UTILIZATION OF ATUTOR LEARNING MANAGEMENT SYSTEM AND ACADEMIC ACHIEVEMENT IN MUSIC AMONG JUNIOR SECONDARY TWO STUDENTS IN EKET LOCAL GOVERNMENT AREA, AKWA IBOM STATE

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ABSTRACT

The study was carried out to investigate the effect of the Atutor Learning Management System on students' academic performance in Music in Eket Local Government Area of Akwa Ibom State. Two research questions were posed, and two hypotheses were formulated to guide the study. A quasi-experimental research design was adopted. The population comprised all 2,568 Junior Secondary Two (JSII) students offering Music in public secondary schools within Eket Local Government Area. A simple random sampling technique was employed to select a sample of 132 students. The instrument used for data collection was titled "Music Performance Test (MPT)." The instrument underwent both content and face validation. Its reliability was established using the split-half method, yielding a reliability coefficient of 0.83. The mean was used to answer the research questions, while the independent t-test was employed to test the hypotheses. The findings revealed a significant difference in the academic performance of students in Music in secondary schools in Eket Local Government Area. Based on the findings, it was recommended, among other things, that secondary schools in Eket Local Government Area should be equipped with ICT facilities to support the effective integration of LMS tools in the teaching of Music.

Keywords: Utilization, Atutor Learning, Management System, Academic Achievement, Music and Junior Secondary Two Students.

Background of the Study

Education serves as the foundation for national development, providing individuals with the essential knowledge, skills, and attitudes required for active participation in societal and economic growth. Music, as an integral subject in secondary education, plays a unique role in nurturing creativity, cultural awareness, emotional intelligence, and cognitive development among students. It fosters skills such as critical listening, rhythm coordination, musical composition, and performance all of which contribute to holistic learning and personal expression (Okonkwo & Adegoke, 2020). However, the realization of these educational benefits is often hampered by students' declining academic performance in Music, which raises concerns about the quality and effectiveness of traditional instructional approaches.

A major contributor to this downward trend in student performance is the persistent reliance on the lecture method in Music classrooms. This teacher-centered approach, where instructors deliver content verbally while students passively take notes, has become entrenched in many Nigerian secondary schools. Although it enables quick coverage of the syllabus, it does little to engage students in active learning or creative exploration both of which are critical in Music education. Consequently, students may develop only surface-level knowledge without truly understanding the principles of melody, harmony, notation, or instrumental practice (Eze & Obot, 2021).To overcome these pedagogical limitations, there is an urgent need to adopt more interactive and learner-centered teaching methods.

The integration of educational technology presents a compelling solution, particularly through platforms that support audio-visual content, collaborative learning, and real-time feedback. Learning Management Systems (LMS) have emerged as powerful tools that facilitate digital teaching, content delivery, communication, and performance tracking. These systems help foster a more dynamic and personalized learning experience for students by enabling flexible access to materials, self-paced learning, and multimedia engagement which are especially beneficial in Music instruction (Ibrahim & Alade, 2022). Among the LMS platforms available, Atutor has distinguished itself through its intuitive design, multimedia capabilities, and adaptability to a wide range of subjects, including the arts. As an open-source LMS, Atutor allows educators to create online music lessons, incorporate audio files, sheet music, performance videos, and quizzes, while enabling students to engage with the content at their own pace. In Music education, Atutor can support the development of practical skills through interactive tutorials, theory assessments, and collaborative activities such as peer-reviewed performances. These features make it a valuable tool in enhancing student participation and comprehension in the music learning process (Ngwu & Adesina, 2023).

This study therefore seeks to examine the effectiveness of the Atutor Learning Management System in improving the academic performance of Junior Secondary Two students in Music in Eket Local Government Area of Akwa Ibom State. By comparing the performance and engagement of students taught using Atutor with those taught through the conventional lecture method, the study aims to generate data-driven insights into how digital platforms can be harnessed to transform Music education and promote better learning outcomes.

Purpose of the Study

The primary purpose of this study was to assess the effectiveness of the Atutor Learning Management System on students' academic performance in Music. Specifically, the study aimed to:

1. Determine the difference in the academic performance of students taught Music using the Atutor Learning Management System and those taught using the traditional lecture method in Eket Local Government Area.

2. Determine the difference in the academic performance of male and female students taught Music using the Atutor Learning Management System in Eket Local Government Area.

Significance of the Study

This study evaluates the impact of the Atutor Learning Management System (LMS) on the teaching and learning of Music among Junior Secondary Two students in Eket Local Government Area, Akwa Ibom State. It is significant for teachers, students, and policymakers. Music educators can gain insights into how digital tools like Atutor enhance music instruction through interactive and multimedia resources. Students may benefit from more engaging, personalized learning experiences that improve performance and understanding. Policymakers may use the findings to support the integration of LMS platforms in arts education, guiding decisions on curriculum design, teacher training, and educational technology investment.

Research Questions

The study was guided by the following research questions:

1. What is the difference in the academic performance of students taught Music using the Atutor Learning Management System and those taught using the lecture method in Eket Local Government Area?

2. What is the difference in the academic performance of male and female students taught Music using the Atutor Learning Management System in Eket Local Government Area?

Research Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance:

1. There is no significant difference in the academic performance of students taught Music using the Atutor Learning Management System and those taught using the lecture method in Eket Local Government Area.

2. There is no significant difference in the academic performance of male and female students taught Music using the Atutor Learning Management System in Eket Local Government Area.

Research Methods

Research Design

The study adopted a quasi-experimental research design, which was deemed appropriate since intact classes were used without random assignment of participants to experimental and control groups. This design allowed the researcher to assess the impact of the Atutor Learning Management System on students' academic performance in Music under real classroom conditions.

Research Area

The research was carried out in Eket Local Government Area of Akwa Ibom State, Nigeria. Eket comprises both urban and rural communities, offering a diverse student population in public secondary schools. The area was chosen due to the presence of schools equipped with the minimum infrastructure necessary to support the use of digital instructional tools such as the Atutor LMS, particularly in teaching Music.

Population of the Study

The population of the study consisted of all 2,568 Junior Secondary Two (JSII) students enrolled in Music in public secondary schools within Eket Local Government Area during the 2023/2024 academic session. A total of 11 public secondary schools offering Music at this level formed the sampling frame for the study.

Sample and Sampling Technique

A sample of four public secondary schools was selected through a simple random sampling technique. To ensure fairness, the names of all 11 schools were written on slips of paper, placed in a container, and four schools were randomly selected. Within each selected school, all JSII students offering Music were included in the sample, resulting in a total of 132 students. This sample was used to compare the performance of students exposed to the Atutor LMS with those taught using the traditional lecture method.

Instrument Development

The instrument used for data collection was titled "Music Performance Test (MPT)". It comprised 30 completion-type items, each requiring a specific one-word answer. A correct response attracted one mark, while an incorrect or blank response received zero. The maximum possible score was 30, and the minimum was zero.

Instrument Validation

To ensure the instrument's validity, both content and face validity procedures were undertaken. The

items were developed based on a Music Table of Specifications to ensure content relevance. For face validation, the instrument was reviewed by three experts: two Music lecturers from the Department of Msic Education and one specialist in Educational Evaluation from the Department of Educational Foundations, Guidance and Counselling. Their feedback led to the restructuring of three items, although none were removed. All recommended corrections were implemented prior to data collection.

Instrument Reliability

The reliability of the instrument was determined using the split-half method. A pilot test was conducted with 20 JSII Music students who were not part of the main sample. The scores from the two halves were correlated using the Pearson Product Moment Correlation, and the overall reliability coefficient was calculated using the Spearman-Brown Prophecy formula. The resulting coefficient was 0.83, indicating that the instrument was sufficiently reliable for use in the study.

Method of Data Collection

The researcher obtained formal approval from the principals of the selected schools. With their permission, the Music teachers in each school were briefed on the study's purpose and implementation procedures. The teachers agreed to assist with the research under the supervision of their principals. The intervention spanned a period of one month. During this period, the experimental group received instruction using the Atutor Learning Management System, while the control group continued to receive instruction through the conventional lecture method. At the end of the instructional period, a standardized test was administered to both groups. The completed test scripts were collected, scored based on a predetermined marking scheme, and the results were recorded for statistical analysis.

Method of Data Analysis

The mean was used to answer the research questions, while the independent t-test was employed to test the hypotheses. All hypotheses were tested at the 0.05 level of significance.

Data Analysis and Results

Research Question 1:

What is the difference in the performance of students taught Music using the Atutor Learning Management System and those taught using the traditional lecture method?

Table 1: Mean Performance of Students Taught Music Using Atutor Learning Management System and Lecture Method

Group	N	Mean
Atutor	64	24.68
Lecture	68	20.46

The result in Table 1 indicates the mean performance of students when taught Music using the Atutor Learning Management System and the lecture method. As shown in the table, the mean performance of students taught Music using Atutor Learning Management System is 24.68, while that of students taught using the lecture method was 20.46. The mean difference between the two groups is 4.22 in favour of those taught using the Atutor Learning Management System. This suggests that students taught using the Atutor Learning Management System performed better than those taught using the lecture method.

Research Question 2

What is the difference in the performance of male and female students taught Music using the Atutor Learning Management System?

Table 2: Mean Performance of Male and Female Students Taught Music Using Atutor Learning Management System

Gender	N	Mean
Male	31	24.50
Female	37	24.77

The result in Table 2 indicates the mean performance of male and female students taught Music using the Atutor Learning Management System. As shown in the table, the mean performance of male students is 24.77, while that of female students is 24.50. The mean score difference between the two groups is 0.27 in favour of male students. This indicates that male students performed slightly better than their female counterparts when taught Music using the Atutor Learning Management System.

Test of Hypotheses

Hypothesis 1

There is no significant difference in the performance of students taught Music using the Atutor Learning Management System and those taught using the lecture method.

Table 3: Independent t-test Analysis of the Performance of Students Taught Music Using Learning Management System and Lecture Method

Group	N	Mean	SD	t-cal.	Df	p-value
Atutor	64	24.68	1.68	15.57	130	.000
Lecturing	68	20.46	1.43			

The result in Table 3 shows the independent t-test analysis of students' performance in Music when taught using the Atutor Learning Management System and the lecture method. The calculated t-value of 15.57 is significant since the p-value (.000) is less than the 0.05 level of significance. Therefore, the null hypothesis which stated that there is no significant difference in the performance of students taught Music using the Atutor Learning Management System and those taught using the lecture method is rejected. Hence, there is a significant difference in the performance of students taught Music using the Atutor Learning Management System and those taught using the lecture method.

Hypothesis 2

There is no significant difference in the performance of male and female students taught Music using the Atutor Learning Management System.

Table 4: Independent t-test Analysis of the Performance of Male and Female Students Taught Business Studies Using Atutor Learning Management System

Gender	N	Mean	SD	t-cal.	df	p-value
Male	31	24.77	1.77	.913	66	.659
Female	37	24.40	1.57			

The result in Table 4 presents the independent t-test analysis of male and female students' performance

in Music when taught using the Atutor Learning Management System. The calculated t-value of 0.913 is not significant since the p-value (.659) is greater than the 0.05 level of significance. Therefore, the null hypothesis which stated that there is no significant difference in the performance of male and female students taught Music using the Atutor Learning Management System is accepted.

Findings

1. There is a significant difference in the performance of students taught Music using Atutor Learning Management System and the performance of students taught Music using the lecture method.

2. There is no significant difference in the performance of male and female students taught Music using Atutor.

Discussion of Findings

The study revealed a significant difference in the performance of students taught Music using Atutor LMS compared to those taught through traditional lectures, indicating that Atutor is a more effective instructional tool. Its multimedia-rich and interactive environment featuring audio, video, quizzes, and virtual instruments promotes active learning, essential in music education where auditory, visual, and kinesthetic skills are crucial (Bauer, 2014). Active learning strategies have been shown to enhance understanding and retention, leading to better academic performance (Freeman et al., 2014). Atutor also supports self-paced learning and repeated practice, helping students master complex musical concepts (Ruthmann & Hebert, 2012).

The platform increases student motivation through gamified features, instant feedback, and engaging content elements particularly beneficial in a performance-based subject like Music (King, 2018). Motivated students tend to engage more deeply and perform better (Hattie & Timperley, 2007). These findings align with studies by Williams (2017), Webster (2011), and Biasutti (2015), which highlight the effectiveness of digital tools in enhancing music learning outcomes and creativity.

Furthermore, the finding of no significant difference between male and female students' performance using Atutor suggests the platform fosters gender equity. Its uniform content delivery and individualized pacing reduce gender-based disparities often seen in traditional classrooms (Green, 2002; Crawford, 2017). Studies by Yukselturk & Bulut (2019) and Gunn et al. (2020) confirm that online learning environments in music education support equal performance across genders. Overall, Atutor LMS proves to be an inclusive, engaging, and effective tool for teaching Music.

Conclusion

Based on the finding that there is a significant difference in the performance of students taught Music using Atutor Learning Management System (LMS) compared to those taught using the traditional lecture method, it is concluded that the Atutor LMS offers distinct advantages in music instruction. These advantages include an interactive learning environment, personalized instruction, improved student engagement, real-time feedback, and flexible access to learning materials. These features collectively enhance student learning outcomes. Additionally, the study found no significant difference in performance between male and female students taught Music using Atutor, indicating that the platform provides an equitable learning experience. This reinforces the value of Atutor LMS as a tool capable of supporting academic excellence across gender lines.

Recommendations

The following were recommendations:

1. Secondary schools in Eket Local Government Area should be equipped with modern ICT facilities such as internet-enabled computers, audio-visual tools, and music software to support the use of LMS platforms like Atutor. Additionally, music teachers should receive regular training to effectively

integrate these tools into their teaching for improved student outcomes.

2. Policymakers should incorporate LMS platforms like Atutor into the secondary school curriculum as a complement to traditional teaching methods, especially in music education. School administrators should also establish systems to monitor and evaluate LMS usage and its impact on student performance, ensuring continuous improvement.

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