Learning Style and Mathematics Self-Efficay on Senior Secondary Two (SS II) Students' Interest and Achievement in Mathematics

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ABSTRACT

This study investigated the relationship between learning style and mathematics self-efficacy on senior secondary two (SS II) students' interest and achievement in mathematics. Four research questions and four hypotheses guided the study. A Correlational survey research design was adopted for the study. Senior secondary two (SS 2) students from all the 78 public secondary schools in Abakaliki education zone of Ebonyi State formed the population of this study. The sample of the study comprised 400 students (200 males and 200 females) drawn from 8 randomly sample schools from the four local government areas in the zone. Learning Styles Inventory (LSI), Mathematics Self-Efficacy Scale (MSS), Mathematics Interest Inventory (MII) and Mathematics Achievement Test (EAT) with reliability coefficients of 0.86, 0.89, and 0.80 respectively were used as instruments for data collection of this study. Pearson Product Moment Correlation Coefficient was used to answer the research questions while linear regression analysis was used to test the hypotheses at 95% confidence level. The results revealed among others that: there is a positive relationship between the students learning style and self-efficacy on their interest and achievement in mathematics. The result further revealed that there was significant relationship between the students learning style and self-efficacy and their interest and achievement in mathematics. In line with the findings of the study, it was recommended among others that mathematics teachers should prioritize tailoring classroom instruction to accommodate the individual learning styles and self-efficacy of the learners since it has been proven to have a significant positive relationship to the students' interest and achievement in mathematics.

Key Words: Students', Learning Style, Self-Efficacy, Interest, Achievement, and Mathematics

INTRODUCTION

The attainment of sustainable development especially in science and technology in Nigeria may not be achieved unless the general apathy for mathematics among students especially in secondary schools abates. This is because, Mathematics is recognized as an important subject that equips students with strategies and skills that are necessary in higher education training, career aspirations and personal fulfillment in life (Yeping & Schonfield, 2019). According to Fitriani, Zubaidah, Susilo and Al-Muhdhar (2020), mathematics is crucial in many facets of life. For instance, at school level, mathematics skills enable students to achieve success and at the societal level, it equips the students with skills required to succeed in life. Bamidele (2015) expressed that Nigeria transformation agenda cannot be sustained without mathematics. This is to say that the application of mathematics to problem areas depend on the discipline and understanding of the concepts and the principles of mathematics by the problem solver. It is not surprising therefore, that mathematics is recommended as a core subject in secondary schools across Nigeria and in indeed all over the world. This is because Mathematics is an instrument that aids the facilitation of thinking capabilities of an individual in the learning of other subjects.

Furthermore, Mathematics very essential in engineering, architecture, quantity survey, natural and biological sciences, social sciences, business, education and across all facets of human activities. Mathematics is used in various applications and forms without being noticed or directly aware whether in entertainment, office, transportation and kitchen. It also plays an important role in psychological levels of every student and it aids in

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developing an analytical mind, arrangement of ideas and coherent communication (Tajudeenalani, Lawal, Wahab & Otuekong, 2024). It was observed that most of students did not see the uses or applications of Mathematics to their lives and the world around them and why should they be troubled with the study of the subject. To this category of students, Mathematics still remains a mystery that has no place in reality (Abdalgani, 2019).

Notwithstanding the instrumentality of mathematics, students continue to perform poorly in the subject especially in summative examinations like the Senior School Certificate Examination conducted by the West African Examination Council (WAEC) and National Examination Council (NECO). For instance, the WAEC Chief Examiner report for the years 2019 – 2024 revealed that students who scored between credit and above were below 40% while those who scored below credit pass were above 60%. In support of the observations of the WAEC Chief Examiners' Report, studies by Tajudeenalani et al. (2024), Usman et al. (2023), Abamba, Efe and Esiekpe (2021), showed that students' performance in the subject is not encouraging and there is need to improve on the teaching methods; giving credence to the students' learning styles and self-efficacy.

Learning styles has been described as a consistent way of functioning that reflects the underlying causes of learning behaviour (Singh, 2011). Hermond (2014) stated that learning style is both a characteristic which indicates how a student learns and likes to learn, as well as instructional strategy informing the cognition, context and content of learning. Previous studies have reported that students 'learning performance could be improved if proper learning style dimensions could be taken into consideration when developing any learning or instructional process (Graf, Liu, & Kinshuk, 2010; Mestre). There is general acceptance that the manner in which individuals choose to or are inclined to approach a learning situation has an impact on interest and achievement of learning outcomes. Whilst- and perhaps because-learning style has been the focus of such a vast number of research and practitioner-based studies in the area, there exist a variety of definitions, theoretical propositions, models, interpretations and measures of the construct (Narayani, 2014). To some extent, this can be considered a natural consequence of extensive empirical investigation and is to be expected with any continually developing concept which proves useful in gaining understanding of such a crucial and prevailing endeavour as learning.

In the teaching-learning process, there are four core learning styles known as the VARK model which according to Gopalakrishnaa and Palanivelu (2018) they include; visual, auditory, reading and writing, and kinaesthetic. Visual learners are better able to retain information when it is presented to them in a graphic depiction, such as arrows, charts, diagrams, symbols, and more (Annne & Salome, 2018). Similar to how designers use visual hierarchy to emphasize specific design elements, visual learners thrive with clear pictures of information hierarchy (Bethel-Eke & Eremie, 2017). To make this effective in classroom interaction, when possible, teachers should encourage visual learners to have access to supplementary handouts that detail subject matter through clear visuals whenever possible (Fayombo, 2015). Additionally, teachers should allow these learners to draw pictures, diagrams, or doodles of what they are learning to reinforce retention (Almigbal, 2015).

Auditory style sometimes referred to as "aural" learners, auditory learners prefer listening to information that is presented to them vocally (Njoku & Abdulhamid, 2016). These learners work well in group settings where vocal collaboration is present and may enjoy reading aloud to themselves too (Narayami, 2014). To effectively help students to prefer this learning style, teachers when teaching, should make sure that they are addressing auditory learners directly to get them involved in the conversation; have them do things like verbally detailing a new concept they just learned, and ask them follow-up questions while giving them the time they need to respond (Gappi, 2013). In particular, prioritising group discussions, engaging videos, and audio recordings are other great ways to engage auditory learners in classroom interaction effectively (Vaishanav, 2013).

Reading and writing style focuses on the written word, reading and writing learners succeed with written information on worksheets, presentations, and other text-heavy resources (Pellon, Nome & Aran, 2013). Learners in this category are note-takers and perform strongly when they can reference written text (Sriphai, Damrongparit & Sakulku, 2011). In writing mathematics tests, performing in-depth research, reading textbooks, and more, reading, and writing learners prefer more traditional methods of subject matter delivery. However, teachers should make sure these learners have ample time to absorb written course material and give

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them every opportunity to get their ideas down on paper or a digital device to reinforce achievement and improved retention.

Kinaesthetic style of learning on the other hand is characterised by learners taking a physically active role (Gopalakrishnaa & Palanivelu, 2018). Kinaesthetic learners are hands-on and thrive when engaging all of their senses during course work (Anne & Salome, 2018). These learners tend to work well in scientific studies due to the hands-on activities (Fayombo, 2015). When possible as teachers, get kinaesthetic learners up and moving. If you are teaching algebra for instance, you can create learning games that encourage these types of learners to demonstrate understanding of expressions at different points in the lesson. Generally as a teacher, whether the students are visual, auditory, reading and writing, or kinaesthetic learners, you can implement a plethora of activities in your digital curriculum that facilitate subject matter retention, course engagement, and an enjoyable educational experience.

Utilizing awareness of learning style within the educational background promotes more effective learning and hence improves students' interest to learn and their academic achievement. As Bethel-Eke and Eremie (2017) claim, the biggest dilemma would be, how the teachers improve the achievement of the students if they do not know how they learn? How can the teachers pretend any longer that they are serious about creating a learning society if there are no satisfactory responses to the questions: what model of learning do teachers operate with and how do they use it to improve the practice and that of the students? There is a strong intuitive appeal in the idea that instructors, course designers and educational psychologists should pay closer attention to students' learning styles- by diagnosing them, by encouraging learners to reflect on them and by designing teaching and learning interventions around them (Ayotola & Adedeji, 2009). When this is done, learners will become more motivated to learn by knowing their strengths and weaknesses. In turn, instructors can respond to individuals 'strengths and weaknesses, then interest, achievement and retention rates in formal programs are likely to rise and learning to learn skills provide a foundation for lifelong learning (Rajshree, 2013).

Gopalakrishnan and Palanivelu (2016) propose that styles are at least in part socialized suggesting that they can, to some extent, be modified. Therefore, learners' knowledge of their learning style preference can help them optimally develop their meta-cognition and learning skills and abilities thus maximizing learning (Gopalakrishnan & Palanivelu, 2016). The authors believed that greater awareness of learning preferences and styles helps teachers to be more flexible in their teaching and utilize a wide range of classroom methodologies. The aim is not to match teaching style to learner preferences, but to help the learner build their skills and capacities to learn well in both preferred and less preferred modes of learning (meta-learning), thus developing effective and life-long learners who can monitor their learning strategies and evaluate their outcomes or achievement.

One's personal belief and confidence also play a fundamental role in excelling in any discipline. In education and psychology, such inclination of the mind is popularly referred to as self-efficacy, and is a distinct area of research. Bandura (1997) explored and evaluated the impact and application of self-efficacy surrounding the theoretical framework of his social cognitive theory. Bandura is of the opinion that human achievements are closely related to the interaction of one's personal behaviour, his/her immediate environment and the nature of the social setup surrounding one's personal life and the goals that he/she wishes to achieve. Liu and Koirala (2009) supported Bandura's view when they stated that self-efficacy is an inward trend among the students who are certain about their capability to gain commands over new skills and assignments of a specific discipline. The authors also have strong view about self-efficacy as a disciplining force to coordinate the different faculties of minds for achieving the determined objectives. Such type of learners enhances their efforts for a fruitful learning outcome. Ideally, there are three types of self-efficacy and they include; self-regulatory, social and academic self-efficacies (Mani & Prabu, 2019). Self-regulatory – ability to bear pressure, avoid high-risk activities. Social self-efficacy espouses that students' ability to form and maintain relationship is assertive, and engage in leisure time activities (Goulao, 2014). Academic self-efficacy projects that students' ability to do course work, regulative learning activities propels them to meeting expectancies (Naz & Majoka, 2016).

Most researchers (Mani & Prabu, 2019; Naz & Majoka, 2016; Onkundi, 2014; Alldred, 2013) believe that self-efficacy increases learner momentum and enthusiasm for learning and further increases their academic

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excellence. Other researchers like Leo and Choy (2013), Moturi (2012), Nasiriyan, Khezri-Azar, Noruzy and Dalvand (2011), had discovered in their researches that there is a direct relationship between self-efficacy and academic achievement. Accordingly, students possessing strong sense of self-efficacy have greater potential and courage to face and solve challenging problems as compared to students who are lagging behind and are lacking in confidence level to cope with such challenging task. Naturally, self-efficacy and academic achievement are reciprocal. This has been amply regarded and proved by the findings of Leo and Choy (2013), Nasiriyan et al (2011), Onyeizugbo (2010), and Fallon and Illinois (2010) who remarked that high and low academic achievement varies due to personal factors gaining force by self-efficacy. Mani & Prabu (2019), Naz and Majoka (2016), Onkundi (2014), in their researches observed clear relationship between self-efficacy and academic achievement. Mohsenpouri (2015), Thomas (2013), Olsen, LeMire and Baker (2013), and Alldred (2013) have consensus on the view that self-efficacy carries direct impact on academic achievement.

The greater value of self-efficacy can result to far-reaching changes in the behaviour of students and could have lasting influence on their future achievements irrespective of their past achievements. This reinforcing relationship was revealed by Alldred (2013). A number of other researchers like Hsuch and Yoshikawa (2007), Jensen (2009) arrived at the conclusion that self-efficacy is a determining factor for showing greater achievement; hence those who are deficient in this regard are liable to show lesser achievement. Students with a high level of self-efficacy show greater sense of participation (interest) in academic activities and they are more interested and willing to do hard work and have greater hopes for their successful future to regulate their efforts in positive direction and do the work continuously with steady tempo.

Interest and achievement of students in mathematics are dependent on the opportunities which they find for learning. It is also a known fact that mathematics cannot be restricted to a selected group of students, as it is a universal subject and every student is required to think mathematically and learn all its requirements for mental discipline and coordination of the faculty of mind (Naz & Majoka, 2016). However, the acquisition of efficacy in mathematics is not easy as the students have to encounter a number of problems for learning mathematics particularly during their secondary school years (i.e. they find it difficult to learn the subject). The basic requirement at this stage of schooling is the encouragement of students for learning the subject with interest. In this regard, the potential factors are the confidence of the students in the subject and their emotional relationship and disposition for learning mathematics with commitment and concentration. Such an emotional environment affects the students' decision in the selection of course and various pedagogical approaches and ultimately their career choices (Adeyinka, Adedeji & Olufemi, 2011). It is based on this premise that this study examined to ascertain empirically if there is relationship between students' learning style, self-efficacy and their interest and achievement in mathematics.

Research Questions

1. What is the relationship between students learning style and their interest in mathematics?

2. What is the relationship between students learning style and their achievement in mathematics?

3. What is the relationship between students' self-efficacy and their interest in mathematics?

4. What is the relationship between students' self-efficacy and their achievement in mathematics?

Hypotheses

Ho_1: There is no significant relationship between students learning style and their interest in mathematics.

Ho_2: There is no significant relationship between students learning style and their achievement in mathematics;

Ho_3: There is no significant relationship between student's' self-efficacy and their interest in mathematics;

Ho_4: There is no significant relationship between students' self-efficacy and their achievement in mathematics

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METHODOLOGY

This study employed a Correlation survey research design. According to Abonyi, Okereke, Omebe, Anugwo, and Nnachi (2022), the design enables researchers to systematically compare the relationship between two or more variables quantitatively. In particular, Quantitative method will be used to collect data from the target population (students). This is because, variables of this study which are, Learning Styles, Self-Efficacy, Interest in Mathematics, and Academic Achievement in Mathematics, are quantifiable in nature and yields numerical values (Abonyi *et al.*, 2022). The area of the study was Abakaliki Education Zone of Ebonyi State, Nigeria. Ebonyi State is located in the South East geopolitical zone of Nigeria. Population of the study comprised 15,058 students for 2024/2025 academic session; spread across 85 public secondary schools within the education zone. The sample of this study comprised four hundred (400) senior secondary two students. Learning Style Inventory, Mathematics Self-Efficacy Scale, Mathematics Interest Inventory and the Mathematics Achievement Test (MAT) of the multiple-choice objective type containing 40 items developed by the researcher from the contents of Sets, Algebraic processes, Sequence and Variations with reliability coefficients of 0.86, 0.89, and 0.80 respectively, developed by the researchers, were used for data collection. The Pearson Product Moment Correlation Coefficient was used to answer the research questions while linear regression analysis was used to test the hypotheses at 0.05 level of significance. The acceptance range for 'r' value was as follows:

≤ 0.499 = low but positive correlation

> 0.499 = high and positive correlation.

The coefficient of determination (r^2) indicated the percentage of variation in the criterion variables (interest and achievement) that was explained by the predictor variables (learning style and self-efficacy).

RESULTS

Research question 1

For this research question, The LSI scores of the students were collected and correlated with their MII scores in mathematics. The index of relationship was used to determine the nature of relationship between the students learning style and interest in mathematics. Summary of result is presented in table 1.

Table 1: Correlational matrix of students learning style scores and interest scores in mathematics

Scores	**N**	**Computed r**	**r^2**
Learning style			
	400	0.9276	0.8604
Interest			

Number of Cases = 400

As shown in Table 1, the computed 'r' between the students learning style and interest scores in mathematics was 0.9276 which falls within the range > 0.499. Thus, the computed 'r' value indicated a high positive relationship between the learning style scores and the students' interest scores in mathematics. The coefficient of determination (r^2) for the computed (r) which was 0.8604 indicated that 86.04% of the variation in students' interest scores in mathematics was explained by their learning style scores in mathematics.

Research Question 2

For this research question, The LSI scores of the students were collected and correlated with their MAT scores.

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The index of relationship was used to determine the nature of relationship between the students learning style and achievement in mathematics. Summary of result is presented in table 2.

Table 2: Correlational matrix of students learning style scores and achievement scores

Scores	**N**	**Computed r**	**r^2**
Learning style			
	400	0.4129	0.1705
Achievement			

Number of Cases = 400

As shown in Table 2, the computed 'r' between the students learning style and achievement scores in mathematics was 0.4129 which falls within the range ≤ 0.499. Thus, the computed 'r' value indicated a low but positive relationship between the learning style scores and the students' achievement scores in mathematics. The coefficient of determination (r^2) for the computed (r) which was 0.1705 indicated that 17.05% of the variation in students' achievement scores in mathematics was explained by their learning style scores in mathematics.

Research Question 3

For this research question, the mathematics self-efficacy scores of the students were collected and correlated with their interest scores in mathematic. The index of relationship was used to determine the nature of relationship between the students' self-efficacy and interest in mathematics. Summary of result is presented in table 3.

Table 3: Correlational matrix of students' self-efficacy scores and interest scores

Scores	**N**	**Computed r**	**r^2**
Self-Efficacy			
	400	0.3194	0.1020
Interest			

Number of Cases = 400

As shown in Table 3, the computed 'r' between the students' mathematics self-efficacy scores and interest scores in mathematics was 0.3194 which falls within the range ≤ 0.499. Thus, the computed 'r' value indicated a low but positive relationship between the mathematics self-efficacy scores and the students' interest scores in mathematics. The coefficient of determination (r^2) for the computed (r) which was 0.1020 indicated that 10.2% of the variation in students' interest scores in mathematics was explained by their mathematics self-efficacy scores.

Research Question 4

For this research question, the mathematics self-efficacy scores of the students were collected and correlated with their achievement scores in mathematic. The index of relationship was used to determine the nature of relationship between the students' mathematics self-efficacy and achievement in mathematics. Summary of result is presented in table 4.

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Table 4: Correlational matrix of students' self-efficacy scores and mathematics achievement scores

Scores	**N**	**Computed r**	**r^2**
Self-Efficacy			
	400	0.8877	0.7881
Achievement			

Number of Cases = 400

As shown in Table 4, the computed 'r' between the students' mathematics self-efficacy scores and achievement scores in mathematics was 0.0.8877 which falls within the range > 0.499. Thus, the computed 'r' value indicated a high positive relationship between the mathematics self-efficacy scores and the students' achievement scores in mathematics. The coefficient of determination (r^2) for the computed (r) which was 0.7881 indicated that 78.81% of the variation in students' achievement scores in mathematics was explained by their mathematics self-efficacy scores.

Ho_1: Regression analysis was employed in determining the significance of relationship between the students' learning style scores and the interest scores of the students in Mathematics. Summary of analysis is presented in table 5.

Table 5: Significance of the relationship between the students' learning style scores and the interest scores of the students in Mathematics

Computed r	**R-square**	**Adjusted R-square**	**Std. Error**	**Beta**	**t.cal.**	**Sig. t**
0.9276	0.8604	0.8600	4.40942	0.975192	49.521	0.0000

As indicated in Table 5, the calculated 't' value of 49.521 was greater than the significance of 't' value 0.0000. The researchers therefore rejected the null hypothesis and conclude that there was significant relationship between the students' learning style scores and the interest scores of the students in Mathematics

Ho_2: Regression analysis was employed in determining the significance of relationship between the students' learning style scores and the achievement scores of the students in Mathematics. Summary of analysis is presented in table 6.

Table 6: Significance of the relationship between the students' learning style scores and the achievement scores of the students in Mathematics

Computed r	**R-square**	**Adjusted R-square**	**Std. Error**	**Beta**	**t.cal.**	**Sig. t**
0.4129	0.1705	0.1685	10.44488	0.412969	9.046	0.0000

As indicated in Table 6, the calculated 't' value of 9.046 was greater than the significance of 't' value 0.0000. The researcher therefore, rejected the null hypothesis and conclude that there was significant relationship between the students' learning style scores and the interest scores of the students in Mathematics.

Ho_3: Regression analysis was employed in determining the significance of relationship between the students' self-efficacy scores and the interest scores of the students in Mathematics. Summary of analysis is presented in table 7.

Table 7: Significance of the relationship between the students' self-efficacy scores and the interest scores of the students in Mathematics

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Computed r	R-square	Adjusted R-square	Std. Error	Beta	t.cal.	Sig. t
0.3194	0.1020	0.09976	11.18211	0.319401	6.724	0.0000

As indicated in Table 7, the calculated 't' value of 9.046 was greater than the significance of 't' value 0.0000. The researcher therefore, rejected the null hypothesis and concludes that there was significant relationship between the students' self-efficacy scores and the interest scores of the students in Mathematics

Ho_4: Regression analysis was employed in determining the significance of relationship between the students' self-efficacy scores and the achievement scores of the students in Mathematics. Summary of analysis is presented in table 8.

Table 8: Significance of the relationship between the students' self-efficacy scores and the achievement scores of the students in Mathematics

Computed r	R-square	Adjusted R-square	Std. Error	Beta	t.cal.	Sig. t
0.8877	0.7881	0.78752	5.27987	0.887722	38.468	0.0000

As indicated in Table 8, the calculated 't' value of 38.468 was greater than the significance of 't' value 0.0000. The researcher therefore, rejected the null hypothesis and concludes that there was significant relationship between the students' self-efficacy scores and the achievement scores of the students in Mathematics.

DISCUSSIONS

Result of analysis on table 1 showed that there is a high positive relationship between the students' learning style and their interest in mathematics. This is further reinforced in table 5 which showed that the relationship between the students' learning style and their interest in mathematics was statistically significant. The result is in line with that of Sriphai *et al.* (2011) who examined the relationship of learning style and academic achievement among secondary school in mathematics and found a high positive relationship between the duo. This is further validated by Vaishnar (2013) who examined the relationship between learning style and secondary school students' academic performance with the result showing a positive and significant relationship. However, a study by Munir *et al* (2018) which examined the relationship of learning styles and academic performance of secondary school students found no significant relationship between them. Although Gopalakrishran and Palanivelu (2018) study which investigated the effectiveness of learning style and academic achievement among secondary school students reported a high positive relationship between learning style and achievement of the students in mathematics. Thus, substantiating that learning style is capable of enhancing students' interest in mathematics.

Result of analysis on table 2 showed that there is a low but positive relationship between the students' learning style and their achievement in mathematics. This is further reinforced in table 6 which showed that the relationship between the students' learning style and their achievement in mathematics was statistically significant. The result aligns with that of Sriphai *et al.* (2011) who examined the relationship of learning style and academic achievement among secondary school in mathematics and found a high positive relationship between the duo. This is further validated by Vaishnar (2013) who examined the relationship between learning style and secondary school students' academic performance with the result showing a positive and significant relationship. However, a study by Munir *et al* (2018) which examined the relationship of learning styles and academic performance of secondary school students found no significant relationship between them. Although Gopalakrishran and Palanivelu (2018) study which investigated the effectiveness of learning style and academic achievement among secondary school students reported a high positive relationship between learning style and achievement of the students in mathematics. Thus, substantiating that learning styles such as; kinaesthetic, visual and audio-visual adopted by the students improves their academic achievement in mathematics.

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Result of analysis on table 3 showed that there is a low but positive relationship between the students' self-efficacy and their interest in mathematics. This is equally reinforced in table 7 which showed that the relationship between the students' self-efficacy and their interest in mathematics was statistically significant. The result is in tandem with that of Goulao (2014) and Okundi (2014) who examined the relationship between students' self-efficacy and academic achievement and reported a positive significant relationship. Similarly, the result aligns with that of Naz and Majoka (2016) who examined the relationship between students' self-efficacy and academic achievement in mathematics with a significant positive result. Thus, justifying that improved self-efficacy is capable of arousing students' interest in mathematics.

Result of analysis on table 4 revealed that there is a high positive relationship between the students' self-efficacy and their achievement in mathematics. This is equally reinforced in table 8 which indicated that the relationship between the students' self-efficacy and their achievement in mathematics was statistically significant. The result is in tandem with that of Goulao (2014) and Okundi (2014) who examined the relationship between students' self-efficacy and academic achievement and reported a positive significant relationship. Similarly, the result aligns with that of Naz and Majoka (2016) who examined the relationship between students' self-efficacy and academic achievement in mathematics with a significant positive result. Thus, justifying that improved self-efficacy advances students' academic achievement in mathematics.

CONCLUSIONS

The students learning style had a high and low positive relationship on their interest and achievement scores in mathematics respectively and was statistically significant. Equally, the student's self-efficacy had a low and high positive relationship on their interest and achievement scores in mathematics respectively and was statistically significant.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations were made:

1. The learning style and self-efficacy of the students should be given serious attention by the teachers because of their proven positive relationship with their interest and achievement in mathematics.

2. The Federal Ministry of Education should ensure that only professionally trained and qualified teachers are recruited to teach mathematics especially at the basic level.

3. Secondary school administrators and guidance and councilors should give priority to the learning style and self-efficacy of the students in making decisions regarding teaching-learning activities.

4. Mathematics teachers should improve on their instructional behaviour to ensure proper identification of the students' learning style and self-efficacy potential in instructional practice in order to enhance students' interest and improve their achievement in mathematics.

5. Countries across the world should at intervals access the influence of learning style and self-efficacy of the students on their interest and achievement in mathematics.

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1. Developed the content of the study
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4. Contributed in the review and editing
5. Contributed in content development
6. Contributed in Content Reviewed

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There was no conflict of interest among the researchers

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