

Learning Styles and Attitude as Correlates of Academic Achievement Among Public Secondary School Students in Benin City, Edo State Nigeria

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Abstract

This study investigated the relationship between learning styles, students' attitude and the academic achievement of public secondary school students in Benin City. The study was guided by two hypotheses tested at 0.05 level of significance. A survey research design using correlation approach was employed. The sample of the study was 741 students drawn from six public senior secondary schools using the multi-stage sample technique. The instruments for data collection was Adolescent Personal Learning Styles Inventory (APLSI) and Students' Attitude of Learning Scale (SALS) which was validated by three experts in the Department of Educational Evaluation and Counselling Psychology University of Benin. The reliability coefficient of 0.82 and 0.72 was obtained for the instruments respectively. Also, students second term results in English language for the 2023/2024 academic session was used to determine their academic achievement. Hypothesis 1 was tested with Analysis of Variance ANOVA Statistics while hypotheses 2 was tested with Pearson Product Moment Correlation Statistics. The finding of the study revealed that learning styles is a predictor of students' academic achievement in Benin City. Student attitude significantly correlated with academic achievement. Based on the findings of this study, it was recommended that counsellors and teachers should lay emphasis on learning styles that will best help students in their academic journey. Students are to be encouraged to develop positive attitude towards learning of any subject. This will help them learn better and achieve academically.

Keywords: Learning style, student attitude, and academic achievement.

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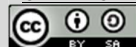
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INTRODUCTION

Academic achievement refers to the extent to which a student has attained educational goals, learning outcomes or standards set by a school or educational institution. It reflects how well a learner performs an academic activity through test, examinations, continuous assessment and overall school performance. Academic achievement according to Adeyemi and Okotie (2023) is the sum total of the outputs from the individual inputs mediated through certain structural operations. It is a multidimensional element of how an individual can be described in broad or general terms. Muhammad and Asma'u (2016) opined that academic achievements is the extent to which students cope with their studies about the stipulated aim and objectives of the school. It reflects the student's ability to communicate the knowledge they have acquired within given period. Psychologist, counselors, teachers and over educationists are becoming, more concerned with the academic achievement of students in various subject areas and the factors responsible for such performance.

Records of the West African Examination Council (WAEC) a major examination body in the West African sub-region showed that students performance in the examination has not improve over the years as the percentage of those who passed the examination at credit level

and above was relatively low. According to WAEC, students' results from the year 2020 to 2025 indicated that students' academic performance is not stable. For instance in 2020 WASSCE recorded a pass rate of 65.24% of candidates who obtain five credits including English Language and mathematics, in 2021 there was a significant improvement with a pass rate of 81.70%, but in 2022 there is a sharp decline in performance students' performance was reported to be 75.36% indicating a drop of over 5%, in 2023 there was a recovery in performance as the pass rose to 79.81%, in 2024 performance dropped to 72.12% and in 2025 that is a drastic decline in performance with student with students pass rate reported as 38.32% but was later adjusted to 62.96%. The analysis shows that students' performance in WASSCE between 2020 and 2025 is inconsistent, fluctuating and poor. However, commendable students' academic achievement could depend on some psychological factors such as learning styles, and student attitude towards learning which is the focus of this study.

Learning style refers to the various ways individuals prefer to absorb, process, and retain information (Reid, 2024). It is a concept widely studied in psychology, education, and instructional design, as understanding learning preferences can enhance teaching strategies and improve educational outcomes. Although there is ongoing debate about the effectiveness and validity of categorizing learners by style, the concept of learning styles continues to be influential in many educational settings. Recognizing and adapting to individual learning preferences can lead to more engaging and effective instruction, thereby fostering deeper understanding and retention of knowledge. Learning depends upon many personal factors and everyone has a distinct learning style. Learning style according to Osarunmwense and Oteze (2020), is a biologically and developmentally determined set of personal characteristics that make the identical instruction effective for some students and ineffective for others.

In the teaching and learning process it has been observed that there are different learning styles and these include visual (spatial) learners which prefers the use of pictures, images, diagrams, colours and mind maps to learn; kinesthetic (tackle/physical) learners that use their body to assist their learning in drawing, physical objects and touching; auditory (aural) learners, learners prefer using sound, rhythms, rhymes, music and songs while learning; verbal (linguistics) learners are individuals who prefer to learn using words in speech, writing and listening to others under learning conditions. Considering the different learning styles available and their special attributes, there is therefore the need for the individual learner to understand these different learning styles so as to be conscious of what will help him to learn better and apply the learning style that yields better results or academic outcome.

Another variable that can influence students' academic achievement is the attitude of students towards learning. It refers to active state of readiness which makes an individual react to a particular issue or situation. Taghap et al (2024) refers to attitude as a common multidimensional construct consisting of cognitive, affective and behavioral components which shapes how individuals respond to tasks. It is learned predisposition that influences how individuals think, feel and act towards a given task. Academic attitude refers to a student's overall disposition, beliefs, feelings and behavioral tendencies towards academic activities such as studying, attending classes, completing assignments and engaging in learning tasks (Eccles et al, (2022). Attitude could influence students' learning outcome, motivation and engagement. Academic attitude is that learned tendency to evaluate object, idea or activity either positively or negatively expressed through beliefs, emotions and behavioral intentions within the teaching and the learning process (Choi & Choi, 2024). Student's academic attitude is the predisposition of a learner towards approaching challenges or tasks in the learning process. There are learners who believe that serious efforts should be put into learning, while there are some who do not believe in putting serious efforts into learning. The genuine interest

of a student to learning could help him understand subject matters in-depth with moderate efforts. Joyful (2014) opined that the can-do attitude of positive thinking is needed in learning.

The concept of learning styles is connected to Howard Gardner's theory of Multiple Intelligence (1983), which expands the idea of learning preferences beyond sensory modalities to include cognitive strengths. Gardner proposed that individuals have distinct intelligences, such as linguistic, logical-mathematical, spatial, musical, bodily-kinesthetic, interpersonal, intrapersonal, and naturalistic intelligence. This theory suggests that people learn in different ways based on their dominant intelligence, and educational strategies should be tailored to leverage these strengths.

Several theories help explain how attitude are formed, maintained and changed and how actions suggest that behavior is determined by behavioral intentions, which is influenced by attitude towards behavior and subjective norms. Similarly, the planned behavior theory by Ajzen (1985) explained that behavior is influenced by attitude, social influence and perceived control. The cognitive dissonance theory by Festinger (1957) talks about consistency between attitude and behavior. He explained that inconsistency creates discomfort and individuals must adjust attitude or behavior to reduce tension. Students who dislike study but want good grades may have to change his attitude. Attitude is influenced by complex interactions of personal, social, cognitive, environmental and emotional factors. Students who experience enjoyment and interest in a subject tends to develop positive attitude, while those who experience anxiety may develop negative attitude (Taghap et al. (2024) and Akujieze (2024). In his summation, Karjanto et al. (2022) believe that a positive attitude most times leads to successful learning and a negative attitude on the other hand can result to failure.

Park and Le (2019) conducted a study titled the impact of learning style adaptability on academic outcome among undergraduate student in South Korea. In a longitudinal study for four years with sample drawn from various academic disciplines. The finding revealed that students who adapted their learning styles based on course requirements achieved higher academic performance than those who consistently used one style. Osarunmwense and Oteze (2020) conducted a study on the influence of learning styles on students' mathematics achievement among secondary school students in Edo State with a sample size of 280 students. Findings indicated high correlation between learning styles and their mathematic achievement.

Ahmad et al. (2020) in a descriptive study titled the influence of learning styles on academic performance among high school students in Malaysia. Students were categorized based on the VAK model, which classifies learning styles into visual, auditory, reading/writing and kinesthetic. Findings of the study indicated that students who preferred verbal learning style had higher academic performance than those who favoured learning style. Ariastuti et al. (2022) study titled exploration of academic performance and learning style among undergraduate students in English Education Program. Using a descriptive research design with a sample size of 39 Teknokrat Indonesia students investigated the relationship between learning styles and academic performance. The resources revealed a significant correlation between learning styles and students' academic performance. The study revealed that a significant proportion of students preferred kinesthetic learning and that it relates positively to academic achievement. Liu & Liu (2023) used the Felder-Soloman index of Learning Styles questionnaire to access students' learning Style. The study was conducted among 411 undergraduate medical students in China. The study concluded a significant relationship between learning style and academic achievement of students.

Taghap et al (2024) investigated students' attitude towards science subjects and their academic performance in a survey among junior high school students in Ateno dezammboarga.

The finding of the study indicated that students with positive attitude towards science subjects performed significantly better than those with negative attitudes. Sawiji et al (2024) in a correlational research design examined the relationship between attitude and academic achievements of secondary school students in Indonesia with a sample size of 250 respondents. The findings of the study indicated that students' attitude significantly influence academic achievements. Similarly, Choi and Choi (2024) in a study titled the influence and relationship between computational thinking, learning motivation, aptitude, attitude and academic achievements among primary school students. Using a sample size of 20 participants in an experimental research concluded that there is a strong positive relationship between students' attitudes towards programming and their academic achievements.

Acheampong and Karikari (2024) in a survey research examined students' attitude and perception towards teaching and learning methods among students of colleges of education in Ghana. The findings of the study revealed that aptitude significantly influences students' academic achievements. However, some studies presented mixed feelings regarding the strength and relationship of aptitude, attitude and other psychological variables in predicting academic achievements. Selamat et al. (2025) examined secondary school students' attitude and motivation towards mathematics and found that although students exhibit positive attitude in learning but did not significantly influence their academic performance.

In a situation where the academic achievement of students are inconsistent, fluctuating and poor, the students that are turned out of school may not be able to contribute to the society economically, politically and technologically. It therefore means that such societies will continuously suffer intellectual poverty, technological setbacks, political disorganization and some other problems. Could the knowledge of learning styles help the students in their academic achievement? Could positive attitude towards learning help students in their academic journey? To be able to address these issues, it becomes pertinent to examine the relationship between learning styles, students' attitude and students' academic achievement.

Statement of the Problem

It has been observed with dismay that the academic achievement of students in external examinations like the Senior Secondary Schools Certificate Examination (SSSCE) has not improved significantly in recent years. A number of input variables that can simply be classed as students, teachers, school and government related factors have been attributed to this ugly trend and stakeholders want this problem addressed in their interest. Some students do not perform well both in the internal and external examination either because they do not understand the learning style that is most rewarding to them or do not believe in study thoroughly. Attitude of students towards the learning materials in the teaching and learning process is of importance. Some students do not have learning style that is best for them, also, some students do not have the positive attitude that will help them in their academic journey, hence the need for this study. Although numerous studies have explored learning styles and student attitudes independently (Alutu et al. (2016), Sawiji et al. (2024)) limited research has examined their combined influence on academic achievement, particularly among secondary school students in Benin City. However, students' poor academic achievements have become a serious concern to parents, teachers, counselors and the government because of the serious implications it has on the student as individuals, their families and the larger society.

The problem of this study therefore was to find out whether learning styles and student attitude of senior secondary school students relate with their academic achievement. In other words, could there be a relationship between learning styles, attitude and academic achievement among senior secondary school students.

Purpose of the Study

The purpose of this study was to examine the relationship between learning styles, attitude and academic achievement of senior secondary school students in Benin City.

Hypotheses

The following hypotheses were tested in this study at 0.05 level of significant:

HO₁: There is no significant relationship between learning style and academic achievement of senior secondary school students in Benin City.

HO₂: There is no significant relationship between attitude and academic achievement of senior secondary school students in Benin City.

METHODOLOGY

The design for this study was a correlational design. This design is preferred because it helps to examine and describe the nature of relationship among these variables: learning styles and attitudes as they relates to academic achievement. The population of this study was all the 6,882 Senior Secondary Schools Students (SS 2) in public schools in Oredo and Egor Local Government Areas of Edo State. The total number of the public secondary schools in Oredo is 13, while that of Egor is 12 (Ministry of Education, Benin City, 2025). The researcher adopted the Taro Yamane (1967) formula for determining the sample size for this study. The sample size selected for this study was 741 students out the 6,882 SS2 students in the Local Government Areas namely Oredo and Egor government Areas of Edo State. The multistage sampling technique was employed in selecting the sample. In the first stage, 3 senior secondary schools were purposively selected from each of the two Local government. In the second stage, one mixed senior secondary school was purposively selected from each of the two Local Government Areas. One single sex Education Senior Secondary School for boys was purposively selected from each of the two Local Government Areas. One Single sex Education Senior Secondary School for girls was purposively selected from each of the two Local Government Areas. In the third stage, three schools of A, B, C were purposively selected in Oredo Local Government Area, where 124 students were randomly selected from school A (14% of 885 SS 2 students were randomly selected - single sex education for girls), 124 students were randomly selected from school B (26% of 480 SS 2 students were randomly selected single sex education for boys), and 123 students were randomly selected from school C (31.5% of 392 SS 2 students were randomly selected - mixed senior secondary school). In Egor Local Government Area, three Senior Secondary Schools of D, E and F were purposively selected. One hundred and twenty-four students were randomly selected from school D (55% of 225 SS 2 students were randomly selected- single sex education for boys), 123 students were randomly selected from school E (78% of 158 SS 2 students were randomly selected single sex education school for girls), and 123 students were randomly selected from school F (41% of 300 SS 2 students were randomly selected - mixed senior secondary school). The instruments for this study were Adolescent Personal Learning Styles Inventory (APLSI) adapted from Dunn (2001) and Student Attitude to Learning Scale (SALS) adopted from Miller (2010) and their second term results for English language. The learning styles inventory was a questionnaire which had 35 items in a four point Likert rating scale format. The Student Attitude to Learning Scale consists of 15 items related to student attitude towards learning. The questionnaire was in sections. Section A consisted of items relating to learning styles. Section B consisted of items related to students attitude to learning. Their Second term results of English Language

were used to determine their academic achievement (2023/2024 academic session). The subject English Language, was used because it is a compulsory subject for all students. The instrument was validated by three experts from the Department of Educational Evaluation and Counselling Psychology, Faculty of Education, University of Benin. These experts made their comments and suggestions on the instruments bearing in mind the significance of each of the items to the hypotheses tested. Their comments, suggestions and corrections were carefully incorporated where appropriate. In order to establish the reliability of the instruments, the researcher administered 20 copies of the instruments: Adolescent Personal Learning Styles Inventory (APLSI) to some secondary school students who were in schools in Ikpoba-Okha Local Government. The reliability of the instruments was established using the Cronbach's alpha statistics. The instrument, Adolescent Personal learning styles inventory yielded reliability coefficients of 0.82, while the instrument of Student Attitude of Learning Scale yielded a coefficient of 0.72. Analysis of Variance ANOVA statistics was used to test hypothesis 1, while Pearson Product Moment Correlation statistics was used to test hypotheses 2. All hypotheses were tested at 0.05 level of significance.

RESULTS

Hypothesis 1: Learning styles do not significantly predict academic achievement of senior secondary school students in Benin City.

Table1: ANOVA Table showing Linear Regression between learning styles and Academic Achievement

Model	Sum of Squares	DF	Mean Squares	F	Sig
Regression	3114.412	7	444.916		
Residual	106104.800	733	144.754	3.074	.003
Total	109219.211	740			

a. Dependent Variable: Academic Achievement

b. Predictors: (Constant), Learning-style

The regression analysis in Table 1 examined whether learning style significantly predicts the academic achievement of public secondary school students in Benin. The ANOVA result indicates that the model is statistically significant, F-value 3.074, p-value .003 < 0.05 meaning that learning style significantly predict academic achievement of secondary school students in Benin City. Since the p-value (0.003) is less than 0.05, the null hypothesis which state that learning style does not significantly predict academic achievement is hereby rejected. Therefore, learning style significantly predicts academic achievement of public senior secondary school students in Benin City.

Hypothesis 2: There is no significant relationship between student attitude and academic achievement of public secondary school students in Benin City.

Table 2: Pearson Correlation of Students Learning Attitude and Academic Achievement

Variables	N	R	Sig. (2-tailed)
Student Learning Attitude	741	.168	.000
Academic Achievement			

$\alpha = .05$

The result in table 2 shows the correlation coefficient between students learning attitude and academic achievement was $r = 0.168$ with a p-value of 0.000. The correlation coefficient indicates a positive relationship between student learning attitude and academic achievement. However, the p-value 0.000 is less than the significant level ($\alpha = 0.05$) indicating that the

relationship is statistically significant. The null hypothesis stating that there is no significant relationship between students learning attitude and academic achievement is therefore rejected.

Discussion of Findings

The findings from hypothesis one revealed that learning style is a significant predictor of academic achievement of public senior secondary school students' in Benin City. This result could be as a result of the fact that learning style has the ability to influence how students process and retain information, impacting understanding and recall. The findings of this study is in line with the findings of Osarumwense and Oteze (2020) who found learning style highly correlated with students' academic achievement. Learning strategies adopted by students play a critical role in influence academic success. Students who embraced multimodal using style have greater flexibility and inclusivity of learning which ensure high opportunity of success in academic. Also the finding of this study is consistent with Ariastuti and Wahyudin (2022) that shows a significant correlation between students learning styles and their academic performance, suggesting that understanding and aligning of learning styles could potentially enhance students' academic achievement.

The findings from hypothesis two revealed that there is a positive correlation between students learning attitudes and academic achievement of senior secondary school students in Benin city. Students' attitude towards learning can influence their academic achievement. An important aspect of a students learning is the value he sees in what he has to learn. Students with positive attitudes are confident, happy and sincere with themselves and are determined to succeed. The findings of this study is in line with the findings of Karjanto et al. (2022) and Sawiji et al. (2024) who concluded that student's attitude is significant to academic achievement. Attitude is a learned tendency and manner of evaluating issues, objects and events. If the evaluation in a learning situation is positive, it can lead to high achievement, but if negative, a low academic achievement could occur.

CONCLUSION

The researchers concluded that learning styles correlate significantly with academic achievement of senior secondary school students' in Benin City. Also attitude of students significantly correlates with academic achievement of senior secondary school students in Benin. Although some researchers deny there is a statistically significant correlation between learning styles and learning attitude and academic achievement, many of these researchers acknowledge that there is likely an educational benefit for the learners using their preferred learning style(s) and having a positive attitude in their learning.

RECOMMENDATIONS

Based on the findings of this study, the researchers recommended that;

1. Student are to be encouraged to develop positive attitude towards learning of any subject. This will help them learn better and achieve academically.
2. Counsellors should help students with interventions that will help students' imbibed positive attitude towards learning.

IMPLICATION FOR COUNSELLING

The outcome of this study implies that there is need for counsellors and teachers to lay more emphasis on the learning style(s) and positive attitude that will best help students in their academic achievement. Counsellors in the various senior secondary schools should lay emphasis on the importance of learning styles and strategies that will help students imbibed positive attitude in their learning.

REFERENCES

- Acheampong, K., & Karikari, J. (2024). Students attitudes and perceptions toward teaching and learning methods on academic performance. *International Journal of Research and Innovation in Social Science*, 8(9), 2700-2713.
- Akujieze, M.O. (2024). Research attitude, self-efficacy, and achievement motivation among postgraduate student. *Edukasian Jurnal Inovasi Pendidikan*, 3(4), 421-433.
- Alutu, A. N. G. & Osa-Edo, G.O. (2016). Improving the reading culture of learners in primary and secondary schools: *The counsellor's perspective*. Ambik Press.
- Ariastuti, M. D., & Wahyudin, A. Y. (2022). Exploring academic performance and learning style of undergraduate students in English education programme. *Journal of English Language Teaching and Learning*, 3(1), 67–73.
- Ajzen, I. (1985). *The Theory of Planned Behavior*. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- Choi, W. C., & Choi, I. C. (2024). The influence of computational thinking, motivation and attitude on programming achievement. *arXiv*.
- Eccles, J. S., Wigfield, A., & Rosenzweig, E.Q. (2022). Achievement motivation. In R. M. Ryan (Ed.), *The Oxford handbook of human motivation* (2nd ed., pp. 203-224). Oxford University Press.
- Festinger, L. (1957). *A Theory of Cognitive Dissonance*. Stanford, CA: Stanford University Press.
- Gardner, H. (2003). *Multiple intelligences theory*. Distance Learning Technology Resource Guide.
- Joyful, J. (2014). *Learning attitude in home life science, education, and study*.
- Karjanto, N., & Acelajado, M. J. (2022). Students' attitudes toward mathematics in a flipped classroom. *Sustainability*, 14(19), 12500.
- Liu, H.-P., & Liu, Y.-H. (2023). Learning styles of medical students and their implications for teaching in China. *BMC Medical Education*, 23, Article 222.
- Muhammad, W. H., & Asmau, M. B. (2014). Emotional intelligence, self-concept, and academic performance of senior secondary school students in Sokoto metropolis. *The Counsellor*, 33(2), 19–29.
- Osarunmwense, J. H., & Oteze, I. K. (2020). Influence of learning strategies on students' mathematics achievement in relation to school factors. *NIU Journal of Social Sciences*, 6(1), 351–356.
- Park, J., & Lee, K. (2019). Learning styles and students' learning preferences in educational settings. *Journal of Educational Studies*, 2(3), 94–102.
- Reid, J. M. (2024). *Learning styles in the ESL/EFL classroom*. Heinle & Heinle.
- Taghap, R., & Addani, S. S. M. (2024). Learners' attitude and academic success toward science. *Journal of Education, Culture and Society*, 15(2), 511-532.