is equivalent to 58% of them disagreed that students perform better in mathematics than in science; conversely forty five student teachers. Equivalent to 63% agreed that students perform better in science than in mathematics while only twenty six of them, equivalent to 37% disagreed that students perform better in science than mathematics.

Research question three (3)

What is the perception of student teachers on students' stereotyping of their mathematics and science teachers?

Table 4: Perception of students' teachers on students stereotyping of their Mathematics and science teachers

S/N	Items	No.	AgreedFreq.	DisagreedFreq.
1	Because I am a female teacher, students do not want to learn Maths from me.	71	10 14%	61 86%
2.	Because I am a female teacher, students do not want to learn science from me.	71	23 32%	48 68%
3.	Because I am a male teacher, student do not want to learn Maths from me.	71	05 7%	66 93%

4.	Because I am a male teacher, student do not want to learn science from me.	71	01	1%	70	99%
----	--	----	----	----	----	-----

Research Field Work.

In table 4 above, ten student teachers, equivalent to 14% agreed that because a teacher is a female teacher, students do not want to learn mathematics from them while sixty-one student teachers, equivalent to 86% disagreed with such opinion that because a teacher is female students do not want to learn mathematics from them. Similarly, twenty three student teachers, equivalent to 32% agreed that because a teacher is female, students do not want to learn science from them while forty eight student teachers, equivalent to 68% disagreed that because a teacher is female, students do not want to learn science from them. However, only five student teachers. Equivalent to 7% agreed that because a teacher is male students do not want to learn mathematics from them while sixty six student teachers equivalent to 93% disagreed that a teacher is a male students do not want to learn mathematics from them. Similarly, one student teacher, equivalent to 1% agreed that because a teacher is male, students do not want to learn science from them while seventy student teachers, equivalent to 99% disagreed that because a teacher is male not want to learn science from them.

DISCUSSION

The findings of the study in research question one revealed that students prefer science to mathematics because mathematics is difficult to learn compared to science. As such in teaching both areas, student tend to listen better when they are being taught science than when it is mathematics. This result corroborated with Nyamba and Mwajombe (2012) citing Francis (2000) on subject preference of students which is referred to as the liking, interest or wants on something or as the real or imagined choice between alternatives and the possibility of rank ordering of these alternatives. In this respect, students at secondary school are confronted with mathematics and other science subject to study, whereby the former is most often considered difficult than the latter which probably informed their choices.

In research question two, the findings was found in terms of performance, which showed that students perform better in science than mathematics. This is in line with the assertion of Esuong, Udom, & Udo, (2019) who agreed that students often perceive mathematics as an abstract subject. Hence, the need to find out the preferences of students in mathematics has become necessary.

In research question three, gender was found to play a role in teaching mathematics and science, whereby regardless of teachers' gender mathematics could be learnt from the teacher.

Recommendations

- (i) Students should always be enlightened that mathematics is the queen of science which if not properly rooted in mind right from the beginning the learning of other subjects becomes difficult.
- (ii) Government should strive to provide more instructional materials that will enable teachers to enrich their instructional process so as to secure the attention and interest of the students from the beginning of the lesson through the end.
- (iii) Mathematics lesson should be brief and concise (but not long) at the early stages of the child's schooling through supervision by the school authorities at regular intervals.
- (iv) Teachers should improvise teaching aids where necessary.
- (v) Teachers should exhibit a moderate behavior during instruction so that gender stereotyping is not built up in the minds of the students.
- (vi) Most mathematics lessons should be students centered in order to attract students' interest and attention during these periods.
- (vii) Teachers should devise a means of inspiring their students the print of mathematics through their instruction.

Conclusion

The study highlights the interest of students in mathematics and science with a specific reference to subject preference, students' behaviour towards their teachers when they are teaching them, and whether or not students learn better when taught by a particular gender. The study also looks into the issue of students' performance in mathematics and science. The subjects of the study were the teaching practice students of Akwa Ibom State College of Education Afaha Nsit. Finally the study revealed that students in secondary schools in akwa ibom state prefer science to mathematics and tend to be attentive in science class than in mathematics class.

ACKNOWLEDGEMENTS

The authors wish to acknowledge the Tertiary Education Trust Fund (TETFund) for funding this scholarly research article under the Journal of Science, Education and Humanities [JOSEH] for the 2023 ARJ Intervention at Akwa Ibom State College of Education Afaha Nsit.

REFERENCES

Ekwueme, C. O (2013). *Mathematics teaching and learning in schools*. Calabar: Radiant Ventures Nig. Ltd.

- Esuong U. U & Enyekeme I. O (2022). Expository narrative of the ethno-Mathematics concepts that exists in the Efik cultural heritage: implication for the teaching and learning of Mathematics. 62nd Annual Conference of the Science Teachers Association of Nigeria (STAN) pp151-157
- Esuong. U. U., Udom U.D. & Udo. O. F. (2019). Teachers professionalism and its impact on mathematics content delivery. *Prestige Journal of Counseling Psychology*, 2(2), 245-252.
- Francis, B. (2000). The Gender Subject; Students' Preferences and Discussion of Gender and Subject Ability. *Oxford Review of Education* 29, 1,35-48 29, 1-35-48.
- Gugliotta, K. F. (2010). Gender Differences in Attitude Towards Mathematics and Science among Elementary Students: An Exploration of the role of teachers. University of Tennesseehonours Thesis Project <http://www.tracetennessee.edu.utkchanonoproj/1386>.
- Hale, J. (2011). The 3 basic types of descriptive research methods. Retrieved from <http://www.psyccentral.com.biog.archives.author/ihale/page/2/2>.
- Kurumeh, M.S., Igyu, C. O. & Mohammed, A.S. (2013). Achievement in Mathematics as a Correlate of Achievement in Science in Secondary Schools in Makucdi Local Government Area of Benue State. *Nigeria Journal of EmergingTrends in Educational Research and Policy Studies (IIFTRAPS)* 274-278. ISSN 2141-6900
- Morgan, D. W. & Krejcie, R. V. (1970). Determining Sample Size Research Activities: *Educational and psychological measurement*.
- Nyamba, S. Y. & Mulajomba. K. K. (2012). Students' Preference on Science Subjects? A Case of Waudzungwa Secondary School, Kilolo, Iringa, Tanzania.*International Journal of Science and Technology* 2, S: 556-560 ISBN: 2224-3577.
- Ofonime F. U., Esuong, U. U., & Enyekeme O. I. (2018). Goals and objectives of mathematics instructions. *The Digital Innovation & Contemporary Research in Science & Engineering Journal*,5(1) 58-70.
- Olayemi. O. O. (2009). Students' Correlates and Achievement in Mathematics as Predictors of Performance in Physical Chemistry. *Abacus Journal of MathematicalAssociation of Nigeria (MAN)*, 34, 199-105.