Architecture
Image Studies

Self-Regulated Learning in the Digital Era: Analyzing Students' Experiences with Moodle in English Language Learning

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Abstract

The integration of digital learning platforms has shifted higher education from teacher-centered instruction to student centered learning, emphasizing learners' autonomy and responsibility. This study investigates students' perceptions of self-regulated learning (SRL) within Moodle-assisted English language learning in higher education. Employing a survey research design, data were collected from 155 students enrolled in the English Language Education and Islamic Religious Education programs at the Faculty of Tarbiyah and Teacher Training, Unisnu Jepara. A questionnaire measuring SRL dimensions was distributed online, and the data were analyzed using descriptive statistical analysis based on three SRL phases: forethought, performance, and evaluation. The findings reveal that students demonstrate moderate to good levels of self-regulated learning across all phases. In the forethought phase, students show strong motivation and confidence in achieving learning goals, although weaknesses remain in planning learning strategies, managing time, and minimizing distractions. In the performance phase, students actively seek information, identify learning difficulties, and utilize peer and internet resources; however, regular time management and continuous monitoring of learning progress remain relatively low. In the evaluation phase, students tend to rely on external feedback rather than self-assessment, yet they demonstrate a strong willingness to improve learning outcomes and respond positively to feedback. Overall, the study indicates that Moodle facilitates the development of self-regulated learning behaviors by providing flexible access to learning resources and encouraging learner autonomy. Nevertheless, structured guidance and pedagogical support are still required to strengthen students' planning, monitoring, and self-evaluation skills in digital English language learning environments.

Keywords: *Digital Learning, English Language, Moodle, Self Regulated Learning, Student Perception.*

Introduction

The rapid advancement of learning technology has transformed educational institutions through various phases over time, evolving from traditional classroom-based instruction to fully virtual learning environments. In early educational systems, learning activities were predominantly centered on textbooks and conventional examinations as the primary means of assessing students' knowledge and performance. In such contexts, students relied heavily on teachers as the sole source of information and guidance, resulting in limited autonomy in the learning process (Mena-Guacas et al., 2025; Sanusi et al., 2025). Cnsequently, students' sense of responsibility, curiosity, and initiative in learning tended to be underdeveloped (Namaziandost et al., 2024). Learners who were unable to adapt to technological changes in educational systems often became passive recipients of information, which further hindered the development of independent learning behaviors (Akhmetzhanova et al., 2025; Mohebbi, 2025). This condition indicates that traditional learning models may not adequately support students in cultivating essential skills such as self-direction and lifelong learning (Hafizi et al., 2025).

In response to these challenges, educational systems must continuously evolve by integrating technology enhanced learning processes (Haleem et al., 2022). The incorporation of digital technology creates a new learning environment that reshapes the roles and responsibilities of both teachers and learners (Hu et al., 2025). Technology-supported learning encourages students to assume greater

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responsibility for their own learning while simultaneously promoting collaboration through peer-assisted activities that are not constrained by time or space (Tawafak et al., 2018).

Within this environment, the role of teachers shifts from being the primary transmitters of knowledge to facilitators and guides who support and scaffold students' learning processes. Furthermore, the integration of technology in classroom practices facilitates a transition from teacher-centered learning to student-centered learning, enabling learners to actively engage with learning materials, learning tasks, and learning communities (Swai, 2025). One widely adopted digital platform that supports this pedagogical transformation is Moodle, a web-based learning management system that allows students to access instructional materials, submit assignments, and participate in assessments anytime and anywhere (Prasetya, 2021; Vonti et al., 2023).

Learning through Moodle places strong emphasis on enhancing students' educational experiences by integrating pedagogical principles with digital technology (Rosyadi et al., 2021). Moodle, which stands for *Modular Object-Oriented Dynamic Learning Environment*, is a learning application specifically designed to support teaching and learning activities through internet-based platforms grounded in social constructivist pedagogy (Abdillah, 2024). As a Learning Management System (LMS), Moodle functions as a comprehensive system for displaying, tracking, reporting, and organizing learning content, monitoring student progress, and facilitating interaction between teachers and students (Rizal et al, 2015). Furthermore, LMS platforms such as Moodle enable the effective administration of web-based learning, including student registration, assessment management, and the provision of learning materials in various multimedia formats (Ahmad et al., 2024). These features position Moodle as a powerful tool for supporting flexible, interactive, and learner-centered educational practices (Sibgatullina, 2022).

The utilization of technology in learning environments also fosters the emergence of new learning cultures and habits among students, particularly in relation to self-regulated learning (Rusdi et al., 2023). Self-regulated learning refers to learners' ability to proactively control and manage their cognitive, motivational, and behavioral processes to achieve specific learning goals (Nadlifah, n.d.; Revishvili & Tsereteli, 2024). Students who possess strong self-regulated learning skills are actively involved in their learning processes, capable of setting goals, selecting appropriate learning strategies, and monitoring their own progress (Mallipa & Murianty, 2022). Such learners tend to be more autonomous, creative, and disciplined, enabling them to learn independently and effectively. In the context of technology-enhanced learning, self-regulated learning has become increasingly crucial, as digital platforms require learners to manage their time, learning strategies, and engagement without constant direct supervision. However, the development of self-regulated learning is not solely the responsibility of students, teachers, educational environments, and institutional systems also play significant roles in fostering this learning habit (Astuti, 2024; Kong & Lin, 2023). Guidance and support from teachers and in some cases parents remain essential to ensure that students can develop self-regulated learning skills in a structured and meaningful manner.

The rapid development of digital technology has significantly transformed language learning by enabling students to engage in learning activities anytime and anywhere. In English language learning, particularly in the development of speaking skills, students are required to participate in continuous and sustained practice to achieve mastery of vocabulary, accurate pronunciation, and appropriate use of conversational contexts, which often differ substantially from learners' first language. Consequently, learning independence becomes a critical factor in supporting students' success in acquiring English speaking skills. The development of independent learning patterns allows students to maximize learning opportunities beyond formal classroom instruction and to engage in more frequent and meaningful language practice (Aminah & Maulida, 2020). Technology-based platforms such as Moodle provide learners with flexible access to learning resources and practice activities, thereby offering a supportive environment for fostering self-regulated learning behaviors in English language education (Raharjo et al., 2020).
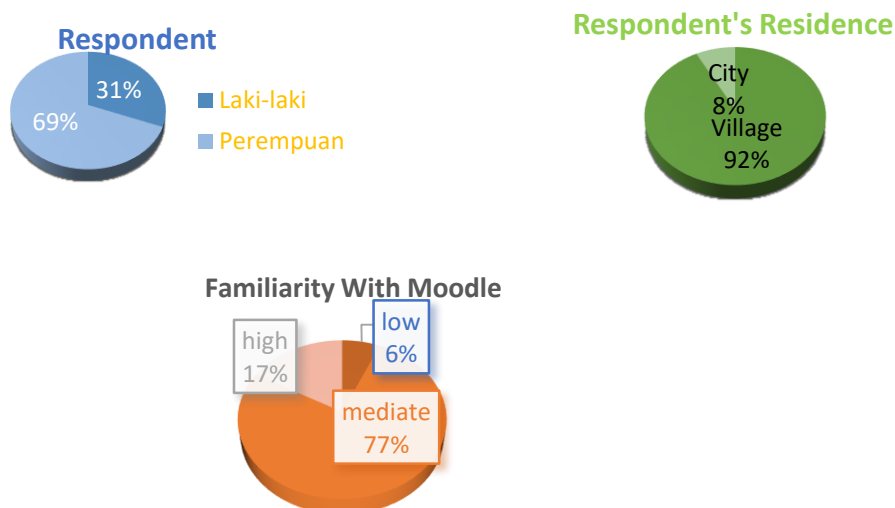
Based on these considerations, this study employs a survey research design to explore students' perceptions of self-regulated learning and its implementation within Moodle-based learning environments. The participants of this study were students from semesters 1 to 5 enrolled in the English Language Education and Islamic Religious Education Study Programs at the Faculty of Tarbiyah and Teacher Training, Unisnu Jepara. By examining students' experiences with Moodle, this research aims to provide deeper insights into how digital learning platforms contribute to the development of self-regulated learning in English language learning within higher education contexts.

Methodology

This research is a survey research which has a purpose to describe students' perceptions of self-regulated learning and the implementation of Moodle-based learning. Survey research is a method used to obtain data that occurred in the past or present, about beliefs, opinions, characteristics, behavior, variable relationships, and to test several hypotheses about sociological and psychological variables from samples taken from certain populations Sugiyono (2019:57). The sample of this research are students in the first until tenth semester of the English language education & Islamic religious education study program in the Tarbiyah and Teacher Training Faculty of Unisnu Jepara with a total of 155 students. The research instrument is a questionnaire on student perceptions of self-regulated learning-based learning with the help of Moodle, which is distributed via googleform. This data analysis technique used descriptive statistical analysis which reveals several indicators of student responses to self-regulated learning-based learning with the help of Moodle.

Result

Figure 1 presents the demographic profile of the 155 respondents involved in this study, including gender distribution, familiarity with Moodle, and residential location, which provide essential context for understanding participants' backgrounds in Moodle-assisted self-regulated learning. These characteristics highlight potential influences on access to digital resources and learning engagement in English language education

Figur 1. Respondent

Furthermore, there are several characteristics of the research sample. The chart above showed that 69% of respondents are male and 31% are female . Then, 6% of respondents are not familiar with Moodle, 77% of students are quite familiar with Moodle, and 17% of respondents are very familiar with Moodle. Furthermore, the chart also showed that that 92% of respondents live in village and only 8% of respondents live in city. This is become one of the problem to internet access in participating the distance learning. To achieve the target of implementing Moodle-assisted self-regulated learning is to have sufficient internet access so that it can answer technological challenges in learning. In addition, the researcher used the following scale to measure student responses to Moodle-assisted self-learning.

Table 1. Rating Category

No	Score Range	Category	Result
1	M > (Mi+1,5*Sbi	Very good	**> 4**
2	(Mi + 0,5*Sbi)<M≤(Mi+1,5SBi	Good	**3,3 <M≤ 4**
3	(Mi - 0,5*Sbi)<M≤(Mi+0,5SBi	Fair	**2,67 <M≤ 3,3**

| 4 | (Mi -1,5 *Sbi)<M≤(Mi-0,5SBi) | Poor | 2 <M≤ 2,67 |
| 5 | **M≤ (Mi-1,5*Sbi** | **Very Poor** | **≤2** |

Fundings

In this section, there are several findings related to student perceptions of Moodle-assisted self-regulated learning. These results include several indicators such as the forethought phase, performance phase, and evaluation phase. The following are the findings on each indicator.
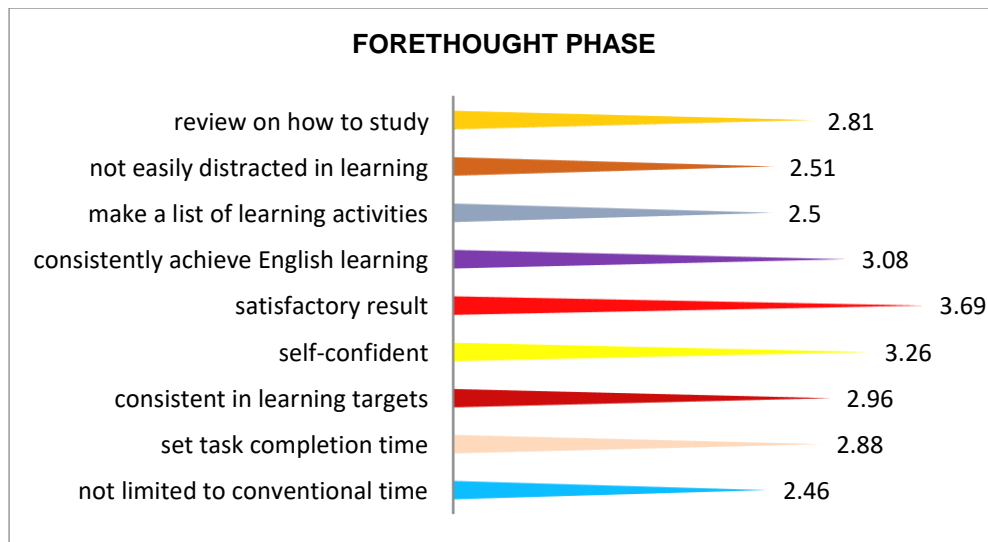

Figure 2. Forethought Phase

The first indicator is the forethought phase. This phase is a phase where students begin to estimate themselves in a self-regulated learning position. From the graph above, it is known that the results of students' perceptions in the forethought phase. First, on the part of students managing learning methods, the data obtained is (2.81). Second, in the aspect of students who are not easily distracted in learning, the average score is (2.51). Third, on the part of students making a list of learning activities, the average value obtained is (2.5). Then, on the part of students who are consistent in achieving English learning, data is obtained at (3.08). Furthermore, on the part of students who hope to obtain satisfactory results from learning using self-regulated learning, the average score is (3.69). Furthermore, on the part of students who are confident in getting good results in learning English, the results are (3.29). Then, on the part of students being consistent in determining learning targets, the data obtained is (2.96). On the part of students setting the completion time of the task, the average score was (2.88). Finally, in the conventional time-limited part of learning English, the data obtained is (2.46). These findings suggest that although students possess high learning motivation and self-efficacy, their planning and time-management skills require further pedagogical support.
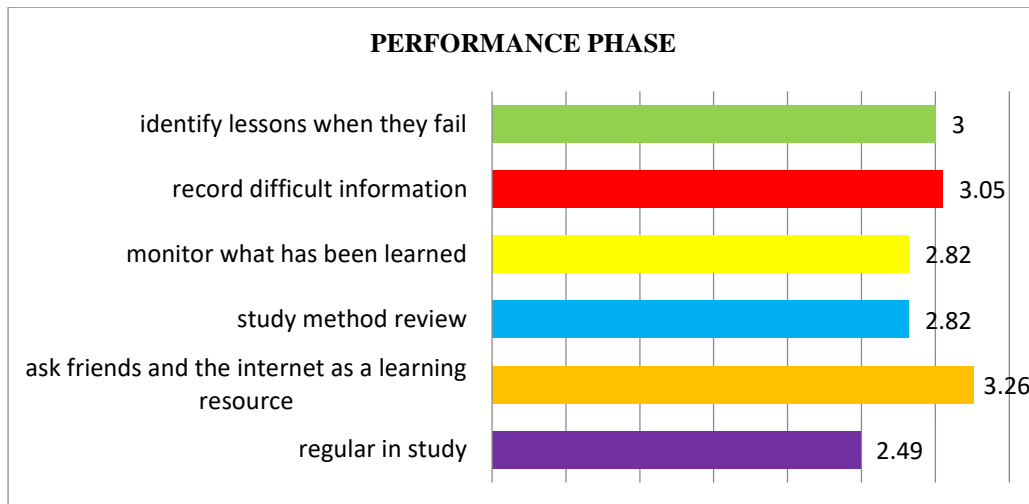
Figure 3. Performance Phase

Then, the second phase is the performance phase. This phase is the stage of student performance in the learning process with a self-regulated learning approach, namely identifying failures in learning, seeking their own information regarding the material, and reviewing the learning methods used and managing study time. From the graph above, it is known that some of the results of students' perceptions in the performance phase are known. First, on the part of students identifying lessons when they fail, the data obtained is (3). Second, on the part of students recording information, an average value of (3.05) was obtained. Then, on the part of students supervising what they have learned, the data is (2.82). After that, on the part of students reviewing learning methods obtained data of (2.82). Furthermore, on the part of students asking friends, the internet as a learning resource obtained an average of (3.26), and finally students who study English regularly obtained data of (2.49). These results suggest that while Moodle facilitates access to resources and collaborative learning, students still struggle with sustained self-monitoring and disciplined learning routines.
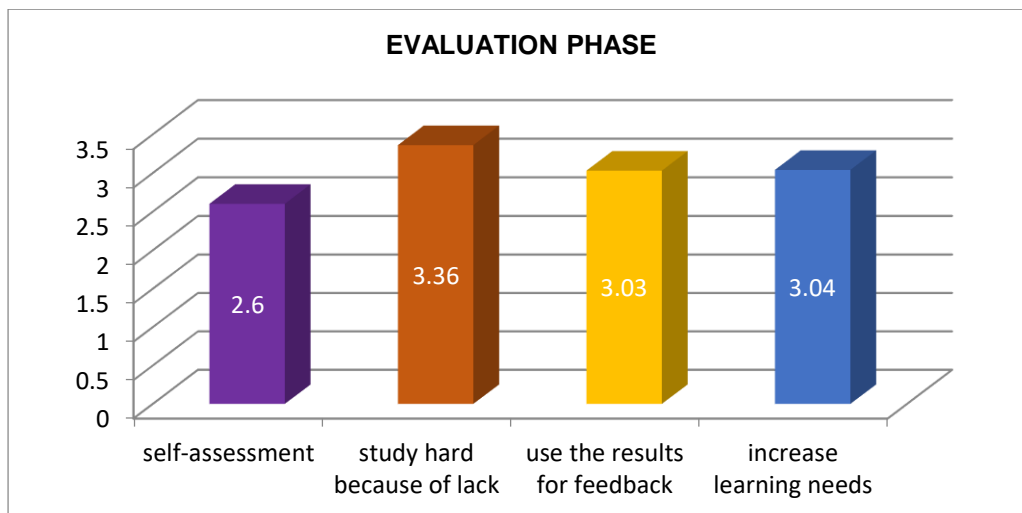

Figure 4. Evaluation Phase

The last phase in self-regulated learning is the evaluation phase. This phase is a phase where students evaluate the performance that has been done and the desired results. In the graph above, there are several data results in the Evaluation Phase. First, in the aspect of students making self-assessments from learning outcomes, the average score is (2.6). Second, on the part of students studying hard due to lack of data obtained by (3.36). Then, on the part of students taking advantage of several results for feedback, an average of (3.03) was obtained. Finally, on the aspect of students increasing the need for learning English, the data obtained is (3.04).

Discussion

This section contains an in-depth analysis and discussion of the findings related to student perceptions of Moodle-assisted self-regulated learning in English learning which includes the forethought phase, performance phase, and evaluation.

Data analysis in the forethought phase shows some of the strengths and weaknesses of self-regulated students in Moodle-assisted English learning. There are several weaknesses of students in the forethought phase. In the aspect of student independence in managing learning methods, the results are quite low, namely (2.81). This indicates that most students still do not pay attention to effective learning methods. The next result is that most students are still easily influenced and distracted while studying, with an average score of (2.51). This shows that students are still less focused on learning English independently. Students who enjoy learning English tend to be able to control their efforts and attention in the face of distractions and obstacles (Bai & Wang, 2020). Furthermore, the aspect of student independence in making a list of learning activities is also still relatively low, namely (2.5). This indicates that students are still sometimes in making structured schedule plans related to the activities to be carried out. In achieving learning with self-regulated learning, it is necessary for the individual's potential to improve learning by planning learning, controlling himself in self-observation, this includes arranging independent learning activities in achieving maximum learning goals (Aydan & Capa-Aydin, 2025; Dinh & Phuong, 2024). Furthermore, the consistency of students in determining the target of learning English is still quite low at (2.96). Then, student awareness in managing task completion time is also still low (2.88). In achieving successful learning, students need motivation and self-regulated learning from within (Salma & Alsa, 2023). When students are motivated to learn, they will dedicate time and energy to self-study. In addition, students will also be motivated to complete the tasks given by the teacher (Hindradjat et al., 2022; Sirk, 2025). These align with Yusup Supriyono, (2024), where technology factors predicted SRL in EFL learners but highlighted persistent time management issues (r=0.45, p<0.01). Nikmah et al., (2025) further corroborates, noting high self-efficacy in speaking skills yet weak proactive strategies among Indonesian EFL students using online platforms

However, on the other hand, the results of student perceptions show that when studying with the self-regulated learning model, students have a high desire to get satisfactory results or achievements with an average score of (3.69). Then, students feel quite consistent in achieving English learning with an average score of (3.08). In addition, students also feel more confident to get good results in English subjects. This is evidenced by the average given by students of (3.29). On the other hand, learning English with self-regulated learning that is not limited by conventional time is also still low with a value of (2.46). This is shown by a number of studies that SRL has a significant effect on learning achievement (Nakata et al., 2025; Pratama et al., 2023) and also academic achievement (Broadbent, J., & Poon, 2015; Dent, A. L., & Koenka, 2016).

Then, in the second phase, namely the performance phase, several weaknesses and strengths were also found in student self-regulated learning. The results of the analysis show that students in managing their independent study time are still low, that is, they sometimes manage their study time with a response value (2.49). To meet these deficiencies, the results of the analysis show that students are always actively asking friends, looking for material reference information using the internet as a learning resource. This response shows the value (3.26) where students always use communication with friends or look for literature reviews. Then, it was also found that the advantages of students in the performance phase were that they always identified lessons when they failed and always recorded difficult information with an average score of (3) and (3.05). This shows that during the learning process, students have the motivation to improve learning achievement. However, on the other hand, in the aspect of students monitoring what they are learning and students reviewing learning methods, they still show low scores, namely (2.82). In the formation of the SRL there are three phases of the cycle, namely forethought and planning, performance monitoring, and reflection on performance (Long, Y., & Aleven, 2017). This is also proven in research (Gestiardi & Maryani, 2020) if SRL can be achieved maximally when trying to regulate learning activities, control behavior and periodically monitor the progress of learning targets (Jiang et al., 2023; Xu et al., 2023).

Furthermore, in the Evaluation phase, the results of student responses showed that students were still low in managing self-assessment (self-assessment). According to (Kusminto & Poernomo) self-assessment is an assessment that involves students to assess their own competence. In the graph, the student's response score is (2.6) indicating that students do not make self-assessments. Self reflection is predicted to increase students' positive thinking, learning motivation and self-regulation (Wang, Chen, Lin, & Hong, 2017).

Furthermore, this implies that students are still lacking in processing and determining their own assessments in the learning process and tend to wait for the final results. Then, on another aspect, students use the results as feedback to improve the learning process and determine what they need and improve what must be maintained in learning, especially English, which received responses, respectively (3.03) and (3.04). On the other hand, although students are still lacking in making assessments and tend to use feedback in improving and determining needs in the learning process, in overcoming the shortcomings students will study hard, this will get a high response with an average result of (3.36).

Overall, the results indicate that Moodle provides a supportive environment for enhancing students' motivation and engagement in English learning; however, students still require guidance to effectively regulate their learning processes. Difficulties in planning, managing time, monitoring progress, and conducting self-assessment suggest that self-regulated learning skills are not yet fully developed. This finding highlights the importance of lecturers' instructional support in helping students maximize the benefits of Moodle-based learning. By incorporating structured learning guidance, regular feedback, and reflective activities, Moodle-assisted instruction can more effectively promote students' independence and responsibility in English language learning.

Conclution

From the description of the analysis above, several important points are known. There are several advantages and disadvantages of SRL (Self-Regulated Learning) in learning English. There are several shortcomings in the Forethought phase, namely the unconventional unlimited time aspect which gets the lowest score which shows that students tend to only do limited English learning such as only doing learning activities when there is interest, and so on. On the other hand, students do not make a list of activities and do not use effective learning methods so that student activities are not well planned. Then, students are also easily distracted while studying and have not been able to manage time in completing their assignments, this has an effect on the consistency of learning targets. In addition, there are also several advantages such as, students have high expectations to obtain satisfactory learning outcomes. Students also feel more confident and consistent in achieving English learning. Furthermore, in the performance phase the results were unsatisfactory on the part of students who were not regular in studying, supervising what had been learned and reviewing learning methods. Meanwhile, the highest average result is in the aspect of students identifying learning when they fail, students always record difficult information and the majority of students ask friends, the internet as a learning resource. The last is the evaluation phase, the results are unsatisfactory on the self-assessment aspect. Meanwhile, the advantages are in the aspect of active learning due to deficiencies, utilizing the results for feedback, and increasing learning needs.

From these results, there are advantages and disadvantages in self-regulated learning. If we look at the initial phase, namely the forethought phase, we can see that there are many shortcomings in student self-regulated learning, this has an impact on the next phase in the performance phase, where students are less able to manage themselves in learning. Thus, in the final phase, namely the evaluation phase, the student's self-assessment is low.

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