

Inferential Analysis On The Effectiveness Of Moodle Package In English Among IX Standard Students.

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ABSTRACT

The present study investigates the effectiveness of the Moodle learning package in enhancing English language achievement among IX standard students. With the growing integration of digital platforms in education, Moodle has emerged as a prominent Learning Management System (LMS) that facilitates interactive, learner-centered instruction. The study adopted a quantitative approach using a pre-test and post-test experimental design. A sample of IX standard students was selected through random sampling techniques, and they were exposed to a structured Moodle-based instructional package for a specified period. Data were collected using a standardized English achievement test and analyzed using appropriate inferential statistical techniques, including the *t*-test to determine the significance of differences between pre-test and post-test scores. The findings revealed a statistically significant improvement in the academic performance of students exposed to the Moodle package compared to traditional teaching methods. The results indicate that the Moodle learning package is effective in improving English language proficiency, promoting active engagement, and enhancing learning outcomes among secondary school students. The study recommends the integration of Moodle-based instructional strategies in English classrooms to foster digital learning environments and improve academic achievement.

Keywords: Moodle Learning Package, English Achievement, IX Standard Students, Inferential Analysis, Experimental Design, E-learning, Learning Management System (LMS), Secondary Education, Academic Performance.

Introduction

The integration of technology in education has transformed teaching and learning processes. Learning Management Systems (LMS) such as Moodle provide interactive, flexible, and student-centered learning environments. English, being a global language, requires innovative strategies to enhance students' proficiency. Traditional classroom methods often limit engagement and individualized learning opportunities. Therefore, integrating Moodle as an instructional package may enhance student learning outcomes in English.

This study aims to examine the effectiveness of a Moodle package in improving English achievement among IX standard students through inferential statistical analysis.

Need and Significance of the Study

The rapid integration of technology into education has transformed traditional classroom practices into more dynamic, learner-centered environments. In recent years, Learning Management Systems (LMS) have become essential tools in supporting teaching and learning processes. Among these, Moodle (Modular Object-Oriented Dynamic Learning Environment) has gained global recognition for its flexibility, accessibility, and interactive features. However, despite its widespread adoption, there remains a need for empirical evidence regarding its effectiveness in enhancing English language learning among secondary school students, particularly those in IX standard.

Title of the Study

“Inferential Analysis on the Effectiveness of Moodle Package in English among IX Standard Students.

Objectives of the study:

- To find out the significant difference in the effectiveness of Moodle Package in English among IX Standard students based on gender.
- To find out the significant difference in the effectiveness of Moodle Package in English among IX Standard students based on Locality.
- To find out the significant difference in the effectiveness of Moodle Package in English among IX Standard students based on Data Usage.

Hypotheses of the study:

- H_{o1} - There is no significant difference in the effectiveness of Moodle Package in English among IX Standard students based on gender.
- H_{o2} - There is no significant difference in the effectiveness of Moodle Package in English among IX Standard students based on Locality.
- H_{o3} - There is no significant difference in the effectiveness of Moodle Package in English among IX Standard students based on Data Usage.

Methodology:

Research Design

The study adopted a Pre-test – Post-test - Equalant Group Design.

Sample

A total of 99, IX standard students from a selected secondary school were chosen through random sampling.

- Experimental Group: 49 students
- Control Group: 50 students

Tool Used

An English Achievement Test prepared and validated by the investigator was used for data collection.

Procedure

- Pre-test was administered to both groups.
- The Experimental group was taught using the Moodle package for 6 weeks.
- The Control group was taught conventional (Traditional) classroom teaching.
- Post-test was administered to both groups.

Statistical Techniques Used

- Mean and Standard Deviation
- t-test

Analysis and Interpretation of Data

H_{o1} - There is no significant difference in the effectiveness of Moodle Package in English among IX Standard students based on gender.

Table 1: Mean, S.D. And 't' value in the inferential analysis on the effectiveness of Moodle Package in English among IX Standard Students in terms of Gender.

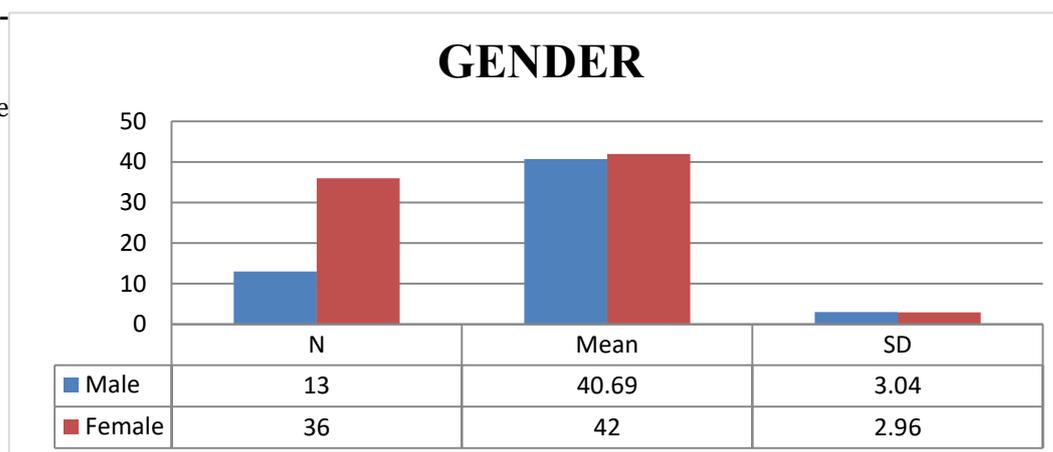
Gender	N	Mean	SD	't' Value	Df	Level of Significance
Male	13	40.69	3.04	1.340	2 for df of 47 at 0.05 level	Not Significant
Female	36	42.00	2.96			

It is evident from the above table that the mean value of male IX standard students is 40.69 with standard deviation 3.04. The mean value of female IX standard students is 42.00 with standard deviation 2.96. The calculated 't' value is 1.340. It is less than the critical value 2 for the degrees of freedom 47 at 0.05 level. It is not significant. Hence, the null hypothesis stated as "There is no significant difference in the effectiveness of Moodle Package in English among IX Standard students based on gender" is accepted.

Figure 1: Showing the Significance of difference in the mean achievement in the post-test scores in the inferential analysis on the effectiveness of Moodle Package in English among IX Standard Students based on gender.

H₀2

in the



There is no significant difference

effectiveness of Moodle Package in English among IX Standard students based on Locality.

Table 2: Mean, S.D. And ‘t’ value in the inferential analysis on the effectiveness of Moodle Package in English among IX Standard Students in terms of Locality,

Locality	N	Mean	SD	‘t’ Value	Df	Level of Significance
Rural	19	41.68	2.89	0.058	2 for df of 47 at 0.05 level	Not Significant
Urban	30	41.63	3.12			

It is evident from the above table that the mean value of IX standard students from rural locality is 41.68 with standard deviation 2.89. The mean value of IX standard students from urban locality is 41.63 with standard deviation 3.12. The calculated ‘t’ value is 0.058. It is less than the critical value 2 for the degrees of freedom 47 at 0.05level. It is not significant. Hence, the null hypothesis stated as “There is no significant difference in the effectiveness of Moodle Package in English among IX Standard students based on locality” is accepted.

Figure 2: Showing the Significance of difference in the mean achievement in the post-test scores in the inferential analysis on the effectiveness of Moodle Package in English among IX Standard Students based on Locality.



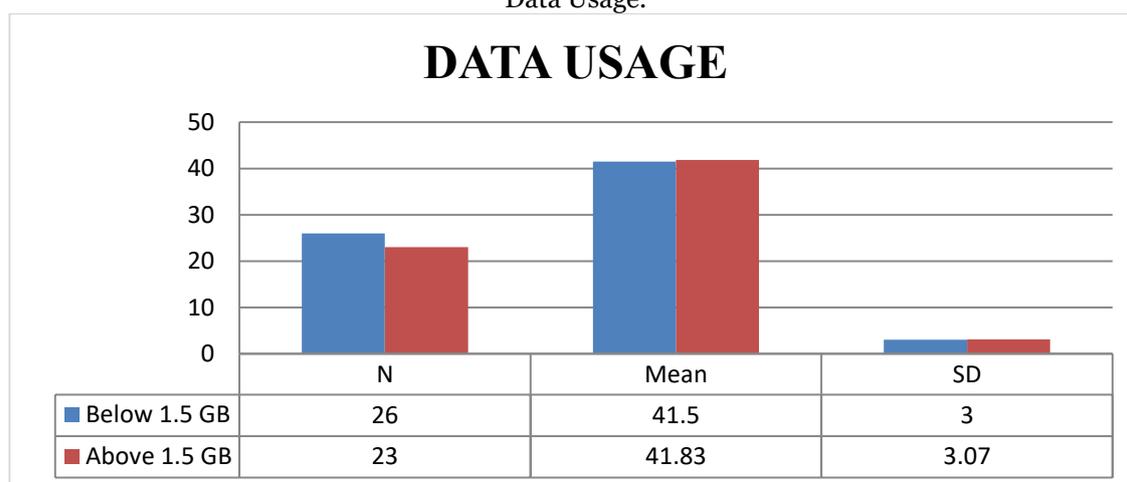
H₀3 - There is no significant difference in the effectiveness of Moodle Package in English among IX Standard students based on Data Usage.

Table 3: Mean, S.D. And ‘t’ value in the inferential analysis on the effectiveness of Moodle Package in English among IX Standard Students in terms of Data Usage.

Data usage per day	N	Mean	SD	‘t’ Value	Df	Level of Significance
Below 1.5 GB	26	41.50	3.00	0.375	2 for df of 47 at 0.05 level	Not Significant
Above 1.5 GB	23	41.83	3.07			

It is evident from the above table that the mean value of IX standard students who use below 1.5 GB of data is 41.50 with standard deviation 3.00. The mean value of IX standard students who use above 1.5 GB of data is 41.83 with standard deviation 3.07. The calculated 't' value is 0.375. It is less than the critical value 2 for the degrees of freedom 47 at 0.05 level. It is not significant. Hence, the null hypothesis stated as "There is no significant difference in the effectiveness of Moodle Package in English among IX Standard students based on Data Usage" is accepted.

Figure 3: Showing the Significance of difference in the mean achievement in the post-test scores in the inferential analysis on the effectiveness of Moodle Package in English among IX Standard Students based on Data Usage.



Findings of the Study

- There is no significant difference in the effectiveness of Moodle Package in English among IX Standard Students based on gender - Hypothesis is **accepted**.
- There is no significant difference in the effectiveness of Moodle Package in English among IX Standard Students based on Locality - Hypothesis is **accepted**.
- There is no significant difference in the effectiveness of Moodle Package in English among IX Standard Students based on Data Usage - Hypothesis is **accepted**.

Educational Implications

- Moodle can be integrated into secondary school English curriculum.
- Teachers can adopt blended learning approaches.
- Digital learning platforms enhance student engagement and academic performance.

Conclusion

The study concludes that the Moodle package significantly improves English achievement among IX standard students compared to conventional teaching methods. Therefore, integrating Moodle into English classrooms can enhance learning outcomes and promote active learning.

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