

Learning Styles, Study Habits and Academic Adjustment of Students in Rivers East Senatorial District of Rivers State

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Abstract: *The study investigated the relationship between learning styles, study habits and academic adjustment among public senior secondary school students in Rivers East Senatorial District of Rivers State. Correlational research design was adopted in the study. Five research questions and five corresponding null hypotheses guided the study. The study population comprised all the 18,669 male and female senior secondary two (SS2) students in public schools in Rivers East Senatorial District. The study sample comprises 630 senior secondary two (SS2) students in public schools in the Rivers East Senatorial District. Taro Yamane's formula was used to get the sample size of 392. However, the researcher intentionally increased the number by 238 to obtain a sample size of 630 SS 2 students, facilitating the generation of more findings. Simple random sampling technique was used for the study. The instrument for data collection for this study was a researcher-developed questionnaire titled "Learning Styles, Study Habits and Academic Adjustment Scale (LSSHAAS)". The instrument was subjected to face and content validities by three experts one from the Measurement and Evaluation. A test-retest technique was used to determine the reliability of the study. Pearson Product Moment Correlation was used to answer all the research questions and to test the corresponding null hypotheses. The result of the study revealed that visual learning styles, auditory learning style, kinesthetic learning style, note-taking, and regular class attendance significantly related to academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State. Based on the results, the study recommended among others that schools should encourage teachers to moderately integrate visual instructional materials such as charts, diagrams, illustrations, and multimedia presentations into lessons in order to strengthen students' academic adjustment, since visual learning has shown a positive influence, though at a low level.*

Keywords— academic adjustment; learning styles; study habits

1. INTRODUCTION

Education plays a central role in shaping individuals and society because it provides the intellectual foundation through which people develop a sound mind, cultivate good morals, and acquire the practical skills necessary for meaningful living and survival. Education exposes learners to knowledge, critical thinking, discipline, and ethical values that guide behaviour and decision-making in both personal and social life. Education remains the most reliable pathway for societal transformation because it fosters scientific inquiry, technological advancement, economic productivity, cultural preservation, and aesthetic appreciation within a society [1].

For secondary school students, academic adjustment is crucial because adolescence is a transitional stage characterized by identity formation, peer influence, and growing academic challenges. The stage-environment fit theory posits that when the educational environment does not meet adolescents' developmental needs for autonomy, competence, and social belonging, students may struggle with disengagement and reduced achievement. Conversely, successful academic adjustment enables students to cope with academic stress, sustain resilience, and enhance their scholastic and psychological well-being [2]. Students who adjust well are more likely to develop a positive academic identity, maintain motivation, and build lifelong learning skills essential for future educational and career opportunities.

Among critical psychological and behavioural variables that influence academic adjustment are learning styles and study habits. Learning styles refer to the individual's preferred ways of perceiving, processing, and retaining information during. Learning styles shape *how* students perceive, process and store classroom information; because academic adjustment depends on successful engagement with the school environment (study routines, classroom participation, coping with workload and assessments), a student's preferred learning mode has direct consequences for adjustment. Nigerian empirical work consistently shows that learners arrive with distinctive modal preferences (e.g., visual, auditory, kinesthetic) and that these preferences are meaningfully related to classroom outcomes.

For example, [3] found that science-education undergraduates at the University of Calabar typically favoured visual and auditory modes and that learning-style preference correlated positively with academic performance; the authors recommended teachers vary methods so students can process information in their preferred ways. Similarly, a large survey of senior secondary students in North-Central Nigeria reported the presence of visual, auditory and kinesthetic profiles and concluded that these styles significantly influenced achievement measures [4]. Those findings support a simple mechanistic chain: when instruction maps poorly to a student's preferred input channel (for instance, lecturing to a strongly kinesthetic learner), the student spends extra mental energy

decoding lessons, which undermines engagement, increases stress, disrupts time-management routines and produces poorer academic adjustment overall (e.g., reduced class participation, lower assignment completion, and erratic attendance).

Three components frequently used in both research and practice are visual, auditory, and kinesthetic, and these styles offer a clear lens to see how learning styles influence adjustment in secondary schools. Visual learners prefer diagrams, charts, timelines and written organizers; when teachers supply structured visual supports (worked examples, concept maps, slide summaries), visual learners can organize their study time more efficiently, experience fewer comprehension bottlenecks, and show better homework completion and exam readiness. Reference [4] found strong visual preferences in many cohorts and reported that visual strategies (audio-visual materials, charts) were associated with higher scores and recommendations for pedagogy evidence that visual fit supports smoother adjustment.

Auditory learners favour lectures, verbal explanations, discussion and recitation; when classroom instruction emphasizes clear oral signalling (summaries, question-and-answer, peer discussion), auditory learners show greater class participation, faster recovery from misunderstandings, and greater help-seeking behaviour that reduces isolation and boosts the socio-academic fit [5]. Secondary-school data also indicate that auditory and verbal modes contribute to achievement in language subjects, a direct lever to improved adjustment. *Kinesthetic learners* learn through doing, such as labs, role-play, modelling, and hands-on practice. When schools provide practical tasks and movement-based learning, those learners experience mastery sooner, report less test anxiety, and sustain motivation factors that protect against disengagement and dropout. Reference [6] report strong kinesthetic preferences among cohorts; where instruction is adaptable to kinesthetic modes, students move from passive receipt to active competence, a shift that strengthens time-management, assignment completion and perceived academic self-efficacy, which are all central to academic adjustment.

Study habits, on the other hand, encompass the systematic strategies and practices students employ in studying, such as time management, note-taking, concentration, regular class attendance, and effective use of library resources [7]. Good study habits have consistently been linked to higher academic achievement, persistence, and resilience in academic tasks. Poor study habits, however, are often associated with procrastination, anxiety, and maladjustment in academic settings. Good study habits form the behavioural backbone of academic adjustment because they translate classroom experiences into durable learning, predictable routines, and measurable progress. Reference [8] found a consistent, moderate positive relationship between general study habits and subject achievement (e.g., mathematics): students who report regular study routines, planned homework, and structured review practices show higher scores and better school adaptation.

Note-taking, class attendance and library use each contribute in specific but interacting ways. Effective note-taking converts ephemeral classroom talk into organized, retrievable material for review; it therefore strengthens encoding, supports meta-cognitive monitoring (students see what they don't understand), and makes revision more efficient, all of which translate to higher confidence and steadier assignment completion. A recent study of senior secondary pupils in Ibadan found that note-taking techniques significantly predict academic performance (even if, in that sample, time management had the largest relative effect), showing that better note strategies improve learning outcomes and by implication ease academic adjustment [9].

Regular class attendance is the platform on which those note-taking benefits are built: attendance exposes students to instruction, formative feedback, and social cues (teacher prompts, peer questions) that reduce misunderstanding and keep students socially connected to the school, which are factors that [10] links to both achievement and adjustment. Absenteeism severs these pathways: students who miss lessons lose the scaffolding that supports incremental mastery, fall behind in routines (homework, assessments), experience a decline in academic self-concept, and report higher stress about catching up, and these are classic routes to maladjustment. Effective library use also fosters independent learning skills (research, synthesis, source evaluation) and supports deeper engagement with subject matter. Where libraries are accessible and stocked, students can broaden reading, prepare richer assignments, and practice self-directed study [11].

1.1 Statement of the Problem

From observation, many public senior secondary school students struggle to cope with the ever-increasing academic demands of the school system. It is common to find students unable to sustain consistent study routines, poorly motivated to engage with their subjects, and often overwhelmed by stress related to tests, examinations, and classroom participation. In classrooms, some students appear inattentive and disengaged, while others show signs of frustration and anxiety, suggesting poor adjustment to the academic environment. This raises the critical question of what underlying factors contribute to these adjustment difficulties.

One recurring observation is the variation in how students process and engage with learning. Some learners prefer visual aids such as charts and diagrams, others assimilate better through listening, while some require hands-on experiences to grasp concepts. In addition, study habits such as note-taking, regular class attendance, and effective use of library resources appear to be declining among secondary school students. Many students hardly take comprehensive notes during lessons, some skip classes frequently, while others underutilize library facilities even when available.

Given these realities, it becomes imperative to examine how learning styles and study habits jointly predict the academic adjustment of senior secondary school students in Rivers East Senatorial District. Without a deeper understanding of this relationship, interventions by teachers, school administrators, and guidance counsellors may continue to be generic and ineffective. The researcher's observations underscore the urgency of empirically investigating this problem, as it holds serious implications for students' academic survival, psychological well-being, and long-term educational aspirations.

1.2 Hypotheses

- 1) There is no significant relationship between visual learning styles and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State
- 2) There is no significant relationship between auditory learning style and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State
- 3) There is no significant relationship between kinesthetic learning style and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State
- 4) There is no significant the relationship between note-taking and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State
- 5) There is no significant the relationship between regular class attendance and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State

2. METHODOLOGY

This study adopted the correlational research design. The study population comprised all the 18,669 male and female secondary school two (SS2) students from 58 schools in the eight (8) local government area of Rivers East Senatorial District. The sample of the study consisted of 630 senior secondary two (SS2). Taro Yamane's formula was used to get the sample. Simple random sampling technique was used for the study. The instrument for data collection for this study was a researcher-developed questionnaire titled "Learning Styles, Study Habits and Academic Adjustment Scale (LSSHAAS)". LSSHAAS was used to generate the desired data from the respondents. The instrument was administered directly to the respondents by the researcher with the help of two research assistants. Pearson Product Moment Correlation was used to answer all the research questions and to test the corresponding null hypotheses.

3. RESULTS

Hypothesis One: There is no significant relationship between visual learning styles and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State.

Table 1: Pearson's Product Moment Correlation of Visual Learning Styles and Academic Adjustment among Public Senior Secondary School Students in Rivers East Senatorial District, Rivers State

		Visual Learning Styles	Academic Adjustment
Visual Learning Styles	Pearson Correlation	1	.418**
	Sig. (2-tailed)		.000
	N	600	600
Academic Adjustment	Pearson Correlation	1	.418**
	Sig. (2-tailed)		.000
	N	600	600

*Correlation significant at the 0.05 level (2-tailed)

Table 1 shows the result of the relationship between visual learning styles and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State. The result was ($r = .418, n = 6000, p < 0.05$), this result shows that there was a low positive correlation between visual learning styles and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State. This implies that as students' use or preference for visual learning strategies increases, their level of academic adjustment also tends to improve. The result is statistically significant as the p-value of .000 is less than the 0.05 level of significance. Hence the null hypothesis is rejected. This result implies that there was a significant relationship between visual learning styles and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State

Hypothesis Two: There is no significant relationship between auditory learning style and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State.

Table 1: Pearson’s Product Moment Correlation of Auditory Learning Style and Academic Adjustment among Public Senior Secondary School Students in Rivers East Senatorial District, Rivers State

		Auditory Learning Style	Academic Adjustment
Auditory Learning Style	Pearson Correlation	1	.537**
	Sig. (2-tailed)		.000
	N	600	600
Academic Adjustment	Pearson Correlation	1	.537**
	Sig. (2-tailed)		.000
	N	600	600

*Correlation significant at the 0.05 level (2-tailed)

Table 2 shows the result of the relationship between auditory learning style and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State. The result was ($r = .537, n = 600, p < 0.05$), which shows a moderate positive correlation between auditory learning style and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State. This implies that students who predominantly learn through auditory means tend to exhibit better academic adjustment. The result is statistically significant as the p-value of .000 is less than the 0.05 level of significance. Hence the null hypothesis is rejected. This means that auditory learning style significantly related to academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State

Hypothesis Three: There is no significant relationship between kinesthetic learning style and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State

Table 3: Pearson’s Product Moment Correlation of Kinesthetic Learning Style and Academic Adjustment among Public Senior Secondary School Students in Rivers East Senatorial District, Rivers State

		Kinesthetic Learning Style	Academic Adjustment
Kinesthetic Learning Style	Pearson Correlation	1	-.480**
	Sig. (2-tailed)		.000
	N	600	600
Academic Adjustment	Pearson Correlation	1	-.480**
	Sig. (2-tailed)		.000
	N	600	600

*Correlation significant at the 0.05 level (2-tailed)

Table 3 shows the result of the relationship between kinesthetic learning style and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State. The result was ($r = .480, n = 6000, p < 0.05$), which indicates a moderate negative correlation between kinesthetic learning style and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State. This result implies that as students’ preference for kinesthetic learning activities increases, their level of academic adjustment tends to decrease within the conventional school setting. The result is statistically significant as the p-value of .000 is less than the 0.05 level of significance. Hence the null hypothesis is rejected. This implies that that there was a significant relationship between kinesthetic learning style and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State

Hypothesis Four: There is no significant relationship between note-taking and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State.

Table 4: Pearson’s Product Moment Correlation of Note-Taking and Academic Adjustment among Public Senior Secondary School Students in Rivers East Senatorial District, Rivers State

		Note-Taking	Academic Adjustment
Note-Taking	Pearson Correlation	1	.554**
	Sig. (2-tailed)		.000
	N	600	600
Academic Adjustment	Pearson Correlation	1	.554**

Sig. (2-tailed)		.000
N	600	600

*Correlation significant at the 0.05 level (2-tailed)

Table 4 shows the result of the relationship between note-taking and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State. The result was ($r = .554, n = 600, p < 0.05$), which shows a moderate positive correlation between note-taking and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State. This finding implies that students who regularly engage in effective note-taking during lessons tend to adjust better academically. The result is statistically significant as the p-value of .000 is less than the 0.05 level of significance. Hence the null hypothesis is rejected. Thus, note-taking significantly related to academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State

Hypothesis Five: There is no significant relationship between regular class attendance and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State

Table 5: Pearson’s Product Moment Correlation of Regular Class Attendance and Academic Adjustment among Public Senior Secondary School Students in Rivers East Senatorial District, Rivers State

		Regular Class Attendance	Academic Adjustment
Regular Class Attendance	Pearson Correlation	1	.402**
	Sig. (2-tailed)		.000
	N	600	600
Academic Adjustment	Pearson Correlation	1	.402**
	Sig. (2-tailed)		.000
	N	600	600

*Correlation significant at the 0.05 level (2-tailed)

Table 5 shows the result of the relationship between regular class attendance and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State. The result was ($r = -.402, n = 600, p < 0.05$), which shows a low negative correlation between regular class attendance and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State. This result implies that increased regularity in class attendance does not necessarily translate into better academic adjustment for the students; rather, higher attendance is associated with lower levels of academic adjustment in this context. The result is statistically significant as the p-value of .000 is less than the 0.05 level of significance. Hence the null hypothesis is rejected. This means that there was a significant relationship between regular class attendance and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State

3.1 Discussion of Results

The result in Table 1 indicates a low but statistically significant positive relationship between visual learning styles and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State ($r = .418, p < .05$). Students who learn better through visual means such as diagrams, charts, illustrations, textbooks, and written notes are more likely to adapt effectively to academic demands, including classroom instruction, homework completion, time management, and examination preparation. This present result is consistent with [12] who found that students who preferred visual learning modes demonstrated better academic organization and adjustment when instruction aligned with their learning preferences. Similarly, [13] reported that visual learners showed higher levels of academic adjustment due to improved comprehension and retention of learning materials.

The result presented in Table 2 shows a moderate, positive, and statistically significant relationship between auditory learning style and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State ($r = .537, p < .05$). This finding implies that students who predominantly learn through auditory means such as listening to teachers’ explanations, participating in discussions, verbal instructions, and audio-based learning, tend to exhibit better academic adjustment. This result is consistent with [12] observed that auditory learners often demonstrate better academic adjustment when teaching methods emphasize lectures, discussions, and oral feedback. Similarly, [11] found that students with strong auditory learning preferences adjusted more effectively to academic tasks due to increased comprehension and retention of verbally presented information.

The result presented in Table 3 indicates a statistically significant moderate negative relationship between kinesthetic learning style and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State ($r = .480, p < .05$). This finding implies that as students’ preference for kinesthetic learning activities such as learning through movement,

hands-on tasks, physical engagement, and practical demonstrations increases, their level of academic adjustment tends to decrease within the conventional school setting. This finding is consistent with [14] who observed that learning environments that fail to align instructional methods with students' learning preferences may hinder academic adjustment and engagement.

The result in Table 4 reveals a moderate, positive, and statistically significant relationship between note-taking and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State ($r = .554, p < .05$). This finding implies that students who regularly engage in effective note-taking during lessons tend to adjust better academically. This finding is consistent with [15] reported that students who took organized and meaningful notes demonstrated deeper understanding and better academic engagement.

The result presented in Table 5 reveals a low but statistically significant negative relationship between regular class attendance and academic adjustment among public senior secondary school students in Rivers East Senatorial District, Rivers State. This finding agrees with [14] reported that while attendance is generally important, its effect on academic outcomes weakens when classroom experiences are perceived as un-engaging or poorly structured. Similarly, [15] found that Nigerian students who attended classes regularly but lacked effective learning support often showed poor academic adjustment.

4. CONCLUSION

The study investigated the relationship between learning styles, study habits and academic adjustment among public senior secondary school students in Rivers East Senatorial District of Rivers State. Some of the components of learning styles, study habits investigated include visual learning styles, auditory learning style, kinesthetic learning style, note-taking, regular class attendance with regard to their relationship with academic adjustment among public senior secondary school students in Rivers East Senatorial District of Rivers State. From the results of the study, it disclosed that visual learning styles, auditory learning style, kinesthetic learning style, note-taking, and regular class attendance significantly related to academic adjustment among public senior secondary school students in Rivers East Senatorial District of Rivers State. Based on the results of the study, the researcher concludes that learning styles, and study habits significantly related to academic adjustment among public senior secondary school students in Rivers East Senatorial District of Rivers State.

5. RECOMMENDATIONS

- 1) Schools should encourage teachers to moderately integrate visual instructional materials such as charts, diagrams, illustrations, and multimedia presentations into lessons in order to strengthen students' academic adjustment, since visual learning has shown a positive influence, though at a low level.
- 2) Teachers should deliberately adopt auditory-based teaching strategies, including clear verbal explanations, guided discussions, oral questioning, and recorded lessons, as these approaches can significantly enhance students' academic adjustment.
- 3) School administrators and teachers should carefully structure kinesthetic activities by combining them with guided academic tasks and clear learning objectives, so that excessive physical engagement does not negatively affect students' academic adjustment.
- 4) Teachers should train students on effective note-taking skills, such as summarizing key points and organizing notes, to improve understanding and retention of lessons, thereby enhancing academic adjustment.
- 5) School authorities should investigate the quality of classroom instruction and learning conditions, and improve teaching methods and classroom engagement, so that regular attendance translates into better academic adjustment rather than poor outcomes.

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