The introduction to this research is as follows. The goal of the objectives in this research is to optimize the development of the learning management system (LMS) to improve the learning process in the school. The research design is a quasi-experimental method with a posttest only control group design. The sample includes all students in the 4th grade of class X of the 2017/2018 academic year, totaling 36 people. The LMS used is the Moodle system, while the learning media is an online quiz. The experiment was carried out in two cycles, with an interval of one month. Data analysis was conducted using the Wilcoxon test.

The results of the study showed that students' participation in learning activities increased significantly after the use of the LMS, with a significance level of p < 0.05. The use of the LMS also improved student achievement in the subject material, with an increase of 15% on average. The LMS was also perceived positively by the students, with an overall score of 4.5 on a scale of 1 to 5.

The implications of this study are that the use of an LMS can improve student participation and achievement in the learning process. This is in line with the policy of the Ministry of Education and Culture to improve the quality of education through the use of technology.

The outcome of this study can be used as a reference for educators in developing online learning applications. Further research is needed to explore the effects of the LMS on other subject materials and in other grades.
Introduction

In this paper, we examine the impact of the adoption of a multilevel model on student achievement in a particular educational setting. We use a multilevel model to analyze the data from a large-scale educational study conducted in various schools across the country. The model allows us to account for the hierarchical structure of the data, where students are nested within schools.

The goal of this research is to understand the factors that influence student achievement, and to identify the most effective strategies for improving educational outcomes. We hope that our findings will provide valuable insights for policymakers, educators, and other stakeholders in the field of education.

Materials and Methods

The data for this study was collected from a large-scale educational survey conducted in various schools across the country. The survey included information on student demographics, academic performance, and other relevant factors. We used a multilevel model to analyze the data, taking into account the hierarchical structure of the data.

Results

Our analysis revealed several significant findings. First, we found that students in schools with higher student-teacher ratios had lower achievement scores. This result is consistent with previous research, which has shown that larger class sizes can have a negative impact on student learning.

Second, we found that students who received more individualized attention from their teachers had higher achievement scores. This finding highlights the importance of teacher-student interactions in the educational process.

Conclusion

In conclusion, our study provides valuable insights into the factors that influence student achievement in a multilevel educational setting. We hope that our findings will be useful for policymakers and educators in developing effective strategies to improve educational outcomes.

Acknowledgments

We would like to thank the participants in our study, as well as the schools and educators who supported our research. We also gratefully acknowledge the financial support from the National Science Foundation.
COMBINING MULTILEVEL MODELLING and DATA ENVIRONMENTAL ANALYSIS in LEARNING ORGANIZATION RESEARCH

by Rina Anindita
# Combining Multilevel Modelling and Data Envelopment Analysis in Learning Organization Research

## Originality Report

<table>
<thead>
<tr>
<th>Similarity Index</th>
<th>Internet Sources</th>
<th>Publications</th>
<th>Student Papers</th>
</tr>
</thead>
<tbody>
<tr>
<td>28%</td>
<td>27%</td>
<td>3%</td>
<td>3%</td>
</tr>
</tbody>
</table>

## Primary Sources

1. icebuss.org
   - Internet Source
   - 26%

2. Submitted to University of Chichester
   - Student Paper
   - 1%

3. ijecm.co.uk
   - Internet Source
   - <1%

4. Submitted to University of Southampton
   - Student Paper
   - <1%

5. www.deazone.com
   - Internet Source
   - <1%

   - Publication
   - <1%
