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LMS Mediated Blended Learning in English for Academic Purpose: Pharmacy Students' View

Faisal Rahman[1], Aulia Azmi[2]
[1,2]Universitas Sari Mulia, Indonesia
faisalrahman@unism.ac.id

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Abstract

This study aims to identify pharmacy students' perception on the implementation of Learning Management System (LMS) mediated blended learning in English for Academic Purpose (EAP) course. The scope of this study is in several factors, such as the use of LMS in blended learning, and the effectiveness of blended learning in EAP context to develop students' motivation, communication skill, vocabulary, critical thinking and social interaction according to the students' perception. This research utilizes a quantitative approach employing an analytical survey with an exploratory component using Likert scale questionnaire to collect the data. The population of this research is 115 students of pharmacy taking EAP course. The sample is 35 students selected using simple random sampling technique. This study reveals that blended learning is perceived positively by students in this EAP course, particularly for developing core skills and understanding the subject matter. Additionally, blended learning is also considered interesting and enjoyable. However, there is room for improvement in fostering critical thinking and social interaction. This result recommends educators to implement LMS mediated blended learning in English Language teaching and learning with several improvement, especially in the way to improve students' critical thinking and social interaction.

Keywords: blended learning, EAP, LMS, pharmacy students

Introduction

English is a skill that must be possessed by students in facing the progress of the times and the challenges of globalization as well as a supporting ability for the success of their future careers, including Pharmacy students. For pharmacy students, the English studied is English for Specific Purposes (ESP). ESP is a learning process that focuses on methods and experiences that are different from English in general (Rahman, 2015).

ESP is a learning program that aims to facilitate the English language needs of pupils or students according to their professional role (Solihati & Rahayu, 2021). This ESP program is different from General English (GE) or English language learning in general. Robinson stated several things that make ESP different from GE, namely that learning activities in ESP are oriented towards learning goals, students learn English not because of the language, but because the specific objectives of learning English, both academically and professionally; learning content is designed and developed based on an analysis of student needs; and ESP is specifically for adult learners (Sari et al., 2019). The ESP program is a good program to introduce students to English according to their discipline and perspective.

One of the branches of ESP is English for Academic Purposes (EAP) which is defined as English learning that combines learning content with English and the learning needs of students (Woźniak & Arada, 2018). EAP can be interpreted as part of English education, EAP focuses on improving learners' academic abilities in English (Dvoretskaya, 2016) that the scope of EAP is linguistics, sociolinguistics and psycholinguistics in the context of academic studies. The learning implemented in EAP so far has only been carried out using conventional methods such as lectures and discussions which makes student learning motivation low. Therefore, there is a need for a new breakthrough to solve the problem of the EAP learning method which tends to be boring and not interactive.

One way that can be done to improve the quality of EAP learning is by integrating digital technology in learning. The results of previous research show that students prefer interesting learning methods with various activities, both individual and group (F. Rahman & Rohama, 2022b). Some ways to integrate digital technology in interesting and quality learning are by using interactive learning media such as videos, online quizzes and other digital-based media (F. Rahman & Rohama, 2022a). This is proven in other research which shows that the use of video as a learning medium can increase students' learning motivation (F. Rahman et al., 2022). Apart from that, the use of a Learning Management System (LMS) can also make EAP learning more effective and efficient (F. Rahman et al., 2021). Another media that can be used in EAP learning is online quizzes such as Kahoot! (Rahman et al., 2019).

Digital technology-supported EAP teaching and learning process requires a good method and strategy. The one teaching method is blended learning which is the integration of offline and online learning. Several studies have proven the effectiveness of blended learning in English Language Teaching (ELT) to improve students' English skills (Adas & Bakir, 2013; Ghazizadeh & Fatemipour, 2017; Grgurović, 2011) and motivation (Banditvilai, 2016; Liu, 2013; Manan et al., 2012). However, there is limited study investigated the implementation of blended learning in English for Academic Purpose (EAP). The current study investigated focus on the students' perception on LMS supported Blended Learning in English for Academic Purpose.

Theoretical Review

Blended learning

The rise of technology integration in classrooms, coupled with educational institutions' adoption of these advancements, has led to a growing interest in distance learning through internet-based platforms, particularly in language education. This surge in technology-mediated learning coincides with a longstanding research focus on blended learning approaches (Altay & Altay,

2019). Building on previous work, Graham (2006) emphasizes the combination of face-to-face instruction with computer-mediated learning as a defining feature of blended learning systems. Reinforcing this concept, Garrison & Kanuka (2004) highlight the "thoughtful integration" of classroom and online learning experiences as central to blended learning. Consequently, a common understanding emerges, where both definitions converge on the crucial role of integrating face-to-face and online instruction/learning in blended learning approaches.

Allen & Seaman (2010) operationalized blended learning courses as those featuring a combination of online and face-to-face delivery, with a significant emphasis on online content delivery (Allen & Seaman, 2010). Notably, they propose a quantitative range for online content delivery in blended learning, suggesting 30-79% of the course material should be delivered online.

Garrison & Vaughan (2008) posit that blended learning emerged from the desire to leverage the strengths of both face-to-face and distance education. Their definition emphasizes the combination of traditional classroom lectures with online learning activities within the teaching and learning process. Similarly, Neumeier (2005) underscores the importance of designing blended learning experiences to optimize the combination of in-person and online modalities for specific learners, contexts, and learning objectives.

A research suggests that blended learning offers a compelling alternative to traditional or online-only approaches by fostering a stronger sense of engagement and community (Tayebinik & Puteh, 2013). This is attributed to blended learning's ability to provide a wider range of learning opportunities that enhance student motivation within and beyond the classroom setting (Senffner & Kepler, 2015). The inherent flexibility and scalability of blended learning further contribute to its value. The online component empowers students to pursue learning activities at their own pace and convenience, independent of group schedules or partner availability.

Thus, blended learning represents a pedagogical approach that strategically integrates online learning experiences with traditional face-to-face instruction. This approach leverages a variety of learning media and resources to effectively support student learning outcomes. Research has consistently demonstrated the effectiveness of blended learning in enhancing student motivation and academic achievement. Experts presented different models of blended learning.

Watson (2008) conceptualized blended learning as occupying a spectrum between fully online and entirely face-to-face learning environments that encompasses seven distinct categories: (1) Fully Online

Delivery: All learning activities occur online in a remote setting, with no face-to-face interaction; (2) Online with Optional Face-to-Face: The curriculum is primarily online, but opportunities for in-person instruction are available (though not mandatory); (3) Predominantly Online with Classroom/Lab Sessions: The majority of learning is online, with designated days requiring physical presence in a classroom or computer lab; (4) Online-Dominant Classroom/Lab Environment: Instruction occurs primarily online within a physical classroom or computer lab setting, where students meet daily; (5) Classroom-Based with Substantial Online Integration: Traditional classroom instruction is supplemented with significant, mandatory online components that extend learning beyond both classroom hours and the school day; (6) Classroom with Online Resources: The classroom setting is the primary mode of instruction, but online resources are incorporated to some extent. Student online interaction may be limited or non-mandatory; and (7) Traditional Face-to-Face Learning: This category represents a purely face-to-face learning environment with minimal or no online resources or communication employed.

In addition, Staker & Horn (2012) proposed a typology of four blended learning models encompassing a wide range of school programs. The first model, the rotation model, involves students circulating between various learning modalities, including online learning, alongside traditional methods like full-class instruction, group projects, and individual tutoring. The flex model emphasizes primarily online content delivery, with students progressing through the curriculum at an individualized pace. Instructors or other facilitators provide face-to-face support when needed through activities such as small group work, collaborative projects, and personalized training. The self-blend model allows students to supplement their traditional coursework by taking one or more online courses. Finally, the enriched-virtual model features a division of learning time between physical campus attendance and remote participation in online learning environments.

Blended learning in English Language teaching

A growing body of research suggests that blended learning offers a fruitful approach to cultivating foreign language skills. These studies demonstrate that blended learning environments, as opposed to solely face-to-face or online instruction can foster advancements in learners' speaking, listening, reading, and writing abilities.

Adas & Bakir (2013) investigated the efficacy of a blended learning strategy in enhancing the writing competency of EFL learners. The study employed a quasi-experimental design with 60 EFL learners from a Palestinian university. Participants were randomly assigned to either a control group receiving traditional face-to-face

writing instruction or a treatment group receiving blended learning instruction. Writing performance was assessed for both groups at the conclusion of the intervention period. Statistical analysis revealed a significant improvement in writing performance for the blended learning group compared to the control group. These findings suggest that a blended learning approach can positively impact the development of writing competencies in EFL learners. Furthermore, the researchers observed improvements in various writing aspects within the blended learning group, including grammar, spelling, punctuation, and paragraph coherence.

Ghazizadeh & Fatemipour (2017) conducted a quasi-experimental study investigating its effectiveness in developing reading skills among English as Foreign Language (EFL) learners. Specifically, the study explored whether blended learning could enhance reading proficiency in a group of 60 Iranian EFL learners at the intermediate level. Participants were randomly assigned to either an experimental group receiving blended learning instruction focused on reading skills alongside traditional classroom teaching, or a control group receiving a more traditional approach. Reading proficiency was assessed for both groups before and after the intervention. Employing a t-test to compare the groups' post-intervention scores, the researchers revealed a statistically significant positive effect of blended learning on the EFL learners' reading proficiency. These findings support Ghazizadeh & Fatemipour's (2017) claim that blended learning has a direct positive impact on language learners' reading skills. Furthermore, the study suggests that blended learning can facilitate the learning process and be a successful approach in EFL reading instruction.

Larsen's (2012) investigation into the use of blended learning explored its impact on student perceptions and learning behaviors within an ESL writing course. The study revealed that blended learning fostered a more autonomous learning environment, characterized by increased student autonomy and a stronger sense of ownership over the learning materials. It is important to distinguish between "autonomy" and "self-directed learning" (Holec, 1981). While often used interchangeably, autonomy emphasizes the ability to take charge of one's learning journey, while self-directed learning focuses on students assuming responsibility for their learning. This emphasis on learner autonomy aligns with Poon's (2013) assertion that a key advantage of blended learning environments is their ability to motivate students towards self-directed learning, allowing them to learn "at their own pace and in their own time".

Likewise, Liu's (2013) research found that convergence of evidence from both instructor reflections and student evaluations across terms suggests that the blended learning approach was well-received and

yielded positive outcomes for learners. Students reported benefits in several key areas: increased student-to-student and student-teacher interaction reduced or eliminated communication apprehension, enhanced motivation towards independent and autonomous learning, and ultimately, improvement in their academic English writing abilities.

The presented studies have proven that blended learning is a great alternative in English Language Teaching and learning. It supports teacher and students in improving learning, motivation, and engagement.

Method

This study utilizes a quantitative approach employing an analytical survey with an exploratory component. Data collection is achieved through a five-point Likert Scale questionnaire, where 1 represents "strongly disagree", 2 represents “disagree”, 3 represents “fairly agree”, 4 represents “agree”, and 5 signifies "strongly agree" (Sugiyono, 2010). Consistent with this approach, the research leverages Likert Scale questionnaires to gather student perceptions for subsequent statistical analysis of response trends (Creswell, 2014).

The target population for this study comprised all 105 students enrolled in the English for Academic Purposes (EAP) course within the Pharmacy Study Program at the Faculty of Health, Sari Mulia University, during the 2022/2023 academic year. A simple random sampling technique was employed to select a representative sample of 35 participants from this population.

Data collection for this research was conducted via a survey instrument in the form of a questionnaire. This questionnaire was designed to capture student perceptions regarding the implementation of Blended Learning within the context of their EAP learning experience.

The study employs descriptive statistics, specifically univariate analysis, to examine student perceptions of Blended Learning within the context of their EAP learning. This analysis will involve calculating frequencies, constructing frequency tables, and generating frequency distributions of student responses across various perceptual variables. Data analysis will be conducted using the Statistical Package for Social Sciences (SPSS) software. The results will be presented visually using appropriate graphical representations tailored to the specific variables being investigated (Creswell, 2014).

A scoring system was established to interpret the Likert Scale data. Each response option was assigned a numerical value: 5 for "Strongly Agree," 4 for "Agree," 3 for "Fairly Agree," 2 for "Disagree," and 1 for "Strongly Disagree." The total score for each statement was calculated based on the following formula: Maximum Score: Total Sample Size x Highest Response Value (35 x 5 = 175); Minimum Score: Total Sample Size

x Lowest Response Value (35 x 1 = 35); Score Range: (Maximum Score - Minimum Score) / Number of Response Options [(175 - 35) / 5 = 28]

Therefore, the possible score range for each statement is 28, with a minimum score of 35 and a maximum score of 175. The next step is to determine the interpretation criteria for each statement. Interpretation of the total score can be seen in the table below:

Table 1. Interpretation of total scores

Score	Interpretation
148 – 175	Strongly Agree (SA)
120 – 147	Agree (A)
93 – 119	Fairly Agree (FA)
64 – 91	Disagree (D)
35 – 63	Strongly Disagree (SD)

Result

The result of questionnaire is presented in the table below:

Table 2. Questionnaire Result

Statement	Strongly Agree		Agree		Fairly Agree		Disagree	
	F	P	F	P	F	P	F	P
Learning material presented in LMS is easy to understand	10	28.5	19	54.2	5	14.2	1	2.86
LMS is easy to use in blended learning	10	28.5	16	45.7	7	20.0	2	5.71
The use of LMS improves my learning motivation	9	25.7	13	37.1	12	34.2	1	2.8
LMS helps blended learning in EAP more effective	9	25.7	16	45.7	10	28.5	0	0.0
Blended learning through LMS is more efficient	11	31.4	13	37.1	10	28.5	1	2.8
LMS facilitates teacher – student interaction well	10	28.5	19	54.2	6	17.1	0	0.0
LMS facilitates student – student interaction well	10	28.5	18	51.4	7	20.0	0	0.0
Blended Learning improve my critical thinking	9	25.7	15	42.8	11	31.4	0	0.0
Blended learning helps me understand EAP well	10	28.5	18	51.4	7	20.0	0	0.0
Blended Learning improves my social relation with classmates	9	25.7	16	45.7	10	28.5	0	0.0
I learn EAP better through blended learning	8	22.8	20	57.1	7	20.0	0	0.0
Blended Learning helps me improve my communication skill	9	25.7	18	51.4	8	22.8	0	0.0
Blended Learning helps me improve my English vocabulary	11	31.4	20	57.1	4	11.4	0	0.0
Blended learning helps me improve my learning skill	8	22.8	19	54.2	8	22.8	0	0.0
Learning EAP through blended learning is fun	9	25.7	19	54.2	7	20.0	0	0.0

The table offers a comprehensive look at student perceptions of a blended learning approach with a Learning Management System (LMS) in English for Academic Purposes (EAP) course. It utilizes a five-point Likert scale, capturing student agreement levels on various aspects of the blended learning experience.

The result of each statement can be seen in the Charts below:

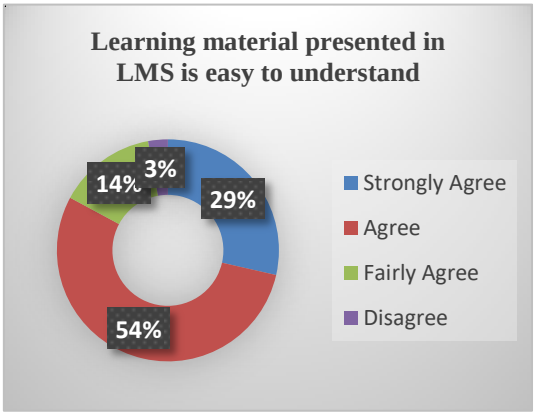

Chart 1. Questionnaire result of 1st statement

The samples majority agreed (54%) or strongly agreed (29%) that the materials presented in LMS were easy to understand, a smaller portion fairly agreed (14%) and disagreed (3%). This suggests potential issues with material difficulty, readability, or alignment with student needs.

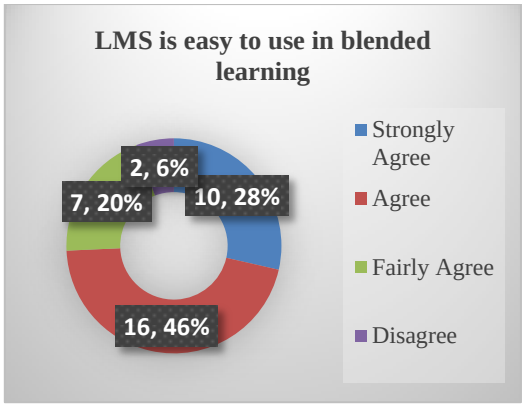

Chart 2. Questionnaire result of 2nd statement

The second statement received the highest positive response, with 46% of students agreeing and 28% strongly agreeing the LMS was easy to use. While only 20% of students fairly agree and 6% of students disagree to the statement. This indicates a user-friendly LMS interface that doesn't hinder the learning process.

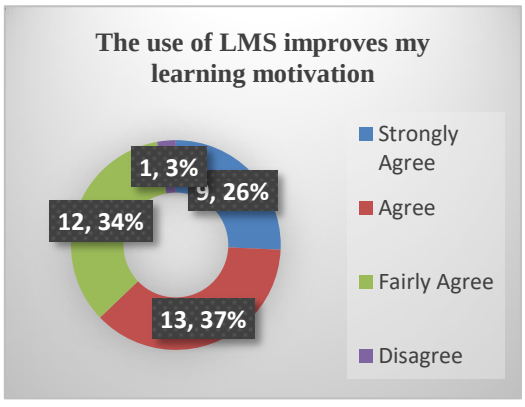

Chart 3. Questionnaire result of 3rd statement

A positive response to the third statement is evident here (37% agreed, 26% strongly agreed), while only 34% students fairly agreed and 3% students disagreed suggesting the blended learning approach fosters motivation for learning EAP.

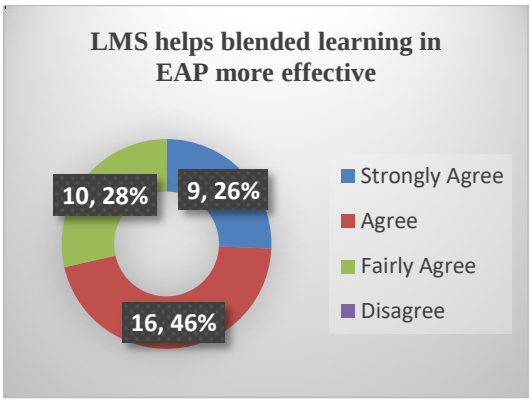

Chart 4. Questionnaire result of 4th statement

The majority students (46%) agreed and (26%) strongly agreed, while only 28% of students fairly agreed that blended learning enhanced the effectiveness of the EAP course. This is a strong indicator of the approach's overall success.

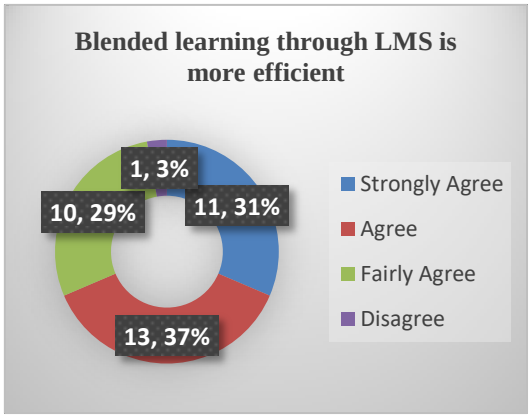

Chart 5. Questionnaire result of 5th statement

Similar to effectiveness, a high percentage (37%) agreed and (31%) strongly agreed, while the minority fairly agreed

(29%) and disagreed (3%) that blended learning was more efficient compared to traditional way. This suggests students feel they achieve learning outcomes in a more streamlined way with this approach.

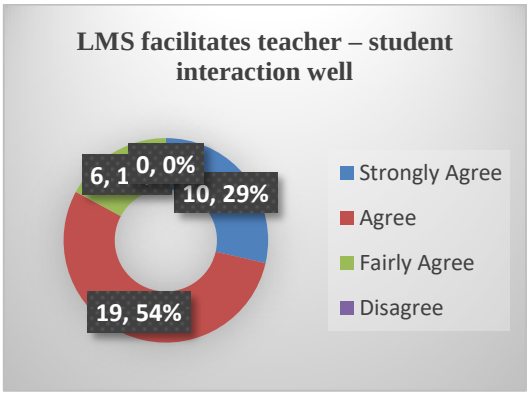

Chart 6. Questionnaire result of 6th statement

Similar to LMS usability, teacher-student interaction received high marks (54% agreed, 29% strongly agreed), while only 17% of students fairly agreed. This suggests the LMS effectively facilitates communication between teachers and students.

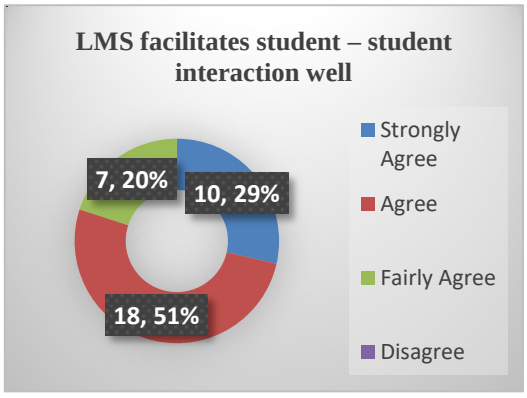

Chart 7. Questionnaire result of 7th statement

A positive response to student – student interaction is present (51% agreed, 29% strongly agreed), while 20% of students fairly agreed, it is lower positive compared to teacher-student interaction. This might indicate the blended learning environment could be improved to foster a stronger sense of community and collaboration among students.

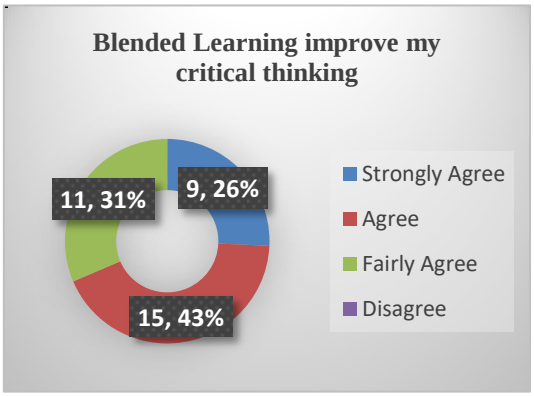

Chart 8. Questionnaire result of 8th statement

A lower positive response is observed in the statement that Blended learning improves students' critical thinking (43% agreed, 26% strongly agreed) compared to some other aspects, and 31% of students fairly agreed. This suggests the current blended learning activities may not be adequately stimulating critical thinking skills in students.

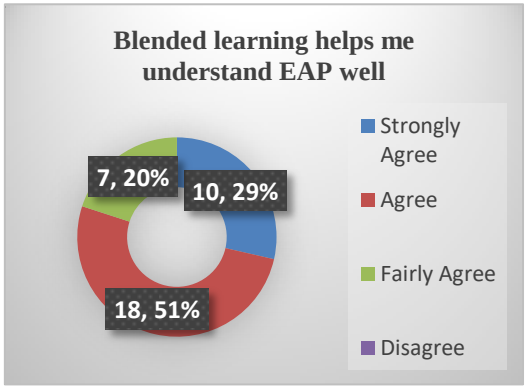

Chart 9. Questionnaire result of 9th statement

The majority (51%) agreed and (29%) strongly agreed, while the minority (20%) fairly agreed that blended learning aided their understanding of EAP concepts. This aligns with the positive effectiveness rating for the blended approach.

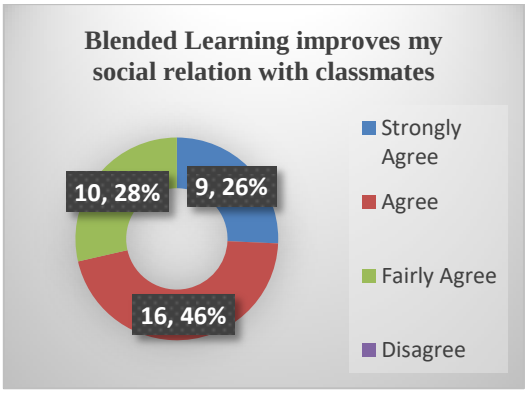

Chart 10. Questionnaire result of 10th statement

Similar to student-student interaction, the response for improved social relations is positive but lower than some other areas (46% agreed, 26% strongly agreed, and 28% fairly agreed). The blended learning environment might not be fully optimized to enhance social connections among classmates.

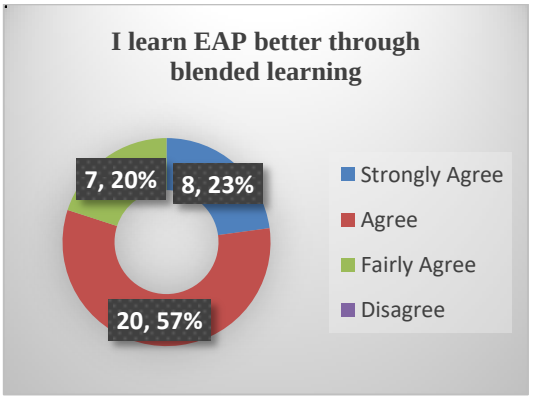

Chart 11. Questionnaire result of 11th statement

A strong positive response is evident (57% agreed, 23% strongly agreed and 20% fairly agreed), indicating students perceive blended learning as an effective method for learning EAP.

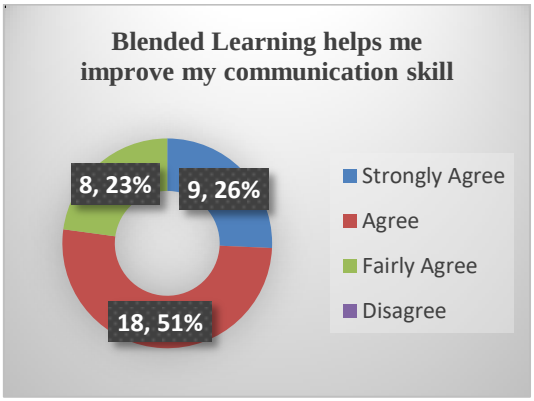

Chart 12. Questionnaire result of 12th statement

The majority (51%) agreed and (26%) strongly agreed, while the minority (23%) fairly agreed that blended learning improved their communication skills. This aligns with the positive effectiveness rating for the blended approach.

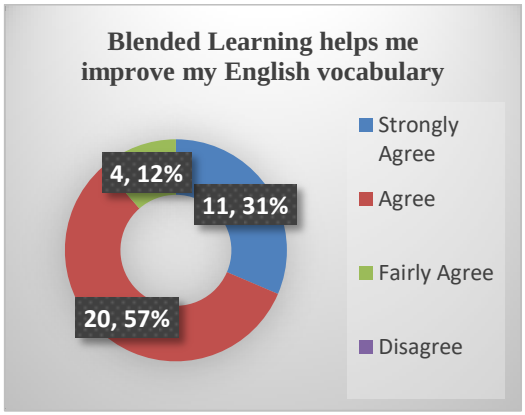

Chart 13. Questionnaire result of 13th statement

Similar to communication skills, vocabulary improvement received a strong positive response (57% agreed, 31% strongly agreed, 12% fairly agreed), suggesting the

blended learning approach effectively supports vocabulary development.

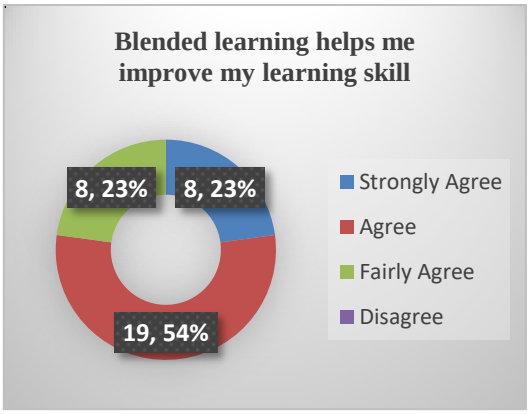

Chart 14. Questionnaire result of 14th statement

The positive response in learning skill improvement is similar to motivation (54% agreed, 23% strongly agreed, 23% fairly agreed), indicating the blended learning approach fosters the development of general learning skills.

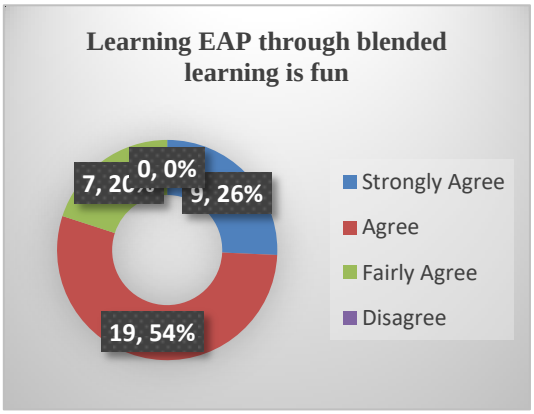

Chart 15. Questionnaire result of 15th statement

Additionally, a positive response on learning enjoyment is present (54% agreed, 26% strongly agreed, 20% fairly agreed), it is lower compared to some other aspects. The blended learning activities might benefit from incorporating elements that make learning EAP more engaging and enjoyable.

The data scoring is presented in the table below:

Table 3. Data Scoring

Statement	SA	A	FA	D	Total Score	Interpretation
Learning material presented in LMS is easy to understand	10	19	5	1	143	A
LMS is easy to use in blended learning	10	16	7	2	139	A
The use of LMS improves my learning motivation	9	13	12	1	135	A
LMS helps blended learning in EAP more effective	9	16	10	0	139	A
Blended learning through LMS is more efficient	11	13	10	1	139	A
LMS facilitates teacher – student interaction well	10	19	6	0	144	A
LMS facilitates student – student interaction well	10	18	7	0	143	A
Blended Learning improve my critical thinking	9	15	11	0	138	A
Blended learning helps me understand EAP well	10	18	7	0	143	A
Blended Learning improves my social relation with classmates	9	16	10	0	139	A
I learn EAP better through blended learning	8	20	7	0	141	A
Blended Learning helps me improve my communication skill	9	18	8	0	141	A
Blended Learning helps me improve my English vocabulary	11	20	4	0	147	A
Blended learning helps me improve my learning skill	8	19	8	0	140	A
Learning EAP through blended learning is fun	9	19	7	0	142	A

The table consistently shows a positive interpretation ("A") for all statements. This suggests that students generally perceive the

blended learning approach with the LMS favorably.

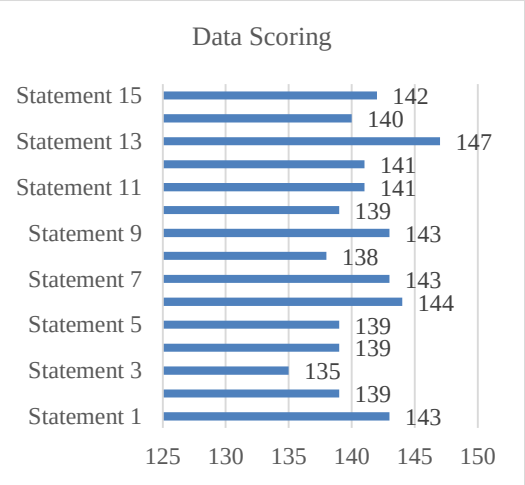

Chart 16. Data Scoring

Usability of LMS in blended learning

The analysis reveals a positive student experience regarding LMS usability and teacher-student interaction. This indicates a statistically significant positive association between the LMS platform and both ease of use and effective communication channels with instructors. This supports the previous study conducted by Rahman et al. (2021) about the usability of LMS in asynchronous learning.

Effectiveness of LMS usage in blended learning

A significant portion of students agreed or strongly agreed that the use of LMS in blended learning improved the effectiveness of the EAP course, efficiency, and facilitated teacher-student interaction. These findings suggest a potential positive effect size of the blended learning approach on achieving learning outcomes, streamlining the learning process, and fostering communication within the course. A previous study (Al-Busaidi, 2012) revealed the important factors of the effectiveness of LMS usage in blended learning are students' characteristics, classmates' characteristics, course characteristics, the quality of utilized system, and teachers' characteristics. It suggests that educational institutions that intents to use LMS in the learning process should consider the readiness of all factors.

Students' learning motivation and skill development

The finding suggests a fairly positive response regarding the impact of the LMS on students' motivation. The finding indicates that the use of LMS is fairly effective to improve students' learning motivation in EAP classroom. This is similar to a previous study (Banditvilai, 2016), which found that blended learning is effective to improve students' motivation in learning English. This recommends the use of LMS in blended learning for English language teaching and learning. Future studies could incorporate validated motivational questionnaires to explore the intrinsic and extrinsic factors influencing student motivation within the blended learning environment. The response related to communication skills, vocabulary, and overall learning skills are high. A study indicated that blended learning is not always effective in enhancing students' vocabulary (Tosun, 2015). However, the finding of the current study is in line with previous study

(Shih, 2010) which found that incorporating video-based blogs within a blended learning environment yielded multiple advantages for students. These benefits included advancements in spoken language skills, the development of learner autonomy and collaboration, and an overall improvement in the learning process. This suggests the blended learning approach is effective in developing these crucial areas for success in EAP courses.

Students' critical thinking and social interaction

Despite the positive response, the score for "Blended Learning improves my critical thinking" is the lowest among the statements. This is not surprising, since a previous study revealed that there was no significant effect of blended learning on students' critical thinking (Akyüz & Samsa, 2009). This suggests that the current approach might not be adequately stimulating critical thinking skills. Consider incorporating activities that encourage analysis and problem-solving, as discussed previously (problem-solving exercises, online debates, simulations). While the score for "Blended Learning improves my social relation with classmates" is positive. It supports previous study which indicated that the use of blended learning increased several aspects in English learning such as autonomy, collaboration, and interaction (Yoon & Lee, 2010). In a study by Yang (2012), the author emphasized that blended learning environments facilitate social interaction. This facilitation is attributed to increased opportunities for students to engage in group discussions where they can discuss their reading difficulties and receive individualized feedback from various peers. However, there is still room for improvement in fostering a sense of community and social interaction within the blended learning environment. Consider incorporating activities or features that encourage collaboration and peer-to-peer learning.

Students' understanding and enjoyment

The score for "Blended learning helps me understand EAP well" is positive, indicating the approach facilitates comprehension of the subject matter. The score for "Learning EAP through blended learning is fun" is positive as well. This finding is similar to a study which showed that blended learning in ESL context is interesting and authentic (Manan et al., 2012). It suggests that students find the blended learning approach somewhat enjoyable, which can contribute to increased motivation and engagement.

Conclusion

This research reveals a generally positive student perception of the blended learning approach with a Learning Management System (LMS) in the English for Academic Purposes (EAP) course. Several findings in this research should be highlighted that the students showed positive

attitude toward the LMS mediated blended learning in EAP course. They believe that blended learning is effective and efficient in improving their English skills and motivation. However, blended learning is appropriate to develop students' critical thinking and social interaction with several improvements in the learning process. Finally, LMS mediated blended learning is considered interesting and authentic in EAP course.

Overall, this study suggests that blended learning is perceived positively by students in this EAP course, particularly for developing core skills and understanding the subject matter. However, there is room for improvement in fostering critical thinking and social interaction.

This research result recommends the implementation of LMS mediated blended learning in EAP classroom with several improvements, especially in the way to improve students' critical thinking and social interaction. By implementing the recommendations, teachers and future researchers are expected to be able to create a better-rounded blended learning environment that optimizes learning outcomes in EAP courses.

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