

NEEDS ANALYSIS OF MOODLE-BASED LMS DEVELOPMENT TO IMPROVE CONTEXTUAL READINGS SKILLS IN GERMAN LANGUAGE LEARNING IN KULTURREFLEKTIVES LERNEN COURSE

Shofy Khotimatus Sa'adah, Desti Nur Aini*

Universitas Negeri Malang, Malang

shofy.khotimatus.2102416@students.um.ac.id ; desti.nur.fs@um.ac.id

Abstract: The ability to comprehend German texts within cross-cultural contexts requires not only literal reading skills but also reflective understanding of the embedded cultural values. This research aims to analyse the need for digital learning media development to improve students' contextual reading skills in the Kulturreflektives Kulturkunde course. Preliminary findings indicated that students faced significant difficulties in contextual understanding and vocabulary acquisition due to the limited availability of accessible and culturally relevant reading exercises. The method used is Research and Development (R&D) with the 4D model (Define, Design, Develop, and Disseminate), but this research only focuses on the Define stage. Data was collected through a pre-research questionnaire distributed to students of the German Language Education Study Programme, State University of Malang. The study involved students from the German Language Education Program at Universitas Negeri Malang, enrolled in the Kulturreflektives Lernen course. The results show that students face significant difficulties in understanding the vocabulary and cultural meanings contained in the text, and there is an urgent need for interactive digital learning media. These findings are supported by data showing that 100% of students require the development of digital media containing culturally relevant materials, interactive exercises, and features that can aid context understanding. These results conclude that the development of a Moodle-based LMS.

Keywords: Needs Analysis; German Language, *Kulturreflektives Lernen*, Moodle LMS, Reading Skills

INTRODUCTION

Learning German requires various exercises and diligent understanding of the material. Effective and accessible learning activities can help students achieve a deeper understanding of the subject matter. Today, there are various educational technologies that can be used in a variety of learning contexts, which can help all groups in the world of education. Educational technology is an alternative that will provide benefits in improving the quality of learning, with the hope that learning can be accessed easily without any limitations of space and time (Nasution, 2019). Therefore, educational technology can be optimized in lectures, which will greatly facilitate all educators in the process of understanding, practice, evaluation, and other activities.

The technologies that are developing today are very diverse, one of which is the use of the Learning Management System (LMS) digital learning platform. LMS technology is software that covers all the needs of a lecture process that can be accessed by anyone, anywhere. LMS is the management of curriculum, courses, and evaluation in software that combines data-based management with a digital framework (Hutubessy et al., 2021). According to Hutubessy et al. (2021), there are now many variations of LMS that have emerged due to its rapid development, especially in the field of education, namely the Moodle-based Learning Management System. It can be said that the Moodle-based LMS will facilitate the field of

education by being able to accommodate everything completely in one website platform that can be accessed by all those involved without being limited by space and time.

Modular Object-Oriented Dynamic Learning Environment (Moodle) is a website-based application that provides services for online learning, which certainly facilitates the management of online learning that can be accessed by teachers, students, and all stakeholders in the educational process (Yuliawati & Amaludin, 2022). With Moodle, lecturers can provide materials, discussion forums, and joint evaluations, while students remain actively involved in lectures. Moodle-based educational technology can assist the *Kulturrefektives Lernen* course in improving German reading skills with appropriate contextual understanding. With the various features available on Moodle, all lecture process needs will be met even if lectures are not conducted face-to-face or are used for independent learning. When various German reading texts on the themes of German Culture, German History, and German Geography are provided in Moodle, followed by exercises and discussion forums, this shows how well students understand the reading texts.

Learning a language will be faster if students read frequently, especially in German. In accordance with the European standard curriculum, namely GER (*Germanistische Europäische Referenzrahmen*), reading skills are included in one of the assessment aspects in German language proficiency tests. Therefore, it is important to master reading skills (*Lesen*) in learning German. Reading skills focus on the ability to understand information in a text, thereby increasing insight and knowledge (Utami et al., 2021). Starting with reading skills (*Lesen*) can have an impact on other language skills. Extensive reading allows students to develop their reading skills, increase their vocabulary, and improve their motivation and confidence in reading texts (Aini, 2017). In addition, Aini (2017) also argues that frequently reading German texts will increase social knowledge about Germany. Effective reading is necessary in order to understand information more quickly and accurately. This may involve the use of reading theory, as there are many theories that can improve reading skills by understanding the content of a text efficiently. One theory suitable for improving students' reading skills in the context of the *Kulturrefektives Lernen* course is the Theory of Intertextuality.

Using the theory of intertextuality can help students understand the context of the texts in the *Kulturrefektives Lernen* course. Intertextuality generally examines two texts and finds points of convergence or intersections that create connections or relationships between texts (Wiratama et al., 2021). According to Wiratama et al. (2021), it is important to understand that intertextuality theory does not seek to prove a precise relationship between texts but rather to find a connection between one text and another, as this can serve as a basis for a comprehensive understanding of the text. Each text takes appropriate and good things from other texts by looking at, absorbing the text, and taking various responses or interpretations which are then processed or rewritten into a new text (Abdurrachman & Parmin, 2022). It can be concluded from the various opinions related to the Theory of Intertextuality above that this theory is used to examine two texts that then have a connection or relationship between texts, but not an exact connection, only a relationship that can be used as a basis for a complete understanding of both. This is because, fundamentally, a text inevitably contains something interesting that is derived from the good and interesting aspects of other texts and is processed according to the author's interpretation, resulting in a new text.

There are several previous studies relevant to this study. These studies state that the use of Moodle LMS among students has been proven to improve reading skills by comparing classes that continue to use conventional methods with other classes that use Moodle LMS, showing a significant improvement in classes using Moodle LMS (Permana, 2011). In a follow-up study, the use of Moodle not only improved German language skills but also played a role in evaluating language skills in preparation for language exams and supported the development

of independent learning skills (Permana et al., 2023). Supported by research by Huttubessy et al. (2021), it was shown that Moodle-based German language learning planning can increase the attractiveness and effectiveness of the learning process. Based on the results of the above studies, the researcher believes that the development of Moodle-based learning media has a real contribution to improving German language skills, especially reading skills, making it relevant and supporting the direction of this study, which focuses on the development of Moodle in the context of the *Kulturreflektives Lernen* course. This study was applied to third-semester students majoring in German Language Education at Malang State University (UM) in the 2024 batch.

One online learning platform that has proven effective in supporting the dissemination of open learning resources is iMooX.at, a national MOOC in Austria developed to improve access to and quality of higher education. This platform has not only exceeded its course implementation targets, but has also had a positive impact on improving the digital competence of course creators, strengthening institutional collaboration, and expanding flexible learning access for participants. These findings reinforce the relevance and urgency of developing platform-based educational technologies such as Moodle in the context of foreign language learning in higher education, particularly in shaping reflective, open, and adaptive learning that keeps pace with the times (Ebner et al., 2023).

METHOD

This study uses the Research and Development approach by adapting the 4D model (Define, Design, Develop, and Disseminate). This model was chosen because it is relevant for the development of learning devices. In addition, the 4D model is more appropriate to be used as the basis for developing a learning tool (Arywiantari et al., 2015). However, considering the existing research conditions, the focus of this research is only limited to the defining stage (Define).

Define

This stage is a preliminary study that aims to identify and analyze the needs and obstacles faced by students in learning contextual reading skills (*Lesen*) in the *Kulturreflektives Lernen* course. The subjects in this study were students of the German Language Education Study Program at the State University of Malang. Data were collected using a Google Form-based questionnaire instrument. The questionnaire was distributed online to students and was designed to collect qualitative and quantitative data related to three main aspects:

1. Problem Analysis (Needs Assessment): Identifying specific difficulties that students experience in understanding German cultural texts, including lack of vocabulary and understanding of context.
2. Learning Media Needs: Identifying students' urgency and need for interactive and relevant digital learning media.
3. Feature Needs: Inventorying the features that students expect to find in the Moodle LMS-based learning media (e.g. reading texts, practice questions, discussion forums, etc.).

Data Analysis

The data obtained from the questionnaire was analyzed descriptively-qualitatively. Responses from students were interpreted to draw conclusions regarding problems, needs, and relevant features. This analysis provided a strong empirical basis for designing the initial framework for future product development.

The subjects in this study were students of the German Language Education Study Program class of 2024 at Malang State University who took the *Kulturrefektives Lernen* course in the first semester of the 2024/2025 academic year. The subjects were selected purposively because in this semester, students were introduced to the context of German language culture through reading texts, even though most of them did not have any previous background in learning German. Along with this course, students are also taking *Sprachkompetenz Deutsch 1* and *Struktur und Wortsatz 1*, which form the basis for comprehensive language competency development. Thus, the subjects of this study represent a group of beginner learners who are relevant for testing the effectiveness of Moodle-based educational technology in improving German text reading skills that are rich in cultural meaning.

FINDINGS AND DISCUSSION

This section presents the results of the needs analysis conducted through the pre-research questionnaire, which aims to identify students' constraints in contextualised reading learning as well as their needs for digital learning media. And the researcher calculates the results into 3 parts, which are:

1. Analysing Students' Needs for Context-Appropriate

The questionnaire data shows that students still face considerable challenges in contextual reading skills, especially in the *Kulturrefektives Lernen* course. This obstacle is not only related to vocabulary mastery, but also understanding the cultural meaning contained in the text.

Table 1. Average Score of German Reading Learning Barriers (Likert Scale 1-5)

Question	Average Score
I find it difficult to understand German reading texts due to lack of practice.	4,2
I often find vocabulary that I do not understand in German reading texts.	4,5
I find it difficult to understand the cultural meaning in reading texts.	3,9
I feel less interested in reading cultural texts in German because they are difficult to understand.	4,1

As shown in Table 1, students felt that they lacked practice and often encountered vocabulary they did not understand. This finding is also supported by the high average score of difficulty in understanding the cultural meaning in the reading text (3.9). This indicates that learning to read at the tertiary level requires more than just literal comprehension, but also reflective understanding of the cultural context.

2. Needs and Potential of Digital Learning

Responses from students simultaneously showed full support for the development of digital learning media. All respondents (100%) expressed the need for more interactive digital media development. This need is reinforced by their desire for certain features.

Table 2. Average Score of Feature Needs on Digital Learning Media (Likert Scale 1-5)

Question	Average Score
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I want reading materials that are relevant to German culture and daily life.	4,5
I am interested if reading lessons are linked to a comparison of Indonesian and German culture.	4,5
I need additional help or explanation when reading German reading texts.	4,3
I want the learning media to help me understand not only the content of the text, but also the cultural context of the text.	4,6
I want the material in the learning media to be adjusted to my ability level.	4,5

As seen in Table 2, the most needed features are those that focus on contextual and cultural understanding. The need for additional explanation while reading and level adjustment also scored highly, confirming the need for personalisation of materials. Based on these findings, the development of a Moodle-based LMS is well suited to accommodate these needs, with features such as automated quizzes, forums and resource libraries.

3. Discussion of Research Implication

The findings confirm that this research has high relevance and urgency. The data shows that there is a real need for learning media innovations that can bridge the gap between theory and practice in learning German reading contextually. The use of the Moodle LMS, as proposed, is well suited to accommodate this need. Features such as automated quizzes, forums and resource libraries in Moodle can functionally address the constraints identified from the data.

As a preliminary study, these findings provide a clear roadmap for researchers to proceed to the Design and Development stage of the 4D model. Thus, this study provides a solid and valid basis for designing a truly solution-based LMS.

CONCLUSIONS AND SUGGESTIONS

Based on the needs analysis that has been carried out, it can be concluded that German Language Education students at the State University of Malang face significant obstacles in contextual reading skills in the *Kulturreflektives Lernen* course. The main obstacles identified are the lack of vocabulary mastery and difficulty in understanding the cultural meaning contained in authentic texts. This finding indicates an urgent need for innovative learning media that can overcome these challenges.

This research successfully proved that the development of digital learning media, especially those based on the Moodle LMS, has great potential to be a solution. This is supported by positive responses from all respondents who expressed the need for relevant interactive media. Therefore, this research provides a strong empirical foundation to proceed to the product development stage.

As a follow-up to this preliminary study, it is suggested to continue the research to the Design and Develop stages of the 4D model. This suggestion aims to realise a solutive LMS, which not only provides reading materials, but also interactive features such as glossaries, discussion forums, and practice questions that are tailored to the needs and ability levels of students, as identified from the questionnaire. Future research can also focus on product trials to measure the effectiveness of this media in improving students' contextual reading skills.

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