

Evaluating the Effectiveness of online learning for Students with Learning Difficulties in Higher Education: A Moodle platform at Midocean University

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Graduation Project – 1

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Acknowledgement

Abstract

Background: Students with learning difficulties (LDs) often face challenges in traditional higher education settings. Online learning platforms (OLPs) like Moodle offer potential benefits, but research on their effectiveness specifically for LD students in Gulf universities remains limited.

Objectives: This study investigates the effectiveness of Moodle in addressing the academic needs and engagement of LD students at Midocean University.

Methods: Utilizing a quantitative approach, we analyze data from standardized tests, course assignments, platform usage logs, and surveys to:

- Compare academic performance of LD students using Moodle vs. traditional instruction.
- Analyze the influence of specific Moodle features on student engagement and learning outcomes.
- Identify challenges and opportunities associated with Moodle implementation for LD students.

Expected Outcomes: This study aims to provide valuable insights into:

- The effectiveness of Moodle as a tool for supporting LD students in higher education.
- Evidence-based recommendations for optimizing Moodle features to promote accessibility and inclusivity.
- Contributions to future research and development of OLPs tailored for LD students.

Keywords: Learning difficulties, online learning platforms, Moodle, higher education, quantitative research, accessibility, inclusivity.

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Introduction

Midocean University, in line with the growing adoption of online learning platforms (OLPs) in higher education, utilizes Moodle to offer its students flexibility and additional learning resources. This study investigates the effectiveness of Moodle for students with learning difficulties (LDs) within the specific context of Midocean University.

Moodle offers several features potentially beneficial for LD students, including:

- **Recorded lectures:** LD students can revisit course content at their own pace and with preferred methods, like closed captioning or repeated viewings.
- **Platform flexibility:** Moodle's adaptable interface allows for customizable layouts and personalized settings, potentially enhancing accessibility and focus for students with LDs.
- **Reminder system:** Automated reminders for assignments, quizzes, and deadlines can help students with organizational challenges stay on track.
- **Online quizzes:** Moodle's quiz module offers features like adjustable time limits and customized question formats, potentially reducing test anxiety and promoting accessibility for LD students.

Employing a quantitative approach, this research aims to:

- **Compare the academic performance of LD students using Moodle versus traditional classroom instruction.**
- **Analyze the influence of specific Moodle features (e.g., recorded lectures, reminders) on student engagement and learning outcomes.**
- **Identify potential challenges and opportunities associated with Moodle implementation for LD students at Midocean University.**

By analyzing data from university records, Moodle platform usage logs, and surveys, this study seeks to provide valuable insights into the effectiveness of Moodle for LD students at Midocean University. The findings will contribute to informed recommendations for utilizing

Moodle's features to optimize learning experiences and academic success for this population within the university's community.

Research Problem

Some students face diverse challenges that impede their engagement in traditional classroom instruction, including work schedules, family commitments, and limited time flexibility. While online learning platforms (OLPs) like Moodle offer potential solutions by providing asynchronous access and personalized learning, limited research exists on their effectiveness for students with learning difficulties (LDs), particularly within the context of Gulf universities. This study investigates the **effectiveness of Moodle in addressing the specific needs and engagement of LD students at Midocean University who struggle with inflexible schedules or balancing study with personal responsibilities.**

Furthermore, although Moodle offers features like recorded lectures and flexible access, concerns exist regarding usability on mobile phones compared to laptops. This study examines how **platform accessibility and usability on different devices impact the learning experience and engagement of LD students at Midocean University.**

Research Significant

Addressing LD Needs in Higher Education:

- This study contributes to the limited research on OLPs specifically for LD students in higher education, particularly in the Gulf region.
- It helps understand how technology can improve accessibility and inclusivity for LD students often facing barriers in traditional learning environments.
- The findings will inform evidence-based practices for utilizing OLPs to support LD students' academic success and promote equal opportunities in higher education.

Addressing Specific Challenges at Midocean University:

- This study directly addresses the challenges faced by Midocean University students, including students with LDs who struggle with inflexible schedules, balancing studies with personal responsibilities, and limited accessibility.
- It provides valuable insights into how Moodle can be best utilized to cater to these diverse student needs and enhance learning experiences within the university's specific context.
- The findings can inform Midocean University's educational development policies and initiatives to promote effective use of Moodle for supporting all students, particularly those with LDs.

Impact on Moodle Implementation:

- By examining the usability and effectiveness of Moodle features for LD students, this study provides valuable feedback for Moodle developers and platform administrators.
- The findings can contribute to improving the accessibility and user-friendliness of Moodle for diverse student populations, including those with LDs.

- This can inform strategies for optimizing Moodle implementation across various educational institutions and promote its effectiveness in supporting inclusive learning environments.

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2-Damnjanovic, V., Jednak, S., & Mijatovic, I. (2015). Factors affecting the effectiveness and use of Moodle: students' perception. *Interactive learning environments*, 23(4), 496-514.

3-Zabolotniaia, M., Cheng, Z., Dorozhkin, E., & Lyzhin, A. (2020). Use of the LMS Moodle for an effective implementation of an innovative policy in higher educational institutions. *International Journal of Emerging Technologies in Learning (iJET)*, 15(13), 172-189.

Research Questions

- **Main Question:** How effective is Moodle in addressing the academic needs and engagement of students with learning difficulties (LDs) at Midocean University?

Sub-questions:

- How does the academic performance of LD students using Moodle compare to traditional classroom instruction?
- What influence do specific Moodle features have on student engagement and learning outcomes for LD students?
- What are the challenges and opportunities associated with Moodle implementation for LD students at Midocean University?
- How does platform accessibility and usability on different devices impact the learning experience and engagement of LD students?

Research Objectives

- **Overall Objective:** To investigate the effectiveness of Moodle in supporting LD students at Midocean University.

Specific Objectives:

- Compare academic performance using Moodle vs. traditional instruction.
- Analyze the influence of specific Moodle features on engagement and learning outcomes.
- Identify challenges and opportunities with Moodle implementation for LD students.

Research Hypotheses

Hypothesis 1 (Academic Performance):

- **Null Hypothesis (H1.1):** There is no significant difference in the academic performance (e.g., grades, test scores) of LD students using Moodle compared to traditional classroom instruction.
- **Alternative Hypothesis (H1.2):** LD students using Moodle will have significantly higher academic performance compared to traditional classroom instruction.

Hypothesis 2 (Engagement and Specific Moodle Features):

- **Null Hypothesis (H2.1):** The use of specific Moodle features (e.g., recorded lectures, reminders, and interactive quizzes) has no significant impact on student engagement and learning outcomes for LD students.
- **Alternative Hypothesis (H2.2):** The use of specific Moodle features will have a significant positive impact on student engagement and learning outcomes for LD students.

Research Model

Independent Variable:

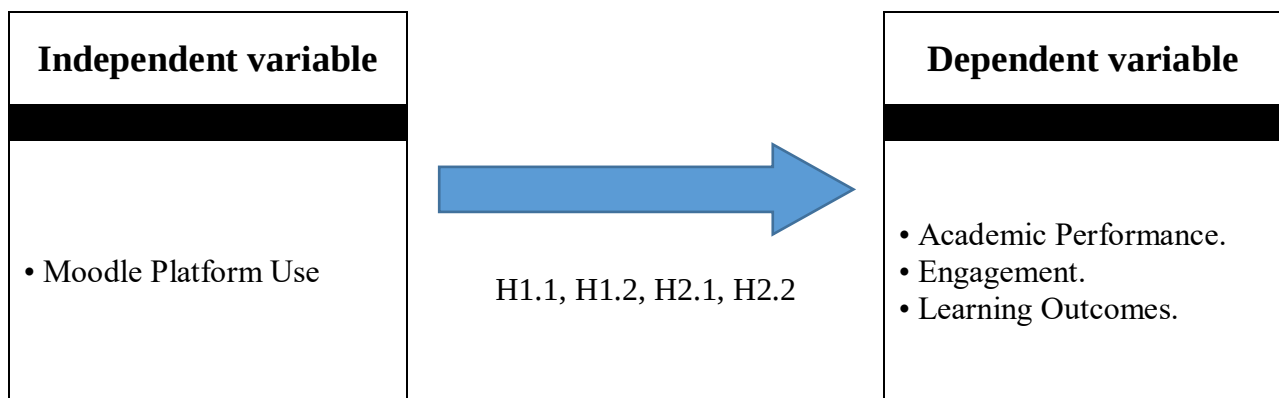
- Moodle Platform Use.

Dependent Variables:

- Academic Performance.
- Engagement.
- Learning Outcomes.

Control Variables:

- Prior Academic Achievement.
- Study Habits.



Research Methodology

This study investigates the effectiveness of Moodle as a learning platform for students with learning difficulties (LDs) at Midocean University. Employing a quantitative approach, we analyze data from various sources to assess the impact of Moodle on academic performance and engagement:

Data Sources:

- Standardized tests and course assignments (academic performance)
- Moodle platform usage logs (engagement)
- Surveys administered to LD students (perceptions and experiences)

Analysis Methods:

- Statistical software will be used to analyze academic performance data (e.g., comparing grades using Moodle vs. traditional instruction).
- Quantitative techniques will be employed to analyze platform usage logs (e.g., login frequency, time spent on specific features).
- Survey data will be analyzed to understand student perceptions and experiences with Moodle.

Expected Outcomes:

- Identify the influence of Moodle on the academic performance of LD students.
- Analyze the impact of specific Moodle features on student engagement.
- Explore challenges and opportunities associated with Moodle implementation for LD students.

This methodology will provide valuable insights for:

- Optimizing Moodle features to support LD students.
- Informing evidence-based practices for inclusive online learning.
- Guiding future research on OLP effectiveness for diverse learners.

Scope/ Field of The Study

Project Structure

Chapter 1: Introduction

- Challenges Faced by Students with Learning Difficulties
- Potential Benefits of Online Learning Platforms
- Limited Research on OLP Effectiveness for LD Students
- Moodle: A Potential Solution for LD Students at Midocean University
- Research Objectives

Chapter 2: Literature Review

- Challenges for LD Students in Higher Education
- Effectiveness of OLPs for Diverse Learners
- Moodle Features and Benefits for LD Students
- Accessibility and Usability of OLPs on Different Devices

Chapter 3: Research Methodology

- Quantitative Research Approach
- Data Collection Methods
 - Sources of Data
 - Sampling Techniques
 - Survey Instrument

Chapter 4: Statistical Analysis

- Performance Data Analysis
 - Statistical software used
 - Specific tests employed

- Platform Usage Log Analysis
 - Quantitative techniques used
- Survey Data Analysis
 - Specific statistical software used

Chapter 5: Findings, Discussion, and Conclusion

Findings:

- Present the findings from the data analysis in a clear and organized manner.
- Analyze the impact of Moodle on academic performance compared to traditional instruction.
- Discuss the influence of specific Moodle features on student engagement and learning outcomes.
- Explore challenges and opportunities identified regarding Moodle implementation for LD students at Midocean University.
- Analyze findings related to accessibility and usability of Moodle on different devices.

Discussion:

- Interpret the findings in the context of existing research on OLPs and LD students.
- Discuss the limitations of the study.
- Highlight the implications of the research for:
 - Optimizing Moodle features to better support LD students.
 - Informing future research on OLP effectiveness for diverse learners.
 - Promoting inclusive online learning practices at Midocean University and beyond.
- Suggest recommendations for future research directions.

Conclusion:

- Restate the research importance and the contribution to addressing LD student needs in higher education.
- Emphasize the value of Moodle as a tool for enhancing accessibility and inclusivity in online learning environments.

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Literature Review & Theoretical Framework

Conclusion