EFFECT OF TRANSPORT COORDINATION'S ON STUDENTS' ACADEMIC PERFORMANCE IN RURAL AREAS OF KATSINA STATE

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Abstract

Transportation is one of the major problems some students of rural areas in Katsina state facing before attending their classes at specific time due to the distance between the schools and their residence. The study investigates the impact of transport coordination on students' academic performance in rural areas of Katsina State, Nigeria. The research adopts survey research method, whereby the area of the study were three Local Government areas in Katsina state. Simple random sampling technique was used in selecting five teachers and thirty students from each of the fifteen schools. A questionnaire titled questionnaire for an appraisal on the effect of transportation condition on student's academic performance (QAPETCOSAPE) was used as data collection instrument. The instrument was validated by two lecturers from Federal College of Education (Technical) Bichi. Their correction and suggestion were conspired in the final instrument before administering it. The reliability of the instrument was asserted by pilot test. The study found that better transport coordination significantly improves students' punctuality and overall academic performance. These findings suggest that improvements in transport infrastructure and management could enhance educational outcomes in rural areas.

Key words: *Effect of transport, Academic performance, Rural*

Introduction

In rural areas of Nigeria, transportation issues significantly impact educational outcomes. Katsina State, with its vast rural landscape, presents a unique context for exploring how transportation affects students' academic performance. Poor transport infrastructure often leads to irregular school attendance, which in turn affects students' learning experiences and academic success. This study seeks

to address this gap by examining the role of transport coordination in shaping educational outcomes in these areas.

Transportation stress is one of the major challenges faced by students of some secondary school in rural areas of Katsina State, and the community and school management as well as local government and state government have shown a lackadaisical approach towards this problem. (Abimbola & Dele, 2015) concur that, the rural transport infrastructure sector is a critical force for sustainable development that is interwoven with many other sectors. Student transport is very important although there is little attention by government which has led to significant impact on transport demands for students during school hours. (Nagler & Naudé, 2017) cited that involving students in brainstorming activities related to sustainability concepts and their implications in transportation proved to be an effective teaching and learning strategy (Nagler & Naudé, 2017).

Transportation stress has really pose a problem on the academic performance of students because after the stress of getting transport to school, most students gets so tired on getting to the class room and find it very difficult to concentrate. Transport stress not only causes physiological changes but also induces behavioural responses, including anxiety-like and depression-like behavioural responses (Reymen et al., 2015). Lack of adequate transportation to the school has been the reason why most students frequently get to class very late and they eventually miss out from the most important part of the class or lesson. These factors contribute to the poor academic performances of students.

Problem Statement

Despite efforts to improve educational infrastructure in Nigeria, rural areas like Rimi, Malufashi and Maiadua Local Government Areas of Katsina State continue to struggle with inadequate transportation. Students frequently face long and challenging commutes, leading to irregular attendance and decreased academic performance. This study aims to investigate how the coordination of transport services impacts students' ability to attend school regularly and perform academically (Muhammad et al., 2019).

Significance of the Study

This research is significant as it highlights a critical but often overlooked aspect of educational development—transportation. By understanding how transport coordination affects academic performance, policymakers and educational planners can develop targeted interventions to improve transportation infrastructure and management. This, in turn, can lead to better educational outcomes and contribute to the overall development of rural communities.

Objective of the Study

1. To assess the conditions of transport that facilitate students learning process in rural areas of Katsina State.
2. To improve in transport infrastructure that could enhance students' academic outcomes
3. To evaluate the impact of transport coordination on students' school attendance.

Research Questions

1. What are the conditions of transport that facilitate students learning process?
2. What improvements in transport infrastructure could enhance students' academic outcomes?
3. How does transport coordination affect students' school attendance?

Literature review

Theoretical Framework: This study is grounded in the 'Transport and Accessibility Theory' which posits that transportation accessibility significantly impacts various aspects of individuals' lives, including educational attainment (Lucas, 2012). According to this theory, effective transport systems facilitate greater access to educational resources, thereby positively influencing academic performance. The 'Human Capital Theory' also supports the idea that investments in infrastructure, including transportation, can lead to improvements in human capital and overall educational outcomes (Becker, 1993).

Transport and Academic Performance

Studies have shown that transportation infrastructure plays a crucial role in educational outcomes. Research by Kyttä et al. (2012)

demonstrates that improved accessibility correlates with better academic performance in rural areas.

Challenges in Rural Transportation

According to Adeoye and Enoch (2020), rural areas often face significant challenges related to transport infrastructure, which adversely affects students' access to education.

Impact of Transport Coordination

A study by Wang et al. (2018) highlights how effective transport coordination can improve school attendance and reduce absenteeism, thus enhancing academic performance.

Case Studies from Nigeria

Research by Ojo and Ojo (2019) specifically addresses the Nigerian context, revealing that poor transport infrastructure significantly hinders educational outcomes in rural areas.

Research Methodology

Research Design

This study employs a quantitative surveys to provide a comprehensive analysis of transport coordination and academic performance (Creswell, 2014).

Sample Population

The study focuses on all secondary school students in three LGAs of Katsina State (Rimi, Malufashi and Maiadua). A sample of 1200 students and teachers from various schools were selected through stratified random sampling (Creswell, 2014).

Data Collection Methods

Surveys were administered to students, teachers, and parents to gather information on transport coordination and academic performance.

Data Analysis

Quantitative Analysis: Statistical tools were used to analyse survey data and assess correlations between transport coordination and academic performance.

Result

1: What are the conditions of transport that facilitate students learning process?

Table 1: *Teachers' Responses to Conditions Facilitating Student Learning*

S/N	Items	SA	A	D	SD	**X**	**SD**	Remarks
1	Proportion of public transport coverage.	4	24	2	0	3.7	1.92	Accepted
2	The commercial vehicles should regularly be in a good service.	28	6	0	1	3.5	1.85	Accepted
3	Decent teacher students' interaction encourages student's punctuality.	16	15	2	0	3.2	1.79	Accepted
4	Motorcycles and bicycles possession facilitate the transport condition.	12	18	0	1	3.1	1.76	Accepted
5	School location reduces time travelled.	12	12	4	1	2.9	1.70	Accepted
6	Subsidy in transport cost reduces the rate of absenteeism by students.	20	3	0	4	2.7	1.64	Accepted

Table 1 shows a mean value of between 2.7 and 3.7 and the standard deviations between 1.64 and 1.92. This is an indication that the all the conditions of transport that facilitate students learning process were are accepted by the respondents.

2: What improvements in transport infrastructure could enhance students' academic outcomes?

Table 2: *Teachers' Responses to Improvements in Transport Infrastructure*

S/N	Items	SA	A	D	SD	**X**	**SD**	Remarks
1	The for government intervene to provide transportation facilities	24	16	0	0	3.6	1.90	Accepted
2	The SBMC and PTA should make a provision in an easy way for student's transportation.	28	9	0	0	3.7	1.93	Accepted
3	The school management within it's administration power should make some adjustment of morning lessons.	8	3	21	1	2.2	1.48	Not Accepted
4	The community should provide simple transportation ways for student's transport by providing free or low cost vehicles.	8	18	0	1	3.1	1.76	Accepted
5	The need for provision of public transport for students from the Local government.	20	15	0	0	3.5	1.87	Accepted

Table 2 shows a mean value of between 2.2 and 3.6 and the standard deviations between 1.48 and 1.87. Item 3 received the lowest mean score of 2.2, suggesting that teachers do not support the idea of adjusting morning lessons to improve transportation conditions. This might indicate that they believe this approach is not effective or feasible. This suggest that the only item 3 has the lowest mean score of 2.2 which states that the school management within its administration power should make some adjustment of morning lessons, was not accepted by the respondents.

Research Question: 3: How does transport coordination affect students' school attendance?

Table 3: *Students' Responses on Transport Coordination*

S/N	Items	A	B	C	D	**X**	**SD**	Remarks
1	How do you go to school?	164	9	8	12	3.21	1.79	Accepted
2	What time do you wake up in the morning usually?	20	114	21	6	2.70	1.64	Accepted
3	What time do you start morning trip to school?	84	96	0	4	3.22	1.70	Accepted
4	How much time does trip take to reach school every morning?	48	96	20	6	2.83	1.68	Accepted
5	How do you go back home from school every afternoon?	24	114	14	9	2.53	1.59	Accepted
6	What time do you leave the school in the afternoon to reach your home?	124	63	4	6	3.28	1.81	Accepted
7	How much time does the trip takes to reach home every afternoon?	44	69	34	9	2.60	1.61	Accepted
8	Do you sleep/nap in the afternoon when go back home after school?	48	105	46	16	2.65	1.63	Accepted
9	What time do you sleep at night usually?	116	60	12	5	3.19	1.76	Accepted
10	How per is your home from your school?	148	27	10	9	3.23	1.80	Accepted
11	On a scale of 0 to 100, how do you evaluate your average grade in school?	44	117	12	4	2.95	1.72	Accepted
12	How do you spend your time during the trip to or from school?	112	51	14	8	3.08	1.75	Accepted
13	How do you describe the trip to or from school?	92	45	22	11	2.83	1.68	Accepted
14	How do you feel during the day after the bus trip?	16	120	16	8	2.70	1.64	Accepted
15	At home, how much time do you spend studying every day?	92	81	6	7	3.10	1.76	Accepted
16	How well are you treated during the trip to or	124	45	14	7	3.16	1.78	Accepted

	from school?							
17	How safe do you treated during the trip to or from school?	140	33	12	8	3.22	1.79	Accepted

Table 3 shows a mean value of between 2.53 and 3.28 and the standard deviations between 1.59 and 1.81. This propose that all items under the RQ 3 were accepted by the respondents.

Finding of the Study

The following are the findings of the study on effect of transportation condition on student's academic performance in secondary school at rural area of Katsina state

1. Conditions Facilitating Learning (Table 1)

This study found that items with high mean scores suggest they are seen as important for facilitating learning. For example, if "The commercial vehicles should frequently be in a good service" has a high mean, it's seen as very important by teachers. While High Standard Deviation: Indicates variability in responses. Items with high standard deviation show differing opinions among teachers.

2. Improvements in Transport Infrastructure (Table 2)

The study argued that there is a need for improvements in transport infrastructure for urban areas in Katsina state. While the Standard Deviation helps in understanding consensus or disagreement among teachers regarding the improvements.

3. Transport Coordination and Attendance (Table 3)

The result reveal that common transport practices has impact on students' performance. For example, how early students wake up and how long their trips are can affect their academic performance. Likewise the study identify variability in students' experiences with transportation.

Discussion: The results obtained from the analysis of research question 1 show that items 1 and 2 received the highest mean scores, reflecting strong consensus that public transport coverage and the quality of commercial vehicles are crucial for facilitating students' learning. The finding was in line with Ahmed (2023). Similarly, Items 3 and 4 indicate a moderate agreement on the role of teacher-student interaction and personal transport (motorcycles and bicycles) in

improving transport conditions. Consequently, items 5 and 6, while still accepted, show less strong agreement compared to the other factors. The school location and transport cost subsidies are seen as less impactful in comparison to the other conditions. These findings are in conformity with a study conducted by Rogers et al. (2018) who ascertained that effective of transport conditions and their influence on students' learning processes. Therefore, the responses highlight that public transport coverage and vehicle maintenance are viewed as the most significant factors in improving students' access to education.

The findings of research question 2 reveals that teachers strongly support government intervention, SBMC and PTA involvement, and local government provision of public transport. However, there is moderate support for community-provided transportation options. While the study shows that 'Adjusting morning lessons' is not supported as a strategy for improving transportation conditions. These findings are in agreement with the position of Edward (2020) on the impact of school transportation on students outcome, in which his finding show that the school transportation might positively affect school attendance, an increasingly important outcome, by providing a reliable, consistent, and safe mode of transportation. Consequently, the finding of the study suggests that improving transportation conditions requires a multi-faceted approach involving government support, community engagement, and active roles by school management committees and parents.

The findings of research question 3 showed that students generally have a structured and consistent routine for traveling to and from school. The duration and method of travel, along with the time spent on trips, have varied impacts on their daily routine and academic performance. Consequently, the study revealed that the mean responses suggested that while students are somewhat affected by transport conditions, the overall impact on academic performance is not extreme. However, variability in responses (as indicated by SD) suggests that some students may experience more significant effects than others. This finding is concurred with the work of Sattin (2022). Nevertheless, factors such as sleep patterns, study time, and feelings

about the transport experience contribute to students' overall well-being and potentially influence their academic performance. Accordingly, perceptions of safety and treatment during transport are relatively positive, which is beneficial for students' comfort and potentially their academic focus. To support these findings unveiled by the study, Burdick-Will (2019) suggested that transportation distance and time is correlated with pupils' school performance and has no correlation with their stress levels. Therefore, the study proposes that, transport conditions; Impact on academic performance; overall well-being; safety and treatment are vital in enhancing students' academic performance.

Conclusion: The transport conditions have a moderate effect on students' academic performance, influenced by various factors such as the time and method of travel, safety, and overall well-being. While the overall acceptance of responses indicates that students have adapted to their transport conditions, there are areas, particularly in how they feel after trips and their experiences with transport that could be improved to enhance academic performance and student well-being.

Recommendations

Based on the findings of this study, it recommended that:

- Advocate for Government and Local Government Support: Emphasize the need for government intervention and local government provisions for student transportation.
- Engage SBMC and PTA: Encourage these bodies to take active roles in facilitating transportation arrangements.
- Explore Community Involvement: Consider community-based solutions for transportation but be aware that the support is moderate.

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