

Usage of Learning Management System (LMS): A Qualitative Study of Self-Regulated Learning on EFL Learners in University Between Hopes and Challenges

Santi Andriyani, Oikurema Purwati and Syafi'ul Anam

English Education Postgraduate Program, Universitas Negeri Surabaya, Surabaya, Indonesia

Keywords: LMS, Self-Regulated Learning, EFL Learners.

Abstract: This study is aimed at investigating the use of a learning management system (LMS) to promote self-regulated learning (SRL) for EFL learners at the University. This paper also is aimed at exploring the supporting and challenging factors in using LMS for EFL learners. This method used qualitative and quantitative studies. The instrument of this study used a semi-structured interview which was adopted from Gambo & Shakir (2021). The respondents of this research are eight EFL learners at University taken by convenience sampling. The questionnaires used are adopted from Prasetya (2021). The respondents are 54 learners. The results of this research showed that most of the features in LMS used by EFL learners are powerful to promote five components of SRL including goal setting, strategic planning, task strategy, elaboration, and help-seeking. The LMS features are divided into three categories. They are learning tools, communication tools, and productivity tools. The hopes of using LMS included the quality of English learning, collaboration, and also self-regulated learning. The challenges faced by learners are technology, capacity, e-learning support system, and self-regulation issues.

1 INTRODUCTION

In this globalization era, technologies become one of an essential things around the world. (Lyashenko & Malinina, 2015)(Cavus & Alhih, 2014).Technology systems are developing very rapidly and extending to various sectors, including the education sector.The implementation of modern technologies have made learning possible at any time and place(Cavus, 2011). One of the technology models is information and communication technology (ICT).It can be an essential role in educational aspect, having a special relevance and correlation in the instructional component, supported by Learning Management Systems (LMS)(Costa et al., 2016)). Therefore, this system requires a variety of current pedagogical models and trends to be able to improve students' skills and preferences to face the 21st century. One of the modern learning trends is Flipped-Class learning. This pedagogical model is often used in the teaching and learning process by adapting current technology, namely videos and virtual lectures from LMS (Zainuddin, Habiburrahim, Muluk, & Keumala, 2019).

In recent years, the practice and use of the Learning Management System (LMS) in learning has expanded and developed. This use also has a very strong influence on the educational process, especially at tertiary institutions(Cerezo, Sánchez-santillán, Paule-ruiz, & Núñez, 2016). Similarly, most of higher education institutions have been widely adopted the Learning Management Systems (LMS) globally for over a decade (Joel, 2015).

LMS is a system that has various infrastructure components that aim to transfer and distribute teaching materials to educational environments. The system includes data on the implementation of education, evaluation, educational targets, both individual and group targets, and controls all the learning processes that are carried out. (Soykan & Şimşek, 2017). Learning Management Systems (LMS) facilitate teachers, lecturers and students with virtual classes that can strengthen the learning process. In a virtual class environment or online class, Learning Management Systems (LMS) is a medium that strengthens class interaction for educational actors and goals(Bradley, 2020).

The use of i-classroom as part of blended learning could facilitate classroom interaction virtually. It also could connect students to their peers and other people, as well as used different ways, to find assistance in their learning (Wong et al., 2020). In addition, using the LMS in the EFL flipped classroom can give five learners' autonomy abilities, namely, receiving and distributing information, monitoring learning activities outside of class, students' pre-class learning content, peer interaction, and self-evaluating learning skills (Zainuddin et al., 2019).

One of the learning subject which uses the LMS is English learning in university. Some findings have reported about the benefits and positive impact of using LMS in English learning. Using LMS can improve students' English learning skill (Yafaei & Attamimi, 2019) (Putri & Sari, 2020), it also can support English teaching pedagogy's full capabilities (R. E. Prasetya, 2021). In addition, LMS makes students interested and motivated in learning English (Zainuddin et al., 2019), Next through LMS English students can improve their achievement and broader their experience (Rachmawati, Fadhilawati, & Setiawan, 2020).

The benefits of using LMS in learning are also related to the learners' positive attitude and behaviour. By using LMS in learning, learners improve their collaborative skill, autonomy (Lyashenko & Malinina, 2015), interaction and communication (Maulana & Lintang Sari, 2021). The important one is using online learning is the way students to regulate their learning through optimizing their cognitive and metacognitive process (Gafaro, 2019), namely self-regulated learning.

Self-regulated learning (SRL) consists of metacognitive, motivational, and behavioral processes that are personally initiated to acquire knowledge and skills. They are goal setting, planning, learning strategies, self-reinforcement, self-recording, and self-instruction (Zimmerman, 2015) (Identity & Rovane, 1998). SRL focuses on the learner's moldable role in explaining goals and strategies, as well as recognizing and reflecting on one's perceptions and influences alongside learning tasks (Triquet, Peeters, & Lombaerts, 2017).

Self-regulated learning is an active constructive process in which the learners take charge of their learning. The learners are characterized by high motivation level and actively involved in planning, setting goals, implementing and monitoring, and evaluating the entire process and their achievement (Saban Kumar K.C., 2021). Self-regulated learning is a system or process in which students plan goals, proactively regulate and manage

their cognition, maintain their motivation and their behaviour to get their goals (Öztürk, 2021).

The purpose of this paper is to investigate the use of learning management system to promote students' self-regulated learning in University in Indonesia. This paper also is aimed at exploring the supporting and challenging factors in using LMS to promote students' self-regulated learning between hopes and challenges.

2 METHOD

The study was conducted in the qualitative and quantitative research design. Qualitative research refers to a flawed structured research methodology to gain in-depth information about the use of LMS to promote self-regulated learning for EFL learners. The study utilized a semi-structured interview. It was conducted the depth interviewing of the respondent by convenient circumstances. The tangible research devices applied in the study composed focused on interviews.

The indicators of interview were adopted from Gambo & Shakir (2021) which focused on five components of SRL in smart learning. They are goal setting, strategic planning, task-strategy, elaboration, and help seeking. The respondents I took were English lecturers who used LMS in their lectures, and students who used LMS in the learning process. The number of interview respondents was 6 students and 3 lecturers.

The quantitative research is used to find out some hopes and challenges of using LMS for EFL learners. The questionnaire is prepared by using five points Likert scales (from strongly disagree to strongly agree). It was adopted from (R. Prasetya, 2021). The next step was to assess reliability and validity of the questionnaire. In terms of overall reliability, the Cronbach's alpha was .830, suggesting high internal consistency. The number of questioners respondents are 54 people.

3 RESULTS AND DISCUSSION

3.1 Findings

To find out the use of learning management system (LMS) for EFL Learners in University in order to promote self-regulated learning, it was conducted by interviewing eight respondents who were taken from every class and every level in English department.

Convenient sampling was used to choose the respondent of this research.

3.1.1 Goal Setting Aspect in Promote SRL Through LMS

All respondents agreed that LMS designed and set to let students through a process of reflection short- and long-term goals of learning. Communication feature of LMS supported them to think about considering what strategies they might use to accomplish and realize those goals. The lecturers posted some announcement about the course goal, informed about learning outcome of this course, learning goal every meeting and materials information every meeting as well. Therefore, students could access them conveniently.

I can manage and set my goal every course because in LMS through announcement site lecturers give information about the learning outcome and learning goal for every meeting (R4,T.1)

I can think what should I do to accomplish my goal through giving some information about learning outcomes in LMS (R2.T1)



Figure 1: The Information about learning goal every meeting and also the material.

3.1.2 Strategic Planning Aspect in Promote SRL Through LMS

All respondents supported that using LMS could facilitate students to conduct strategic planning for their learning. It is related to students' planning the sequence, timing and completion of activities directed at learning goals. Through LMS features such as announcement every meeting, task or

assignment feature, students can manage or plan and also conduct some strategies to finish the task. In addition, some lectures also gave them the final project of this course using project-based learning, so they can set some steps to accomplish the goals.

There is assignment feature to manage us and to give information the dateline of submitting the assignment, so we can manage our time to accomplish it (R3, T2)

Not only assignment feature but also a quiz feature in our LMS can support us to manage our time because there is dateline of finishing the quiz (R6, T2)

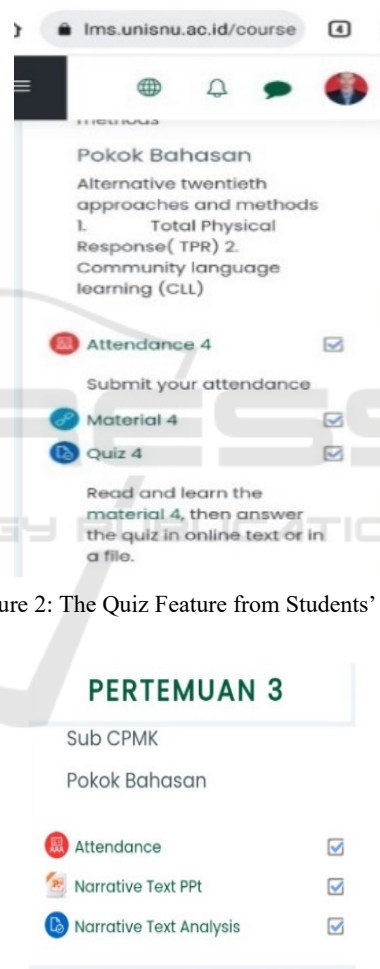


Figure 2: The Quiz Feature from Students' LMS.

3.1.3 Self-Evaluation Aspect in Promote SRL Through LMS

Concerning this aspect, students are able to reflect on their own learning, including their strengths and weaknesses. It can be conducted through some

Figure 3: The Assignment Feature from Students' LMS.

features in LMS such as grade feature, discussion feature, assignment feature and also reflection site. All respondents agreed that they can conduct self-evaluation by supporting some features in their LMS, such; 1) grade feature; the students can reflect what have been done and what have they got of their learning based on their scores; 2) discussion feature; students can evaluate their own learning and understanding based on the dynamic of discussion between student and student, and also between student and lecturer; 3) reflection site; some lecturers using in project-based learning and setting their steps in LMS post reflection site for the students. It is aimed at reflecting on areas that they have done well in and some areas that need improvement.

We can evaluate our performance in learning based on the lecturer feedback through grade feature, and discussion feature. We can know our weaknesses so we can build it (R6.T1)

There is a reflection aspect In ELT material development course and research method in ELT course which are set in LMS. By using reflection feature, we can write and express what we felt and what we got from those courses (R8, T1)

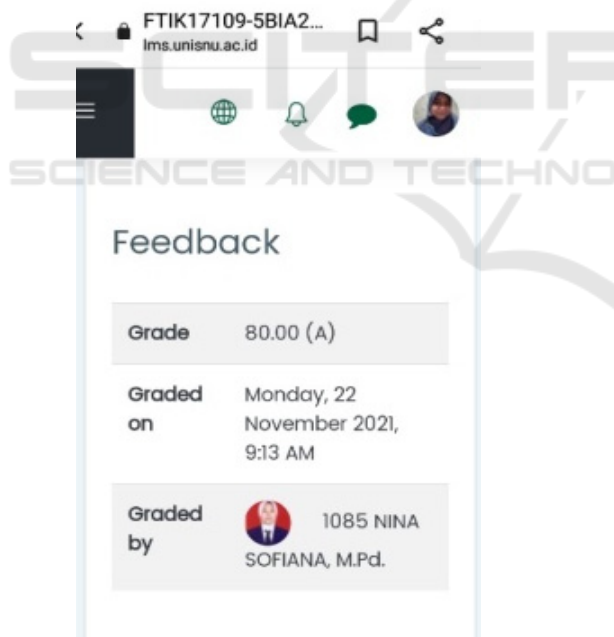


Figure 4: The Feedback from lecturer.

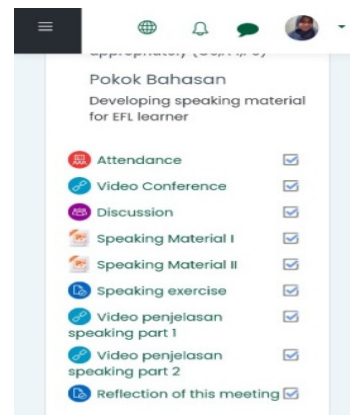


Figure 5: The reflection feature from students' LMS.

3.1.4 Task Strategy Aspect to Promote SRL Through LMS

Similar to strategic planning aspect, it focuses on organizing, planning, and transforming one's own study time and tasks. Based on the interview results, students can manage or plan some tasks given by lecturer due to distributing assignment feature in LMS. From that feature, we can access the instruction and rubric assessment of the task. The important one is students can get the information of the task dateline. Consequently, students can manage their time to accomplish the task. They also can organize some activities, such reviewing the material posted by lecturer, reviewing some discussion that is available in LMS.

We can manage our time to submit our assignment in LMS because the lecturer gives us the dateline information in our LMS. Therefore, we can plan some strategies to finish our task such reading materials and opening material video given by lecturer which set in LMS (R4, T4)

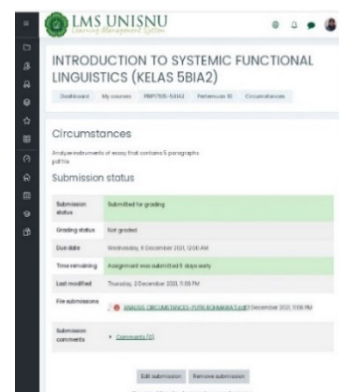


Figure 6: The information about timeline of assignment.

3.1.5 Elaboration Aspect to Promote SRL Through LMS

Concerning this aspect, elaboration is related to combining new knowledge with prior knowledge and constructing meaning from learned materials. For giving new knowledge and information about the course, the lecturers distributed the materials both PPT and PDF formats in LMS feature. In addition, students also got new knowledge from link shared through LMS. Some activities based on those features encourage students to learn and elaborate some knowledge that they have got. Besides, to construct some meaning and knowledge, the lecturer facilitated in discussion feature and also video conference feature so that between lecturers and students can share and elaborate some ideas related to the topic of this course.

To get the new materials or new knowledge, the lecturer posts them in LMS through material feature. The format file usually is using PPT (R1.T5)

Every meeting, the lecturers post some features such attendance, material link, discussion and also video conference link to conduct synchronous learning (R5.T5)

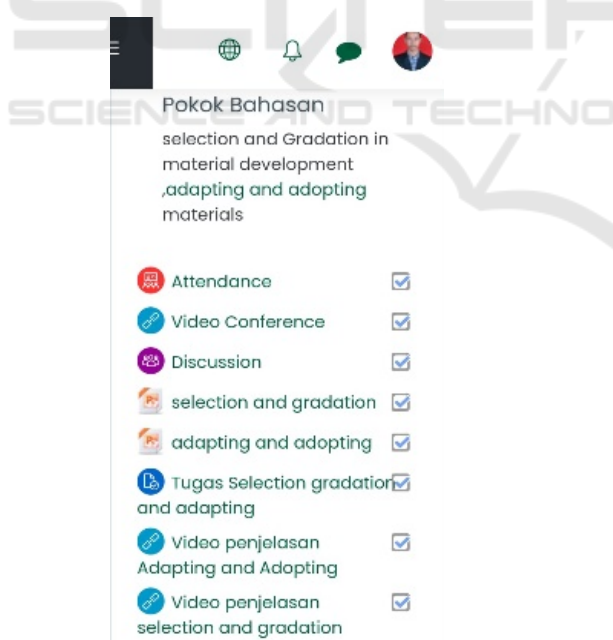


Figure 7: The material and video features.

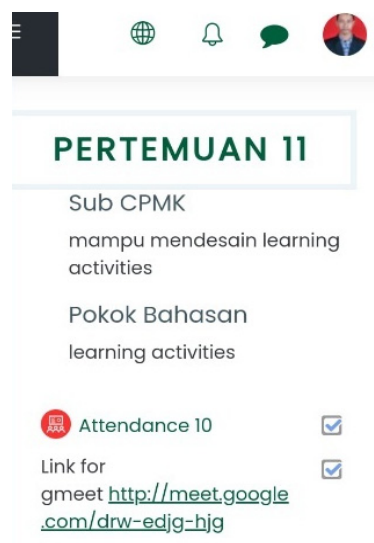


Figure 8: The Video Conference Link in LMS.

3.1.6 Help Seeking Aspect to Promote SRL Through LMS

Organizing and mapping the need for assistance becomes crucial when students experience learning difficulties and stagnation or are faced with a level of performance that is less than desired. With regard to the goal of seeking help students facilitate the recognition that seeking help can be a self-regulated learning strategy. The implementation of this aspect is asking other friends for help, or consultate to the lecturers or resources. In LMS we use discussion feature or video conference to ask for helping.

We can ask for help about the material, the task and also the project by using video conference with lecturer through google meet link. In addition, we can use discussion feature to confirm something unclear in every meeting (R6T6).

3.1.7 Hopes and Challenges in Using LMS for EFL Learners

To find out the hopes and challenges in using LMS for EFL learners in university, this study distributed 11 items related to the hopes, and 15 items related to challenges in using LMS. The result can be seen from the table below.

Based on the results above, it can be concluded that more than 75% the respondents agreed that LMS should improve and build the English teaching and learning. Some hopes expected by respondents in using LMS are this system (LMS) can improve the quality and handle the English problems, can improve some component of self-regulated learning such

Table 1: The percentage about general perception of LMS.

Q	SA	A	U	DA	SD
LMS improves the Quality of English Teaching in Higher Education	3 (5.5%)	45(85.1%)	6 (9.2%)	0 (0%)	0 (0%)
LMS makes English Language Pedagogical pleasant	2 (3.7%)	45(83.3%)	7 (12.9%)	0 (0%)	0 (0%)
LMS Improving comprehensive Language Skills	2(3.7%)	40(74%)	10 (18.5%)	2 (3.7%)	0 (0%)
LMS handles with Language Teaching obstacle	1(1.8%)	45(83.3%)	8 (14.8%)	0 (0%)	0 (0%)
LMS generates a collaborative language teaching & learning situation.	4(7.4%)	46(85.1%)	3 (5.5%)	0 (1%)	1 (1.8%)
LMS enhances language teaching interactive experiences	3(5.5%)	41(75.9%)	9 (16.6%)	1 (1.8%)	0 (0%)
LMS stimulates language teaching needs and interests	1(1.8%)	44(81.4%)	9 (16.6%)	0 (0%)	0 (0%)
LMS encourages independent language teaching and learning	7(12.9%)	46(85.1%)	1 (1.8%)	0 (0%)	0 (0%)
LMS implements a comfortable environment to encourage target language practice	3(5.5%)	43(79.6%)	7 (12.9%)	1 (1.8%)	0 (0%)
LMS is appropriate for small or large group activities	4(7.4%)	38(70.3%)	10 (18.5%)	2 (3.7%)	0 (0%)
LMS supports lecturers and students' academic progression	9(16.6%)	42(77.7%)	3 (5.5%)	0 (0%)	0 (0%)

Table 2: Learning Style and Cultural Challenges using LMS.

Q	SA	A	U	DA
Disability in accessing technology	3 (5.5%)	30 (55.5%)	15 (27.7%)	6 (11.1%)
University Support	10 (18.5%)	40 (74%)	4 (7.4%)	0 (0%)
Students' family background	3 (5.5%)	30 (55.5%)	19 (35.1%)	2 (3.7%)
Lack of classroom	5 (5.5%)	29 (53.7%)	17 (31.4%)	3 (5.5%)
Attitude towards ICT	7 (12.9%)	45 (83.3%)	2 (3.7%)	0 (0%)
Electronic learning referred to the student-focused approach	3 (5.5%)	40 (74%)	5 (9.2%)	5 (9.2%)
Materials in textbooks	1 (1.8%)	20 (37%)	25 (46.2%)	8 (14.8%)

Table 3: Pedagogical E-learning Challenges Using LMS.

Question	SA	A	U	D
Requires much preparation time compared to other approaches	3 (5.5%)	29 (53.7%)	20 (37%)	1 (1.8%)
The course is not boundary with conventional time	1 (1.8%)	31 (57.4%)	19 (35.1%)	3 (5.5%)

Table 4: Time Management Challenges Using LMS.

Q	SA	A	U	DA
Lack in explaining the material	4 (7.4%)	25 (46.2%)	17 (31.4%)	8 (14.8%)
Learners are bored because of feeling isolated and disconnected	4 (7.4%)	29 (53.7%)	12 (22.2%)	9 (16.6%)
Lack of student engagement	7 (12.9%)	35 (64.8%)	8 (14.8%)	4 (7.4%)
Lack of evaluating student's task-based performance	4 (7.4%)	28 (51.8%)	16 (29.6%)	5 (9.2%)

Table 5: Technological Challenges Using LMS.

Question	SA	A	U	DA
The unavailability of internet access/ WIFI other infrastructures	4 (7.4%)	32 (59.2%)	11 (20.3%)	6 (11.1%)
The lack of cheaper software	7 (12.9%)	32 (59.2%)	9 (16.6%)	5 (9.2%)

collaboration, exploring new knowledge and experience, motivation and encouraging.

The table below describe some challenges related to using LMS for EFL learners.

Based on the tables above, it can be concluded that the challenges of using LMS by EFL learners are placed into four aspects. They are learning style and cultural challenges, pedagogical e-learning challenges, technological challenges, and time management challenges. The learning style and cultural challenges in using technology are the lack of teachers' or lecturers' ability, the concept of student-centered learning which still weak in Indonesian cultural. The next challenges are about pedagogical e-learning challenges. Those are related to students' motivation and engagement to be interested in learning using LMS. It is also related to some difficulties in assessing student's task-based performance. The third aspect of challenging in using LMS is technological challenging. It is about unstable signal and limited software used by learners. The last aspect is time management challenge. It focuses on long preparation to perform the LMS. It needs more time.

3.2 Discussion

Based on the findings above, it can be concluded that most of features in LMS used by EFL students are powerful to support the students' self-regulated learning including goal setting, strategic planning, task-strategy, self-evaluation, elaboration and help seeking. LMS tools can be addressed into three models they are learning skill tools, communication tools, and productivity tools (Onodipe, Keengwe, & Cottrell-Yongye, 2020).

Some features that related to the learning skills tools are quizzes, attendance, assignment, video conference. Whereas some features related to the communication tools are; announcement and discussion. Then, some features related to productivity tools are material, video material, record grades. Goal setting is one of self-regulated learning components in enhance online learning. Goals involve setting and modifying task-specific goals that serve as criteria against which to gauge progress (Schunk, 2005) (Scroll & For, 2010). Goal setting in Zimmerman's Cyclical Phases Model is included forethought phase (Panadero, 2017). Distributing some features related to goal setting in LMS gives best performance for learners (Handoko, Gronseth, McNeil, Bonk, & Robin, 2019) (Kitsantas, Robert, & Doster, 2004), and positive impact on SRL (Barkah Sanyoto, 2021).

Strategic planning is also essential for encouraging self-regulated learning of learners. Strategic planning promotes students' construction of mental representations of their goals, as well as the organization and management of strategies for achieving them (Eilam & Aharon, 2003). It could be started with determining goals, then the students should manage and plan using specific strategic to accomplish their goals (Chen, 2011). It is similar to task strategy which is one of component of SRL that related to cognitive domain. The cognitive area introduces the resources and also strategies that support in addressing the task. Metacognitive awareness recognizes the difficulty of the task and identifies the knowledge and skills needed for addressing the task (Rowe & Rafferty, 2013), Task strategy also significant correlation and predictor with SRL (Lee, Watson, & Watson, 2020).

The finding of this study also related to elaboration to promote SRL. It is proven by research (Liu, Xiang, McBride, & Chen, 2020) stated that elaboration component gives predominant effect to SRL. Elaboration refers to our ability to embellish new information in long term memory. Elaboration can occur at a shallow or deep level (Mehrens, W.A. & Lehmann, 1991). The last component of SRL is help seeking. It is supported by LMS to facilitate students to ask for help about their problems from teachers and more knowledgeable peers who are able to scaffold them to find or develop solutions (Dong, Jong, & King, 2020). It is proven by previous studies that showed contributing to a better understanding of contemporary university students' online academic help seeking (Cheng, Liang, & Tsai, 2013) (Won, Hensley, & Wolters, 2021).

Some findings related to hopes and challenges in using LMS for EFL learners are supported by some previous studies. Based on Xiao (2020) stated that to improve professional development LMS or Moodle can build with interactive platform and much features (Paragină, Paragină, Jipa, Savu, & Dumitrescu, 2011) (Egorov, Prokhorova, Lebedeva, Mineeva, & Tsvetkova, 2021), add best capacity (Deliwe, 2020). The findings related to some challenges are similar to some previous studies. LMS must be placed on using LMS friendly user interfaces that can enable all tools and functions (Al-Hunaiyyan, Al-Sharhan, & AlHajri, 2020), (Zain, Fadil, & Hadi, 2018) (Sahoo, Odame, Reddy, & Khan, 2020). In addition some challenges are connectivity, e-learning system support, and technological (Bhalalusesa, 2013) and self-regulation issues (Aini, Budiarto, Putra, & Rahardja, 2020).

4 CONCLUSION

This study is exploring the use of LMS to promote self-regulated learning on EFL learners in University. The features of LMS set by English lecturers support EFL learners' self-regulated learning. The component of SRL adopted to conduct this research consists of goal setting, strategic planning, task-strategy, elaboration, and help seeking. Those components are built by some features of LMS are quizzes, attendance, assignment, video conference, announcement, discussion, material site, video material, and also record grades. By using features of LMS encourage and improve students' self-regulated learning. EFL learners' perception about hopes showed that using LMS can improve the quality of English learning both lectures and learners. Some challenges related to this finding showed some aspect including technological skill, capacity and e-learning support system.

REFERENCES

- Aini, Q., Budiarto, M., Putra, P. O. H., & Rahardja, U. (2020). Exploring E-learning Challenges During the Global COVID-19 Pandemic: A Review. *Jurnal Sistem Informasi*, 16(2), 57–65. <https://doi.org/10.21609/jsi.v16i2.1011>
- Al-Hunaiyyan, A., Al-Sharhan, S., & AlHajri, R. (2020). Prospects and Challenges of Learning Management Systems in Higher Education. *International Journal of Advanced Computer Science and Applications*, 11(12), 73–79. <https://doi.org/10.14569/IJACSA.2020.01112.09>
- Barkah Sanyoto, G. S. (2021). The Effect of Goal Setting, Self Efficacy, Interest and Peer Support On Self Regulated Learning. *Angewandte Chemie International Edition*, 6(11), 951–952., 7(1), 2013–2015.
- Bhalalusesa, R. (2013). Challenges of Using E-learning Management Systems faced by the Academic Staff in Distance Based Institutions from Developing Countries: A Case Study of the Open University of Tanzania. *Huria: Journal of the Open University of Tanzania*, 14(1), 89-110–110.
- Bradley, V. M. (2020). Learning Management System (LMS) Use with Online Instruction. *International Journal of Technology in Education*, 4(1), 68. <https://doi.org/10.46328/ijte.36>
- Cavus, N. (2011). Investigating mobile devices and LMS integration in higher education: Student perspectives. *Procedia Computer Science*, 3, 1469–1474. <https://doi.org/10.1016/j.procs.2011.01.033>
- Cavus, N., & Alhih, M. S. (2014). Learning Management Systems Use in Science Education. *Procedia - Social and Behavioral Sciences*, 143, 517–520. <https://doi.org/10.1016/j.sbspro.2014.07.429>
- Cerezo, R., Sánchez-santillán, M., Paule-ruiz, M. P., & Núñez, J. C. (2016). SC. *Computers & Education*. <https://doi.org/10.1016/j.compedu.2016.02.006>
- Chen, P.-H. (2011). Guiding College Students To Develop Academic Self-Regulatory Skills. *Journal of College Teaching & Learning (TLC)*, 8(9), 29–34. <https://doi.org/10.19030/tlc.v8i9.5642>
- Cheng, K. H., Liang, J. C., & Tsai, C. C. (2013). University students' online academic help seeking: The role of self-regulation and information commitments. *Internet and Higher Education*, 16(1), 70–77. <https://doi.org/10.1016/j.iheduc.2012.02.002>
- Costa, P. M., Fontes, T., Nunes, A. A., Ferreira, M. C., Costa, V., Dias, T. G., ... Falc??o E Cunha, J. (2016). Application of Collaborative Information Exchange in Urban Public Transport: The Seamless Mobility Solution. *Transportation Research Procedia*, 14, 1201–1210. <https://doi.org/10.1016/j.trpro.2016.05.191>
- Deliwe, A. P. (2020). The Use of Learner Management System (MOODLE) in Promoting Teaching and Learning. *Universal Journal of Educational Research*, 8(12B), 8383–8392. <https://doi.org/10.13189/ujer.2020.082644>
- Dong, A., Jong, M. S. Y., & King, R. B. (2020). How Does Prior Knowledge Influence Learning Engagement? The Mediating Roles of Cognitive Load and Help-Seeking. *Frontiers in Psychology*, 11(October), 1–10. <https://doi.org/10.3389/fpsyg.2020.591203>
- Egorov, E. E., Prokhorova, M. P., Lebedeva, T. E., Mineeva, O. A., & Tsvetkova, S. Y. (2021). Moodle LMS: Positive and Negative Aspects of Using Distance Education in Higher Education Institutions. *Propósitos y Representaciones*, 9(SPE2). <https://doi.org/10.20511/pyr2021.v9nspe2.1104>
- Eilam, B., & Aharon, I. (2003). Students' planning in the process of self-regulated learning. *Contemporary Educational Psychology*, 28(3), 304–334. [https://doi.org/10.1016/S0361-476X\(02\)00042-5](https://doi.org/10.1016/S0361-476X(02)00042-5)
- Gafaro, B. C. (2019). Exploring self-regulated language learning with MOOCs. *Journal of Interactive Media in Education*, 2019(1), 1–5. <https://doi.org/10.5334/jime.527>
- Gambo, Y., & Shakir, M. Z. (2021). Review on self-regulated learning in smart learning environment. *Smart Learning Environments*, 8(1). <https://doi.org/10.1186/s40561-021-00157-8>
- Handoko, E., Gronseth, S. L., McNeil, S. G., Bonk, C. J., & Robin, B. R. (2019). Goal setting and MOOC completion: A study on the role of self-regulated learning in student performance in massive open online courses. *International Review of Research in Open and Distance Learning*, 20(3), 39–58. <https://doi.org/10.19173/irrodl.v20i4.4270>
- Identity, S., & Rovane, C. (1998). Methods and Environments for Learning. *International Encyclopedia of the Social & Behavioral Sciences*.
- Joel, S. M. (2015). Learning Management System success : Increasing Learning Management System usage in higher education in sub-Saharan Africa Joel S . Mtebe. *International Journal of Education and Development*

- Using Information and Communication Technology*, 11(2), 51–64.
- Kitsantas, A., Robert, A. R., & Doster, J. (2004). Developing self-regulated learners: Goal setting, self-evaluation, and organizational signals during acquisition of procedural skills. *Journal of Experimental Education*, 72(4), 269–287. <https://doi.org/10.3200/JEXE.72.4.269-287>
- Lee, D., Watson, S. L., & Watson, W. R. (2020). The relationships between self-efficacy, task value, and self-regulated learning strategies in massive open online courses. *International Review of Research in Open and Distance Learning*, 21(1), 1–22. <https://doi.org/10.19173/irrodl.v20i5.4564>
- Liu, J., Xiang, P., McBride, R. E., & Chen, H. (2020). Self-regulated learning strategies and achievement goals among preservice physical education teachers. *European Physical Education Review*, 26(2), 375–391. <https://doi.org/10.1177/1356336X19859602>
- Lyashenko, M. S., & Malinina, I. A. (2015). The Use of Learning Management System Projects for Teaching a Foreign Language in the University. *Procedia - Social and Behavioral Sciences*, 182, 81–88. <https://doi.org/10.1016/j.sbspro.2015.04.741>
- Maulana, N. R., & Lintang Sari, A. P. (2021). The Use of Moodle in English Language Learning During the Pandemic: the Students' Voice. *The Journal of English Literacy Education*, 8(1), 27–41.
- Mehrens, W.A. & Lehmann, I. J. (1991). *Measurement and evaluation in education and psychology*. ((3rd Ed.)). New York: Holt, Rinehart and Winston.
- Onodipe, G., Keengwe, J., & Cottrell-Yongye, A. (2020). Using Learning Management System to Promote Self-regulated Learning in a Flipped Classroom. *Journal of Teaching and Learning with Technology*, 9(1), 3–18. <https://doi.org/10.14434/jotlt.v9i1.29375>
- Öztürk, M. (2021). The effect of self-regulated programming learning on undergraduate students' academic performance and motivation. <https://doi.org/10.1108/ITSE-04-2021-0074>
- Panadero, E. (2017). A review of self-regulated learning: Six models and four directions for research. *Frontiers in Psychology*, 8(APR), 1–28. <https://doi.org/10.3389/fpsyg.2017.00422>
- Paragină, F., Paragină, S., Jipa, A., Savu, T., & Dumitrescu, A. (2011). The benefits of using MOODLE in teacher training in Romania. *Procedia - Social and Behavioral Sciences*, 15, 1135–1139. <https://doi.org/10.1016/j.sbspro.2011.03.252>
- Prasetya, R. (2021). Perception and Challenges Integrating Teaching English Based on LMS Moodle During Covid-19 Pandemic. *Elitejournal.Org*, 3(1), 31–50.
- Prasetya, R. E. (2021). Effectiveness of Teaching English for Specific Purposes in LMS Moodle: Lecturers' Perspective. *Journal of English Language Teaching and ...*, 6(1), 93–109.
- Putri, E., & Sari, F. M. (2020). INDONESIA EFL STUDENTS' PERSPECTIVES TOWARDS LEARNING MANAGEMENT SYSTEM SOFTWARE, 1(1), 20–24.
- Rachmawati, D. L., Fadhilawati, D., & Setiawan, S. (2020). The Implementation of Computer-Assisted Language Learning (CALL) in the EFL Setting: A Case Study in a Secondary School in Indonesia. *English Teaching Journal: A Journal of English Literature, Linguistics, and Education*, 8(2), 91–102. <https://doi.org/10.25273/etj.v8i6.7733>
- Rowe, F. A., & Rafferty, J. A. (2013). Instructional Design Interventions for Supporting Self-Regulated Learning: Enhancing Academic Outcomes in Postsecondary E-Learning Environments, 9(4), 590–601.
- Saban Kumar K.C. (2021). Teachers' Perception of the Students' Readiness for Self-regulated Learning during the COVID-19 Pandemic. *NELTA Journal*, 25(1–2), 165–178.
- Sahoo, K. K., Odame, J., Reddy, V., & Khan, A. H. (2020). Utilization of Moodle Learning Management System (Lms) By Undergraduate Students At the Kings University College, Ghana, 29(7), 4208–4214.
- Schunk, D. H. (2005). The Legacy and the Challenges: Paul Pintrich's Contributions to Personal Epistemology Research. *Educational Psychologist*, 1520(August), 37–41. <https://doi.org/10.1207/s15326985ep4002>
- Scroll, P., & For, D. (2010). Goal Setting and Self-Efficacy During Self-Regulated Learning Goal Setting and Self-Efficacy During Self-Regulated Learning. *Educational Psychologist*, 25(1), 71–86. <https://doi.org/10.1207/s15326985ep2501>
- Soykan, F., & Şimşek, B. (2017). Examining studies on learning management systems in SSCI database: A content analysis study. *Procedia Computer Science*, 120, 871–876. <https://doi.org/10.1016/j.procs.2017.11.320>
- Triquet, K., Peeters, J., & Lombaerts, K. (2017). Self-Regulated Learning Online: Benefits, Empirical Foundations, Multi-level and Multi-modal Promotion, and the Evaluation thereof for Teacher Professional Development, (October), 36.
- Won, S., Hensley, L. C., & Wolters, C. A. (2021). Brief Research Report: Sense of Belonging and Academic Help-Seeking as Self-Regulated Learning. *Journal of Experimental Education*, 89(1), 112–124. <https://doi.org/10.1080/00220973.2019.1703095>
- Wong, T. L., Xie, H., Zou, D., Wang, F. L., Tang, J. K. T., Kong, A., & Kwan, R. (2020). How to facilitate self-regulated learning? A case study on open educational resources. *Journal of Computers in Education*, 7(1), 51–77. <https://doi.org/10.1007/s40692-019-00138-4>
- Xiao, Q. (2020). Using open-source learning platform(Moodle) in university Teachers' professional development. *Journal of Physics: Conference Series*, 1646(1). <https://doi.org/10.1088/1742-6596/1646/1/012036>
- Yafaci, Y. Al, & Attamimi, R. (2019). Understanding Teachers' Integration of Moodle in EFL Classrooms: A Case Study. *English Language Teaching*, 12(4), 1. <https://doi.org/10.5539/elt.v12n4p1>
- Zain, N. M., Fadil, N. F. M., & Hadi, A. A. (2018). Learning Management System: An experience and perception study from medical imaging lecturers and scholars in a

private university. *International Journal of Interactive Mobile Technologies*, 12(7), 174–180. <https://doi.org/10.3991/ijim.v12i7.9638>

- Zainuddin, Z., Habiburrahim, Muluk, S., & Keumala, C. M. (2019). How do students become self-directed learners in the EFL flipped-class pedagogy? A study in higher education. *Indonesian Journal of Applied Linguistics*, 8(3), 678–690. <https://doi.org/10.17509/ijal.v8i3.15270>
- Zimmerman, B. J. (2015). *Self-Regulated Learning: Theories, Measures, and Outcomes*. *International Encyclopedia of the Social & Behavioral Sciences: Second Edition* (Second Edi, Vol. 21). Elsevier. <https://doi.org/10.1016/B978-0-08-097086-8.26060-1>

