

TECHNOLOGY-MEDIATED PEER ASSESSMENT IN A COURSE: A SNAPSHOT THROUGH THE STUDENTS' LENS

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ABSTRACT

Peer assessment encourages students to engage actively in the learning process. Based on a descriptive case study, this research aims to depict students' perspectives on using technology-mediated peer assessment (TEMPA) in the context of the English for Academic Purposes (EAP) course. The results showed the level of the students' attention, relevance, confidence, and satisfaction using TEMPA. Further, TEMPA provided adequate motivational stimulation to EAP students. In addition, we propose that students engage in peer assessment activities to acquire lifelong skills in assessing and delivering feedback to others and in self-assessing and enhancing their own work.

Keywords: *English for academic purposes, technology-mediated peer assessment*

INTRODUCTION

The English language skills of nonnative English-speaking academics need to be developed as they enter higher education. Students who major in subjects other than English undergo an English for Academic Purposes (EAP) course that allows them to study English during their learning process. The EAP course was developed within academic institutions to address individual students' particular learning needs (Sharpling, 2002). It enables students to cultivate the required knowledge and skills to engage in educational environments during their studies.

Learning a language should be centered on students and encourage communication, creativity, critical thinking, and collaboration. From a socio-cultural viewpoint, learning a foreign language was aimed at engaging students in interactive learning activities (Firth & Wagner, 2007). Gold (2001) also mentioned that teachers must build a learning atmosphere with knowledge objects that is socially meaningful and filled with interaction and teamwork activities. The learning environment should

allow students to improve their skills by actively engaging in the learning process, including in how learning assessment is carried out. While assessment influences learning, formative evaluation and feedback are the most robust instruments in the evaluation toolbox and are only occasionally added to traditional assessment practices or are seen as luxuries for many schools and university educators (Stančić, 2020). In other words, the transition from the assessment *of learning* to the assessment *for learning* is still underway.

In the context of the English as a Foreign Language (EFL) learning process, Gan, He and Liu (2019) found that the teacher-controlled, performance-oriented assessment was most widely used in the EFL classroom. It was assumed that the accumulation of achievement scores would lead to quantitatively based accomplishments, with some descriptive elements thrown in for good measure. Unfortunately, the assessment model needed to adequately describe the objectives for improving EAP competency quality, either partially or cumulatively.

Kim and Yang (2018) demonstrated how important it was to consider the curriculum and teaching for improving second-language classroom assessment to evaluate what was studied and experienced in the classroom. The participation of the students in the evaluation process boosted their learning independence and allowed them to perceive linguistic features more deeply, which led to internalization (Shuguang & Qiufang, 2018). However, most EAP students seemed unmotivated and did not participate in peer assessment activities. They were generally passive when the teacher asked them to comment on the performance of their peers. They wanted to concentrate on their tasks, preferred to remain calm, and ignored peer assessment activities. On the other hand, they were skeptical of their ability to provide feedback on their peers' performance, and accepting peer feedback on their own performance could also be difficult for them. When implementing peer assessment learning, this became a challenge, indicating inadequate student motivation (Keller, 2017). Indeed, without the active participation of students, learning from the assessment cannot be expected.

Several methods for assessing language students were created as alternatives, ranging from observations, group discussions, portfolios, assessment practice community, peer assessment, and self-assessment to standardized testing (Al-Maamari, 2016; Keller, 2017; Knoch & Macqueen, 2017; Kwok, 2011). The challenge in language teaching and learning is to adapt these assessment methods to technological media. Our study used technology-mediated peer assessment (TEMPA) as an alternative to peer assessment techniques in the EAP class. Moreover, the interactive, informal teacher-student assessment and the student self-assessment emerged as the strongest predictors of the student's intrinsic motivation and positive attitudes towards learning (Lin, 2016). Participation of students in the evaluation process can boost their learning independence and allow them to perceive linguistic features more deeply and internalize them (Shuguang & Qiufang, 2018). Furthermore, peer review is a powerful and efficient technique for assessment and feedback, but many students are inexperienced and at times struggle to provide meaningful feedback (Zong et al., 2021). In the EAP course, TEMPA was used instead of peer assessment techniques.

In contrast to previous studies, this study provides technology for implementing peer assessment

under the EAP learning process. TEMPA can catch students' attention to engage actively in the EAP process. It is a convenient, user-friendly learning feature suitable for optimizing a student-centered learning strategy. Conversely, peer-assessment studies promote teaching and learning, with comparatively few studies concentrating on EAP students and technology. This study is conducted against this backdrop to address the research question, "How is the students' perception of the TEMPA process implemented in the context of EAP?"

ENGLISH FOR ACADEMIC PURPOSES (EAP)

The EAP course teaches the English communication skills required for study purposes in the formal, higher education process. It provided students with the required English skills at the tertiary level as a branch of English for specific purposes, including presentation, research, and academic publishing (Yundayani et al., 2017). Atai (2002) also claimed that the EAP courses' overall goal was intuitively seen as allowing students to develop the reading skills they need to use in their fields of study. In particular, Atai (2002) explained in-depth that the EAP course provided the academic skills needed for a higher education degree.

Technology usage in EAP strengthened and changed the essence of how, where, and when students learn. The main advantage was that students could access source material on their own time, work through content at their own pace, pick subjects and subject areas that match their own needs, and do all of this without engaging with the teacher (Dudley-Evans et al., 1998; Odewumi, 2020). Therefore, EAP was considered assistance to students to build a robust academic context for English that would support them in the successful higher-level learning process (Yundayani, 2018). Technology usage was to facilitate learning experiences based on student's needs to include their essential characteristics to the discipline under their communication skills (Odewumi, 2020). Moreover, technology enabled students to participate in the EAP study by providing a learning experience that brings information creation into practice.

TECHNOLOGY-MEDIATED PEER ASSESSMENT (TEMPA)

Peer assessment is one assessment strategy that can inspire students to engage in the learning process (Simonova, 2016). Moreover, Fauzan (2016) claimed that there were also possible advantages

for both students as assessors and those who are assessed. Optimizing the role of students in peer assessment was evident; students were both assessed and assessors. Therefore, they played a crucial role in recognizing how they understood their positions and how they functioned in peer assessment. Peer assessment incorporated students in the learning process and provided a powerful mechanism that contributed to it, stimulating students' ability to think and objectively assess their learning and skills development. It also encouraged the development of critical thinking, communication, and interpersonal skills and improved the comprehension of the discipline topic (Lavrysh, 2016). Stognieva (2015) noted that peer assessment made students realize that success or failure depends not on natural skill, luck, or capacity but on practice, effort, and using the right strategies. Therefore, it can be used explicitly during the teaching time to enhance students' understanding and capacity for their learning.

A good peer assessment should aid peers in improving their learning. It promotes a sense of mutual trust among students by enabling them to comprehend how they should share responsibility for learning by providing constructive, considerate, and nonjudgmental feedback. In addition, peer assessment can be viewed as a process in which groups of individuals rate their peers based on the quantity, level, value, or success of their peers' learning products (Alt & Raichel, 2022). When performing the peer assessment, it is possible to concentrate on what was done well, what could be improved, and what learning steps are next (Formative Assessment Insights, n.d.). In addition to receiving and providing feedback, students benefit from the activity itself.

The use of technology revolutionized the learning of English as a foreign language, which is continuously innovating and evolving to facilitate teaching and learning, including assessment. TEMPA is a novel learning environment facilitating student interaction through technology-based feedback collection (Bush, 2020; Li et al., 2020; Loureiro & Gomes, 2023). It has also created new learning opportunities and incorporated new concepts into the language learning process by involving students in the learning process. TEMPA is a component of the digital learning process utilized in the EAP context. Therefore, this

assessment method emphasizes the process so that the assessment itself becomes a significant learning experience beyond evaluating the learning outcome that measures the student's level of understanding (Lee, 2019). Also, the availability of assessment feedback is a critical part of the learning process that allows students to access relevant knowledge to help them achieve their learning objectives.

TEMPA provides digital assessment feedback, detailed impactful and purposeful guidance to students, and promotes students' collaboration, which plays an essential role in the learning process and is essential in the development of student-centered learning (Burdett, 2007). It also promotes communication and the growth of interpersonal skills (Hassanien, 2007), gives students a sense of control and autonomy (Klimanova & Dembovskaya, 2013), and develops thinking skills (Mills, 2003). The innovative instructor explores using the emerging digital technology, refines the learning experiences, and applies authentic assessment models to support the EAP learning experience. TEMPA not only provides individual feedback but also encourages partnership between students. Technology integration in an educational setting with an attractive purpose, based on students' characteristics, can maximize the impact of EAP activities on student engagement and learning.

PREVIOUS STUDIES

The use of technology to enhance the quality of the learning process is growing. One of the elements involved in this is TEMPA, which requires peer feedback and interaction between students, especially in the EAP class. Zheng et al. (2019) carried out a systematic review of technology-based peer review research using an activity theory approach. Their results showed that most peer assessment activities in social science and higher education were carried out over the past 12 years. Acting assignments, such as performance, oral presentations, or speaking, were the least common assignments assessed in the studies they reviewed. However, most of the studies carried out only one round of peer assessment and did not include rewards for the assessors. Students also got unstructured feedback from their peers more frequently than structured feedback throughout the studies.

Li et al. (2016) carried out another meta-analysis comparing peer and teacher ratings in the digital

era and found that there was a substantially higher correlation between them when: (a) peer assessment was paper-based rather than computer-assisted; (b) the subject area was not medical/clinical; (c) the course was undergraduate rather than graduate or K–12; (d) individual performance was assessed instead of group work; (e) assessors and who was assessed were randomly matched; (f) peer assessment was optional rather than mandatory; (g) peer assessment was nonanonymous; (h) peer assessors provided both ratings and qualitative input rather than grades; and (i) peer assessors were involved in the development of rating criteria. Ching and Hsu (2016) examined students' interpersonal values and their opinions of online role-playing peer feedback. This study explored students' understanding of interpersonal factors in peer-reviewed, role-playing activities and the types of peer-review students created while playing a role. This study revealed positive interpersonal beliefs among students about role-playing peer assessment practices, including psychological safety and trust.

Lin (2016) examined how Facebook-based online peer assessment with microteaching videos could affect peer assessment and perceived learning from peer assessment. There had been significant positive improvements in attitudes towards peer assessment in both groups over time. Including microteaching videos in peer-reviewing online activities sustainably boosted preservice teachers' efforts to develop knowledge and teaching skills. Lin (2016) noted that online peer-assessment activities without microteaching videos immediately increased the perceived teaching skills of preservice teachers after the first round of peer assessment, but it later reduced their perceived teaching skills. Finally, the participants found Facebook to be a convenient peer assessment method but expressed their concerns about the transparent and nonanonymous aspects of Facebook.

It is evident from previous studies that peer assessment assisted by technology was an engaging platform that encouraged students to participate in learning processes actively. Our research focuses on using TEMPA from the students' viewpoint in the EAP course. These concepts follow the principles of students' needs, in which the learning process should be in line with the characteristics of the students so that the student's learning skills can be optimized. Teachers need to incorporate TEMPA into the EAP in order to carry out peer assessments. In other

words, using TEMPA should be considered beneficial for both teachers and students.

METHOD

We used a descriptive case study to explore students' views on TEMPA in the EAP course context. We selected this research design because it is utilized to examine a person, location, case, phenomenon, or other subject to deduce crucial themes and outcomes. In addition, it enabled us to capture and describe the complexity of real-world events and represent a disciplined mode of inquiry that can be organized according to issues (Creswell et al., 2007; Yin, 2017). Our study provides comprehensive and meaningful descriptions of students' perspectives on using technology-mediated peer assessment (TEMPA) in the context of the EAP course, which arose from the data analysis. Future forecast trends also helped us highlight previously hidden problems that can be applied to practice and offer a way of interpreting the topic with greater clarity (Peter, 2010). This research offers a thorough and contextualized picture of TEMPA's use in the EAP from the student's perspective.

Participants

The research was conducted at a private institution of higher education in Indonesia. The participants comprised 76 student teachers enrolled in non-English education programs, selected through a purposive sampling technique that emphasized respondents with specific characteristics. The gender of the participants were 27 males and 49 females. Their ages ranged from 21 to 24 years old, and all of them were taking English as a compulsory subject. Further, all the participants completed the data collection questionnaire. Afterwards, we conducted interviews with three of the participants (one male [P1] and two females [P2, P3]).

Procedure

This work was done in the EAP class. The learning objective was to make oral presentations based on initial and objective research as part of the EAP course. The project-based learning (PjBL) method was applied in the learning process. This method allowed students to study, explore, and construct knowledge throughout the learning process. In turn, the students could develop knowledge and abilities by exploring and responding to a real, challenging question or problem for an extended period.

The teacher created an interesting problem, and the students tried to respond in PjBL. The stimulation was provided by assisting students in presenting information and ideas in an orderly and coherent fashion. An overview of the arrangement, design, and use of the necessary support for a compelling presentation covering organizational, structuring, communication topics, and visual content was also presented. The teacher developed a list of learning objectives relevant to content-based instruction in the education area, and the students chose a project in light of the objectives. Then they worked in groups of four or five for learning goals, and, after two weeks, they were asked to make an oral presentation recorded on video and placed in Google Classroom to allow peers to comment on and evaluate the video. This was a forum for students to monitor their colleagues' input, a space for self-reflection, and a venue to record their questions, challenges, or achievements. It was also a way to share their knowledge and reflect on the learning process.

Students conducted a peer assessment using TEMPA, which actively involved them in the learning process. They reflected on their achievements related to English skills by conducting peer assessments. The point of the student assessment of their classmates was related to building speaking skills and understanding the message conveyed. TEMPA was used to increase student motivation in the EAP learning process. Students reflected on the particulars their motivation, which were evident thorough applying TEMPA, and on their perceptions of it. After completing the peer assessment using TEMPA, the questionnaire was submitted to students via a Google form. In order to strengthen the data, we conducted semistructured interviews with three of the participants.

Data Collection

Data for the study were collected using a questionnaire and a semistructured interview to gather the students' insights related to TEMPA. The questionnaire was developed based on Keller's ARCS model. The ARCS model is a way to enhance the positive value of instruction. It was developed in response to a desire to find more effective ways to understand the significant influences on learning motivation and consistently recognize and solve learning motivation issues (Ching & Hsu, 2016; Peter, 2010). The ARCS model describes four main

criteria that must be met for individuals to become inspired and stay motivated:

(a) Attention is a combination of a behavioral and cognitive process that describes students' arousal of doing something;

(b) Relevance is something that causes students' interest when they perceive the pertinence of something and feel a connection between their expectations and what they get;

(c) Confidence is a belief that students can pursue the learning objectives; and

(d) Satisfaction is trust related to a pleasant feeling when students receive something they want or do that is only sometimes related to the reward.

The questionnaire included five responses on a Likert scale for students to express their opinions: *strongly agree*, *agree*, *neutral*, *disagree*, and *strongly disagree*.

The data for the study were collected and developed based on Keller's ARCS model by employing semistructured interviews with open-ended questions that allowed the participant to construct answer options (Creswell, 2002) and were used to explore the participants' opinions, feelings, and beliefs on a particular topic (Dejonckheere & Vaughn, 2019). We involved three interviewees on each respondent's English level: low, medium, and high. Each interview session lasted for about 30 minutes, with each of us comparing the subjects' responses to the questionnaire and their answers to the questions in the semistructured interview. Open-ended questions were used in qualitative interviews to investigate students' perceptions of the TEMPA process implemented in the context of EAP. In practice, the interview was addressed to three participants (one male [P1] and two females [P2, P3]). The interview guide was structured to ask the students about their interpretation of TEMPA as applied in the course without asking about their learning outcome. Instead, it presented a description of the students' views on the use of TEMPA in the context of the EAP course.

Indicating the precision with which a technique, method, or test measures something, the concepts of reliability and validity were also used to evaluate the quality of this study. Credibility (internal validity), Transferability (external validity), Dependability (reliability), and Confirmability were tested for data validity in this study (objectivity). In addition, the test had high interrater reliability because we

conducted the same measurement or observation on the same sample and arrived at similar ratings.

Data Analysis

After collecting data from the participants, we analyzed, established, and described the students' viewpoints on the TEMPAs applied in the context of the EAP course. The questionnaire data were analyzed in percentages according to each student's response from *strongly agree* to *strongly disagree* for each motivational dimension of Keller's model of Attention, Relevance, Confidence, and Satisfaction. The percentage of student responses for their responses of *agree* and *strongly agree* or *disagree* and *strongly disagree* were also collected for each dimension of the model to find the dominant perception among students' choices about their motivation for applying TEMPAs.

We also applied thematic analysis to the interview data and categorized the students' responses to the interview questions. The appearance of the verb they used in each answer indicated the action in question and was highlighted and coded. We then searched for themes across the dataset and coded the data according to these categories. From this we developed tentative propositions to construct a coherent understanding of how students perceived TEMPAs. As the data were read and reread, we undertook a more systematic inquiry into the data (Miles & Huberman, 1984).

The data we collected from the semistructured interviews were analyzed through thematic analysis to identify, analyze, and report themes within the data (Braun & Clarke, 2006). We began by familiarizing ourselves with the data and then generated the initial codes for the themes. Next, we searched the codes and grouped the data into specific themes. We then analyzed the themes to determine whether the themes matched the research question or not. Finally, we recorded the emerging themes in the investigative study. This analytical technique was repeated since it enabled us to obtain more adaptable and flexible analysis results (Dejonckheere & Vaughn, 2019; Miles & Huberman, 1984). The themes were tailored to the dimensions in the Keller model of Attention, Relevance, Confidence, and Satisfaction. After collecting the data from the participants, we analyzed, established, and described the finding of the students' perceptions of TEMPAs as applied in the context of the EAP course.

FINDINGS

This study aims to portray students' views on the use of TEMPAs in the context of the EAP course. The findings revealed four themes, namely, the students' attention, feeling of relevance, confidence, and satisfaction. Table 1 displays the survey findings for the four themes.

Table 1.
Percentage of Students' Perceptions of TEMPAs Based on the Keller Model

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Attention	19%	39%	25%	10%	7%
Relevance	17%	36%	27%	11%	9%
Confidence	11%	32%	36%	15%	6%
Satisfaction	13%	37%	33%	8%	9%

The first theme is Attention. The combined number of students who agreed that they were interested in technology-based peer assessment was 44 (58%), and the combined number who disagreed that they were interested in technology-based peer assessment was 13 (17%), while the remaining 19 (25%) were neutral. Thus, more students agreed they were interested in technology-based peer assessment than those who disagreed or were neutral. On the extreme end, 19% responded that they *strongly agree* and 7% responded that they *strongly disagree*. An analysis of the data was conducted using five indicators. In addition, among the five indicators examined in the Attention theme, the researchers highlighted a high percentage of students who either agreed or were neutral for each indicator. In contrast, a minimal percentage of students disagreed. Most of the students responded that peer assessment could help students perform their tasks well at around 67%. Meanwhile, only about 13% of the total student population disagreed that peer assessment positively impacted mental challenges while some 30% of students did not agree or disagree that peer assessment made the English for specific purposes (ESP) learning process more exciting and fun.

The second theme is Relevance. The combined number of students who agreed that the technology-mediated peer assessment met their personal needs was 40 (53%), and the combined number of students who disagreed that the technology-mediated peer assessment met their personal needs was 15 (20%), while the remaining 21 (27%) were neutral. Thus,

more students agreed that the relationship between technology-mediated peer assessment and student personal needs was positive than students who disagreed or were neutral. On the extreme end, 17% responded that they *strongly agree* and 9% responded that they *strongly disagree*. A data analysis was conducted using five indicators. Moreover, concerning the five indicators examined within the Relevance theme, we highlighted a minimum percentage of students who disagreed and a high percentage of students who expressed agreement or neutrality for each indicator. Most of the students agreed that peer assessment satisfied their need for feedback at around 62%. Meanwhile, only about 14% of the total students disagreed that peer assessment had a beneficial effect on their performance of the ESP tasks, while 32% of students did not agree or disagree.

The third theme is Confidence. The combined number of students who agreed that using technology-mediated peer assessment helped them meet their learning objectives was 33 (43%), and the combined number of students who disagreed that using technology-mediated peer assessment helped them meet their learning objectives was 16 (21%), while the remaining 27 (36%) were neutral. Thus, more students had doubts and preferred to be neutral towards the belief that using technology-mediated peer assessment met their learning objective. On the extreme end, 11% responded that they *strongly agree* and 6% responded that they *strongly disagree*. Five indicators were utilized to assess the data. Additionally, we highlighted, for each of the five indicators comprising the theme of Confidence that were analyzed, a low percentage of students who disagreed and a high percentage of students who expressed agreement or neutrality regarding that particular indicator. Most of the students agreed that they would always get the best score through peer assessment, which at around 64%, while the number of students who disagreed was less. On the other hand, about 30% of students did not agree or disagree that the peer assessment made students feel more confident and relaxed to perform and get the best score.

The fourth theme is Satisfaction. The combined number of students who agreed that they were satisfied using technology-mediated peer assessment was 38 (50%), and the combined number of students who disagreed that they were satisfied using technology-mediated peer assessment was 13 (17%), while the

remaining 25 (33%) were neutral. Thus, the number of students who were satisfied with using technology-based peer assessment was equal to the number of students who were dissatisfied or were neutral. On the extreme end, 13% responded that they *strongly agree* and 9% responded that they *strongly disagree*. A data analysis was conducted using five indicators. Moreover, concerning the five indicators comprising the Satisfaction theme examined, we highlighted a minimum percentage of students who disagreed and a high percentage of students who expressed agreement or neutrality for each indicator. Most of the students agreed that peer assessment showed students' competencies in providing advice and evaluation around 62%. Meanwhile, only about 14% of the total student population disagreed that peer assessment encouraged a positive ESP learning environment and 46% of the students did not agree or disagree that the peer assessment was satisfactory.

In summary, students' perceptions of the TEMPA process implemented in the context of EAP revealed that a majority of students agreed (39%), shown by Table 1 in the Attention row, that it can pique their interest in participating in peer assessment activities. In addition, in Table 1 in the Relevance row, 36% of students believed that using TEMPA demonstrates the value of peer assessment because it facilitates their preferences as digital natives to gain experience with technological tools. However, in Table 1 in the Confidence row, 36% gave a neutral response to using TEMPA to their confidence, as they already had experience with the technology and it was a part of their lives. In addition, they viewed using TEMPA as an optional component of the learning standards and evaluation criteria that would facilitate their positive expectations during the learning process. In addition, in Table 1 in the satisfaction row, 37% of the students indicated they agreed with using TEMPA in an EAP context because it promoted their intrinsic enjoyment of the peer assessment experience and motivated them to persist and participate without the need for additional external motivators.

Students' Attention Using Technology-Mediated Peer Assessment

Based on the results of the interview, the use of TEMPA offered ample motivational stimulation to students in the EAP learning process, as indicated by the participants:

EXCERPT 1—ATTENTION

"I propelled myself toward the objective of learning, but I preferred my level of comprehension. I found that using **TEMPA helped me retain the versatility of peer assessment in the EAP class.**"

"I thought using TEMPA was a good idea because it **encouraged me to participate in the learning process.** I hoped that by the end, I could quickly achieve the target of EAP learning."

"**TEMPA encouraged me to engage in the EAP learning process** through the use of video recording and Google classroom, but I was unsure how it could help me achieve the EAP learning goal."

Students stated in Excerpt 1 that the use of TEMPA played a crucial role in influencing their interest and constructive engagement by effectively attracting their attention. Moreover, students experienced excitement and enjoyment throughout the learning process because they could complete all well-received assignments.

Relevance of Technology-Mediated Peer Assessment for Meeting Students' Personal Needs

Other findings from the interviews highlighted the relevance between technology-mediated peer assessment and student own needs could be drawn from the students' thoughts on TEMPA as stated by the participants:

EXCERPT 2—RELEVANCE

"**I could make my timetable to complete the task,** including a peer review through TEMPA. Moreover, having **TEMPA made it easier to control my schedule when doing peer assessments.** Furthermore, in doing peer assessment that was impossible to do in class, **TEMPA could solve the time limit, so I could arrange my schedule to complete the assignment,** including peer assessment."

"Using **TEMPA was simple, so I could choose my place of learning to do peer assessment anytime and anywhere,** and I chose to use more digital media to help my learning process in any subject matter. **I found that the learning experience was not only in the classroom, but I also felt lazy and not secure while studying without my instructor** and not in the classroom. Using **TEMPA would make it easier for me to assess peers everywhere.**"

"**TEMPA allowed me to conduct peer assessments anywhere and anytime as long as the timetable was followed.** Not only did I have to do peer assessment in class, but it also made me feel optimistic about student evaluation. As a result, **TEMPA had a positive effect on the learning environment.** I might select a comfortable learning atmosphere for me."

Note: Interview transcripts of participants 1, 2, and 3 translated by the author

Excerpt 2 shows that the students believed TEMPA met their feedback requirements because it provided an efficient and meaningful method to improve their results. In addition, concrete

learning objectives were emphasized. TEMPA enabled students to be self-directed learners because they could construct their learning environment based on their preferences.

Students' Confidence in the Beneficial Effects of the Use of Technology-Mediated Peer Assessment

Another finding from the interviews revealed the belief of students that the use of TEMPA helped them in achieving the learning objectives:

EXCERPT 3—CONFIDENCE

"I had no learning strategy for using **TEMPA,** but I knew it **was a way to do peer review and a good idea to resolve my fear of providing direct class feedback.** I could make my feedback viewable through TEMPA. **TEMPA motivated me to get involved in the learning process of EAP.** It made everyone active in giving reviews of each other's performance. So, as long as **the learning process was fun, my friends and I would be enthusiastic about learning and ultimately improving our EAP skills.**"

"**I evaluated the performance of my peers based on my teacher's rubric.** I watched my friends' oral presentation video in the classroom at Google, and I made a few notes before I wrote my feedback in the classroom at Google. Moreover, **TEMPA allowed me to flexibly express my opinion on my peers' performance. TEMPA increased my confidence to engage in EAP class practice actively.** As an assessor, I communicated with my peers about my results and my feedback. On the other hand, as the assessment, because my mates and I had to record and post our performance, we were doing the assignment more carefully."

"I figured that TEMPA supported me in providing my reviews as the assessor. As assessed, I felt more personally to receiving feedback from my friends through TEMPA. It was a medium that was ideal for introverting students to give feedback. Many friends, even though smart, had trouble voicing their thoughts directly. I hoped TEMPA was going to fix our problem. On the other hand, I felt that **TEMPA's use had a positive impact,** especially on me. I learned how to critique the performance of my peers, provide feedback, and score. While sometimes, **my friends looked were not too enthusiastic about using technology-mediated peer assessment, maybe because they felt that the media used was not attractive, so the peer-assessment process seemed normal for them.**"

Excerpt 3 revealed that using TEMPA was the most effective method for fostering self-regulation in learning and made it possible for students to practice the regulated aspects of learning. In addition, the students believed that TEMPA enabled them to engage in self-reflection by criticizing their learning, but they needed appealing media to increase their involvement. TEMPA was able to facilitate feedback to the majority of students, despite their doubts because the technology dealt with their anxiety.

Students' Satisfaction with the Use of Technology-Mediated Peer Assessment

A further finding indicated that the students were satisfied with using TEMPA. They showed their satisfaction as confidence linked to a positive feeling, as described by the participants:

EXCERPT 4—SATISFACTION

"I did not have a TEMPA problem because I used Google class on EAP. Besides, **I had experience reflecting on the performance of my friends.** We filmed and shared our music performance on social media so that we could share our comments. I believed that TEMPA's meaning was the same, and this was my first encounter. My EAP teacher instructed my friends and me to record our presentation performance, post it in Google's classroom, and randomly deliver our peer assessment results."

"It was simple to record the video and place it in Google classroom. I was curious to know if teachers were using other digital media. However, if the instruction was explicit, **I could use any digital media for peer assessment.** I did not think TEMPA was a concern because I could work with my colleagues. If there were a problem, we would address it together and fix it. I wondered when my teacher told my friends and me to do peer reviews by watching videos on Google in the classroom. Finally, we realized that video and Google classrooms were streaming media that allowed me to do indirect peer reviews so that they did not have to be in the classroom. It was a different thing for us. **I could do a rubric-based peer review, and it sounded personalized.**"

"**I was very glad of TEMPA.** It was different from studying. I could see a record of my peers' performance in the Google classroom, and I could specifically add my reviews as an assessor. On the other hand, **it was exciting that my group had to work together** to prepare our presentation performance, from setting up a concept to presenting, recording our performance, and posting a video in Google's classroom. I knew that I would get feedback from my peers, and **I was excited to know the peer assessment results.**"

Note: Interview transcripts of participants 1, 2, and 3 translated by the authors

Excerpt 4 demonstrated how the students' satisfaction with TEMPA generated their internal motivation to engage in the learning process. The use of TEMPA provided them with an enjoyable learning journey that enabled them to assess their peers, and it served as a learning instrument. Through interaction and engagement, which enabled them to implement their skills, give an assessment, and solve problems, students felt they could experience meaningful learning.

DISCUSSION

Our research focuses on students' perceptions of using TEMPA in the EAP course. The teacher incorporated TEMPA into the EAP course to facilitate peer assessments. TEMPA contained information

on the feedback of students to the course assignment. It also showed the importance of holding students' attention in the EAP course process. Lee (2017) argued that students could self-regulate and self-correct their assignments if they clearly understood the assignment objectives, expectations, and requirements that describe the target achievement. The TEMPA implementation process should be sensible and there should be a congruence between the assignment objectives in the students' minds and the teacher's assignment objectives so that students do not hesitate to get involved lest their doubt prevent them from giving their best in the processing. On the other hand, when students focus on the milestones and see them as a challenge, this significantly contributes to advancing a student-centered learning process at the higher education level.

The motivation is the urge of a person to act solely from their internal drives, such as joy and interest. It is also logically necessary for student success, given the evaluation requirements and standards of EAP learning. Technology-facilitated peer assessment is gaining attention and growing (King, 2004; Lee, 2017). Moreover, technology as a learning media shifts students' characteristics as autonomous students (Odewumi, 2020). The teacher needs to ensure that the students are involved in the learning process. A lack of interaction between teachers and students can lead to insufficient student engagement in online learning and low persistence and effectiveness (Hu & Li, 2017). Students draw attention to their positive attitudes by raising questions, engaging, and creating mental challenges. This represents a mixture of their behavioral and cognitive processes and explains their excitement for using TEMPA because it attracts their attention and stimulates their interest to learn.

TEMPA has an enormous impact on learning achievements. Students learn to provide accurate and constructive feedback to peers. Besides, providing feedback can lead to rehearsing, explaining, reviewing, and improving the reviewer's understanding of the EAP course. Abdul Majidet al. (2019) argued that technology could be used as a language learning strategy to improve students' oral presentations. We discovered that online applications motivated students to learn and focus on teachers' subject descriptions. In particular, students learned critically about their roles and their peers' practices

(Babaii & Adeh, 2019). Technology-facilitated peer evaluation involves students in complex cognitive tasks such as critical thought and self-assessment (Abdul Majid et al., 2019; Gan et al., 2019). Using online applications are a useful method for on-the-go practice since peer assessment can increase students' courage.

TEMPA is used to create a self-assessment space where students felt free to ask questions about the assessment or even perform an assessment. It is instrumental in enhancing the student's requirement to support success to other students. Yundayani et al. (2019) argued that technology boosts student motivation as students learn to practice materials more effectively and feel more comfortable working together to discuss the material. The TEMPA implementation method is a virtual media platform where students can compare their work. It would be useful to complement EAP learning with additional activities that enable students to connect with peers.

The technology helped take peer assessment online and offered groundbreaking features (Wang et al., 2016; Yundayani et al., 2019). There are many methods of organizing peer assessments in TEMPA implementation and many tools to help these processes that students can use to evaluate their comprehension of the subject or area of the EAP course objectives. There are ways to make TEMPA objective assignments more learning-focused and inspiring. For example, students can send online assignments that positively affect learning motivation and the feedback produced by students. This would help the teacher build up EAP course assignments that can be reused across classes. Thus, TEMPA can involve students engaging with the simulation in an EAP learning sense.

TEMPA has become more effective and beneficial and might help recognize information gaps, solve problems, and enhance cognition. Using TEMPA would increase the engagement and learning of the students. With the aid of technology, students can receive positive and insightful input from peers, which significantly enhances learning performance (Abdul Majid et al., 2019). Peer assessment practice could also offer students opportunities to connect, collaborate, and learn together (Li & Gao, 2016; Liu et al., 2018). Assessments are well known to be closely connected to successful

learning. Peer review allows students to evaluate and review their work and learn from others. It was recognized as something that When students see the importance of something they need, it draws their interest. They are engaged in monitoring the performance gaps between their learning intentions and the effects they produce (Li et al., 2016). It is also possible to use newly developed technology tools to support online peer assessment (Kollar & Fischer, 2010; Topping, 2010). Performance evaluation is the result of a dedicated commitment to the EAP learning assignments.

The application of TEMPA facilitates the students' activities, allowing them to focus on the learning progress. It increases the students' interest in self-reflection and their dependency on other students, which strengthens their self-assessment and self-correction. The students are regularly engaged in self-monitoring, self-assessment, and task-selection skills, all of which have a considerable impact on the learning experiences in which students engage (Henriksen et al., 2016; Shuguang & Qiufang, 2018). The students are interested in determining the requirements that will be applied to their work and in making decisions about how their work responds to specific evaluation standards (Mirmotahari et al., 2019).

Students gain enthusiasm based on their assessment of the TEMPA applied. They also focus on improving their learning rather than only comparing and contrasting it with their peers (Fathi et al., 2017; Mirmotahari et al., 2019). TEMPA is used to measure the students' knowledge of the field and make associations with their learning goals rather than others' performance. TEMPA is also crucial to the development of self-regulation by students because they can see the progression of learning goals when they have immediate feedback.

TEMPA is concerned with motivational methods, and self-regulated students display a high degree of self-efficiency, self-assignment, and inherent engagement in activities. These students are self-starters who display excellent learning effort and persistence. Self-regulated students identify, organize, and design environments that maximize learning about their behavioral processes (Stanny et al., 2018; Thorseth et al., 2016). Besides, TEMPA provides an atmosphere where students engage with peers to enhance learning and improve productivity and efficacy by recording

peer feedback, calculating ratings, and reducing teachers' workloads, thereby improving learning outcomes. It is interesting to note that some students need to be more enthusiastic about using technology to facilitate peer assessment. Because TEMPA required students to be self-directed, this result seems reasonable. It took a lot of work for the teacher to develop autonomous students through learning activities that abruptly switched from teacher-centered assessment to technology-mediated peer assessment.

TEMPA makes students develop feedback on their understanding of the EAP course objectives, either as a general peer assessment assignment or as feedback comments that are automatically provided. Online peer assessment is considered a cognitive resource that leads to knowledge development and learning reflection (Rosa et al., 2016; Wang & Zong, 2019). There is a role for the TEMPA objective assignment in creating self-regulation for students, which shows students how to evaluate their level of EAP comprehension to improve their knowledge and skills acquisition.

TEMPA describes useful feedback as information on how students perform in the ideal situation. EAP teachers can make some required changes to the student's needs (Kardijan & Yundayani, 2019). Feedback is evident to the students when related to particular goals and more straightforward. Peer assessment processes help improve the students' expertise they need to standardize objective assessments, which are often transferred when their work is regulated (Fathi et al., 2017). The students are able to use all the comments on others' work and receive feedback from peers on their own work (Sumekto, 2018). Another advantage of TEMPA is that students are able to retake assignments several times. They can also replicate the assignment several times to enhance their results and receive a fair evaluation and practice providing feedback. Also, feedback from peers can be more understandable than feedback from teachers. Autonomous students take on more responsibility for their learning (Kardijan & Yundayani, 2019; Sumekto, 2018). TEMPA fosters learning autonomy and positively contributes to motivation and learning outcomes, mainly when self-assessment is part of the process and students evaluate progress and improvement, not grades.

CONCLUSION

TEMPA allows students the time and flexibility to conduct peer assessments, which increases peer-to-peer contact during the learning process. Students' confidence increases if they are able to interact and converse with one another more flexibly. Therefore, TEMPA applies various ways to boost students' interest in EAP assignments' best practices, modify their learning behavior in the EAP learning process, and enhance students' positive feedback. The students are fully inspired to participate in TEMPA in the EAP learning process. This coincides with the need for students to develop their ability to engage with EAP courses. The related learning process is one of the main aspects of developing a suitable environment for students. As a result, TEMPA has many educational activities that foster authenticity and relevance during the EAP learning process. It also demonstrates the relevance of the content so that students bridge the distance between the content and the real world.

The limitation of this research is that the data were taken only from students' perspectives, which could be extended by involving the teachers' perspectives. In addition, this study represented students' perspectives on utilizing technology-mediated peer assessment in English for academic purposes, which could be expanded via a multi-modal peer assessment analysis.

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