INVESTIGATING ONLINE COLLABORATIVE GRAMMAR LEARNING VIA GOOGLE DOCS AND WHATSAPP: INDONESIAN EFL UNDERGRADUATE STUDENTS VIEWS

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Abstract

Acquisition of grammar is essential in English instruction because it is the foundation of learning its language, yet EFL learners often face obstacles, particularly in online settings. At the same time, recently, technology has rapidly embraced and offered various platforms or applications as learning aids in the English education field. The incorporation of technology facilitation is believed to boost the student's grammar competency. However, the delving of students' views of grammar learning online and collaboration is still infrequent. In an attempt to fill the gap, the current study investigated the students' views on utilizing Google Docs and WhatsApp in online collaborative grammar learning. This descriptive qualitative case study examined 99 participants consisting of 17 males and 82 females of Indonesian EFL undergraduate students at a private university in Jakarta, Indonesia, who viewed Google Docs and WhatsApp in online collaborative grammar learning. The data was collected by questionnaire and interview and then analyzed descriptively. The findings revealed that the students' views positively influenced their substantive feelings, collaboration, teamwork skills, confidence, autonomy, and self-regulation. Grounded by the findings, the current paper illustrates recommendations for conducting online collaborative grammar learning integrated with Google Docs and WhatsApp for the learner and the instructor in preparing a syllabus and technical procedure. The result of the current study implied that both the platform and application offer the potential to be adopted in online or hybrid collaboration instruction.

Keywords: Online Collaborative Grammar Learning, Google Docs, WhatsApp, Indonesian EFL Undergraduate Learners

INTRODUCTION

Learning grammar is a pivotal foundation and a fundamental aspect of English acquisition. Mastering English grammar is a set of constructing the written structure and displaying its functionality into a complete thought (Brindley, 2005; Hall, 2011; Harmer, 2007; Patel & Jain, 2017; Seely, 2007; Ur, 2007). Learning grammar benefits the productive skills in speaking and writing (Wishart et al., 2024). Meanwhile, Brown and Lee (2015) highlighted three dimensions that are considered as follows: form, meaning, and use, which the dimensions apply simultaneously. However, EFL learners encounter numerous challenges to gain grammar competency, such as first language interference (Dehghani et al., 2016), distinct language structures (Effendi et al., 2017), tense issues (Listia & Febriyanti, 2020), subject-verb agreement problems (Febriyanti, 2019; Mentari et al., 2023), and various complex patterns (Komara & Tiarsiwi, 2021). Fitri et al. (2023) reported grammar mistake anxiety might influence productive skills such as speaking and writing. Muzakkair et al. (2022) deployed a lack of grammatical issues leading to disruption in reading comprehension. Pawlak (2021) deployed an irrelevant and inappropriate learning approach as one of the failure factors in grammar instruction.

Collaborative learning in grammar instruction has been developed due to the benefits of increasing engagement, active construction knowledge, and teamwork practices (Collet & Greiner, 2019). Vygotsky (1978) underpinned by sociocultural theory, suggested that interaction is crucial for sharing with instructors and peers in the collaboration landscape. Such

(2019) advocated that interaction and cooperation in collaborative learning can be a scaffolding for the learning process. Hsieh (2017) underlined three scaffolding patterns of collaborative learning such as peer-to-peer, multi-directional, and individual scaffolding. Svalberg (2012) reported that collaboration activities reduce anxiety when solving grammar problems. Chang and Windeatt (2016) argued that an effective collaboration if the learning mechanisms allow students to make their own decisions in participation, provide opportunities to learn from peers' work, enable students to choose when to present their work for peer review, ensure comments in constructive rather than destructive, foster both social and academic interactions, and have sufficient time for trust and confidence to develop. Coping in the collaboration learning venue prevents the feeling of being isolated in facing the problems, searching the solutions, and solving the challenges (Chen, 2017). However, in achieving successful collaborative learning, the instructor should consider and facilitate the students in practicing collaborative skills and group dynamics, including leadership, team building, discussion, sharing, listening, articulating, summarizing, questioning, critiquing, evaluating, contributing, supporting, encouraging, extending, giving and receiving feedback, and ensuring timely contributions (Monteiro & Morrison, 2014).

Online collaboration learning (OCL) has been implemented in a distance learning mode since it provides learners with opportunities to enhance teamwork skills, intrinsic motivation for learning, and self-confidence in technology adaptation (Magen-Nagar & Shonfeld, 2018). Appiah-Kubi and Nichwitz (2020) found that OCL is cost-effective and has built a learner community. In the OCL, the learners experienced building knowledge of how to interact and cooperate with peers to solve problems (Sellés et al., 2015). OCL tackles the issues of being isolated in a virtual learning environment (Waugh & Su, 2016). A mutual relationship among the learners in OCL is activated by peer feedback and group revision (Alsahil, 2024). OCL is offered in dual-mode synchronously and asynchronously more flexible in time management (Peterson, 2023). OCL provides learners with sharpening their autonomy learning, covering metacognitive, motivation control, and emotion control strategies to regulate their learning (Ding & Shen, 2019). Meanwhile, Yadegaridehkordi et al. (2019) recommended that OCL tools should facilitate collaboration and content sharing that adjust to the users' preferences, needs, and interests. In addition, Xie et al. (2019) advocated that instructors facilitating online collaborative learning should encourage students to reflect on their self-perception as leaders to effectively utilize self-regulation strategies, recognizing that understanding leadership roles can help balance task and relationship leadership, thereby enhancing engagement and achieving the course's learning objectives, especially when the course emphasizes success strategies in college. However, in the landscape of OCL emerge obstacles such as learning culture, self-efficacy, instructional design, technology usage issues, and collaborative process (Jung et al., 2012).

Google Docs supplies document creation, storage, synchronous and asynchronous sharing, editing and commenting, and revision history (Slavkov, 2015). Google Docs facilitates the students in the arena of collaborating, sharing, gathering, and working in real-time (Hyland & Shaw, 2016). Google Docs facilitates online collaboration by enabling instructors and learners to work together in a single user space, allowing synchronous and asynchronous editing from various devices while showing where and what others are typing and their access levels (Ebadi & Rahimi, 2019). Jeong (2016) reported that Google Docs, as a web-based collaborative writing platform, enhanced active communication, independent class participation, mutual collaboration, and dynamic classroom interaction. Through Google Docs, learners enhance their language acquisition skills through peer comparison, constructive feedback exchange, and efficient information sharing (Ebadi & Rahimi, 2017). Since Google Docs provides an interactive space where the learners accomplish the task simultaneously, they are more

productive in collaboratively generating ideas and displaying various grammar constructions (Hoang & Hoang, 2022). Learning via Google Docs, the learners boost their grammar knowledge optimally in online collaboration by receiving, undertaking, sharing, and revising material mutually under the instructor's scaffold (Khalil, 2018). The presented works in Google Docs are more organized due to the history tracking of the previous materials, which can be relearned by the learners' (Alsahil, 2024). Nevertheless, Google Docs is an online set with some hurdles, such as device networking, misconceptions about discussion, and collaborators' invisible participation (Alharbi, 2020).

WhatsApp is an installed application in a smartphone that functions essentially to deliver a message. Yet, it has been recently supported by various features such as sending or receiving pictures, videos, games, documents, links, etc. (Nitza & Roman, 2016). WhatsApp is preferred due to its simplicity, ease, and efficiency (Moreno-Guerrero et al., 2020). WhatsApp in the learning instruction assists the instructors and learners in sharing information rapidly and responsively (Hamad, 2017). WhatsApp mediates the learners in learning and sharpening their language skills involving listening, reading, speaking, and writing (Manan, 2017). The learners can learn autonomously via WhatsApp in formal and informal settings (Alshammari et al., 2017). Despite the affordable cost, WhatsApp equips space for group communication that can be utilized as a learning dialogical tool between instructors and learners as a part of collaborative learning instruction (La Hanisi et al., 2018). Kartal (2019) critically shed light on this by investigating 37 empirical studies and revealed that none of them mentioned the tribulations of utilizing WhatsApp as a language learning platform. At the same time, it is recommended as an applicable aid in English language learning.

Numerous studies have investigated the benefits of online collaboration learning in English language instruction facilitated by Google Docs (Alharbi, 2020; Alsahil, 2024; Hoang & Hoang, 2022; Jeong, 2016; Li, 2018; Wang, 2017; Zaky, 2021). Concurrently, ample studies have delved into the advantages of WhatsApp as a potential platform for providing English language learning (Ali & Bin-Hady, 2020; Alshammari et al., 2017; Bensalem, 2018; Hamad, 2017; Jasrial, 2018; Mulyani et al., 2021). However, infrequently, the study examines the amalgamation of utilizing Google Docs and WhatsApp as the venues for enhancing English grammar competency. Hence, the current research explores the learners' views of utilizing Google Docs and WhatsApp to sharpen English Grammar in the online collaborative learning arena. The present study tries to reveal the gap by addressing the research objectives of how undergraduate Indonesian EFL learners' views on utilizing Google Docs and WhatsApp in online collaborative grammar learning.

METHOD
The current study employed a descriptive qualitative case study that investigated a phenomenon in a real-life context (Yin, 2014). The research procedures delved into the deep investigation by enacting multiple procedures to gain the data (Creswell., 2012). The present study displays a single case study where the data were taken from a university landscape (Priya, 2021). The illustration of the research design is portrayed in the following chart:
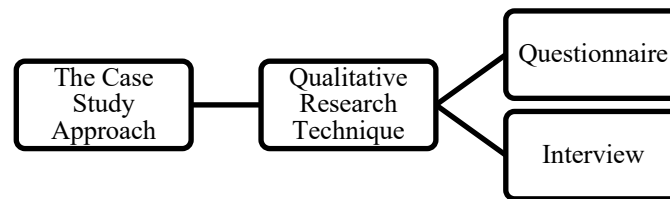
Chart 1. A Case Study Research Design

Respondents

Three intact classes at a private university in Jakarta, Indonesia, were involved in the research study. The number of participants who were voluntarily involved in this research was 99 students consisting of 17 males and 82 females. They were undergraduate students from the English department study program in the second year who took the Understanding Structure course. Each class was organized into five groups to accomplish the grammar exercises online collaboratively in every meeting via Google Docs and WhatsApp.

Instruments

The research instrument was a questionnaire that was adopted (Khalil, 2018) and distributed via Google Forms in an online allocation. The questionnaire consists of 20 question items that aim to elicit the students' experiences when utilizing Google Docs and WhatsApp in online collaborative grammar learning. Additionally, the data was enriched by the interview that was conducted via WhatsApp and distributed to seven students, yet only five students conveniently participated. All the involved participants in this research were displayed in pseudonyms to protect their identity.

Procedures

The course was in the online setting where the students learned the materials from the shared Google Drive for the PPT and E-Books as the file storage, Google Meeting for the synchronous meetings, Google Docs for the collaborative exercises, and WhatsApp Group for the communication and shared information between the instructor and the students. The course materials covered Infinitive and Gerund, Parallel Structure, Adverbial Clause, Reduction of Adverbial Clause to Modify in Adverbial Phrases, Connectives, and Conditional and Wish Sentences. The course meetings were in 14 meetings, excluding the mid-term and final-term examinations. Each of the meetings was provided by the exercise based on the learned topic and accomplished collaboratively within the groups.

Data analysis

The obtained data from Google Forms were documented in a Microsoft Excel spreadsheet, and analyzed in percentage to gauge the intensity of the data. Meanwhile, the interviews were conducted via WhatsApp with semi-structured questions to extend and delve into the questionnaire's questions. The interview data were collected and administered in Microsoft Excel and afterward analyzed descriptively.

FINDINGS

To examine the first research question how the undergraduate Indonesian EFL learners' views on utilizing Google Docs in learning English Grammar online collaboratively, the data employed by the questionnaire with the results as follows:

Students' View on OCGL via Google Docs

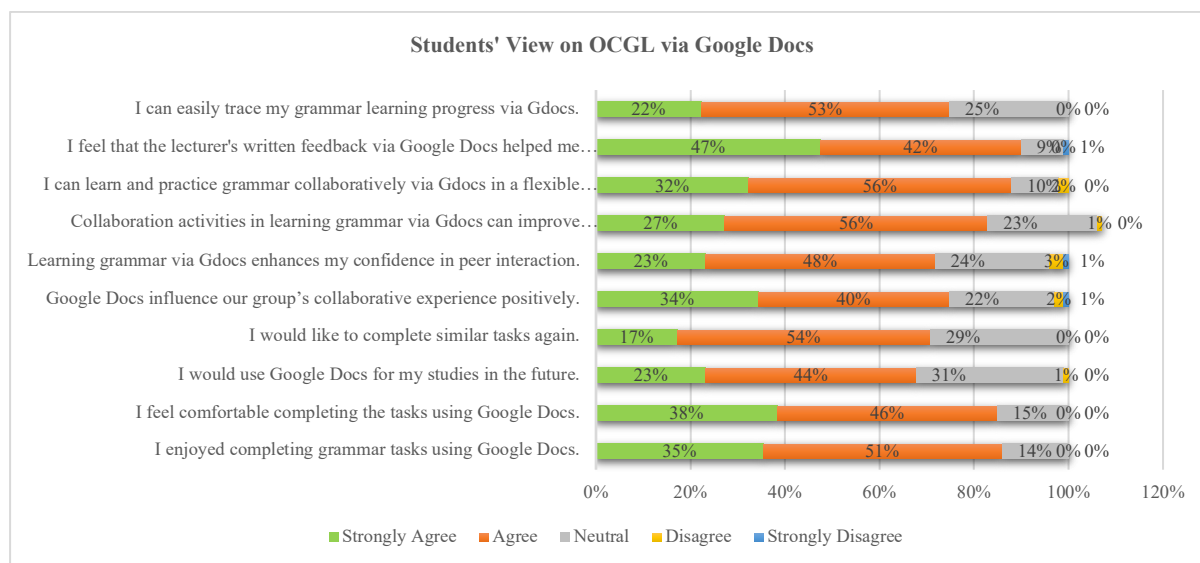| Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I can easily trace my grammar learning progress via Gdocs.	22%	53%	25%	0%	0%
I feel that the lecturer's written feedback via Google Docs helped me…	47%	42%	9%	0%	1%
I can learn and practice grammar collaboratively via Gdocs in a flexible…	32%	56%	10%	2%	0%
Collaboration activities in learning grammar via Gdocs can improve…	27%	56%	23%	1%	0%
Learning grammar via Gdocs enhances my confidence in peer interaction.	23%	48%	24%	3%	1%
Google Docs influence our group's collaborative experience positively.	34%	40%	22%	2%	1%
I would like to complete similar tasks again.	17%	54%	29%	0%	0%
I would use Google Docs for my studies in the future.	23%	44%	31%	1%	0%
I feel comfortable completing the tasks using Google Docs.	38%	46%	15%	0%	0%
I enjoyed completing grammar tasks using Google Docs.	35%	51%	14%	0%	0%

Figure 1. Students' View on Online Collaborative Grammar Learning via Google Docs

Based on the illustration in Figure 1, the first point shows that 51% of the students agreed to enjoy completing grammar tasks using Google Docs. Subsequently, 46% of the students consented to feel comfortable when completing the grammar tasks via Google Docs. The utilization of Google Docs for the student's future studies is affirmed at 44%. The students who assented to undertake similar tasks via Google Docs are depicted in 54%. Google Docs positively influenced the group's collaborative experience, concurred by the students in 40%. At the same time, 48% of the students agreed that learning grammar via Google Docs enhanced their confidence in peer interaction. Additionally, 56% of the students pointed collaboration activities in learning grammar via Google Docs improved their autonomy learning, and 56% of the students agreed they could learn and practice grammar collaboratively via Google Docs in a flexible time. Next, 47% of the students strongly agreed that the lecturer's written feedback via Google Docs helped them understand grammatical concepts better, and 53% of the students confirmed that they could easily trace their grammar learning progress via Google Docs.

The excerpts from the interview from the students' view of utilizing Google Docs in online collaborative grammar learning reveal various perspectives. The following statements about the use of Google Docs for future studies are narrated as follows:

> *"Yes, because Google Docs can be accessed for free, and we can create, edit, and share documents to be accessed anywhere and anytime. It has features that make innovations for editing shared documents online."*(FMR_S4)
> *"Yes, I will use Google Docs for my future studies because Google Docs is very easy to use, easy to access, and overall very handy."*(AW_S7)
> *"Yes, I will, because using Google Docs for our studies makes us understand the lecture; using Google Docs for the lecture is clear enough for me to understand the lecture, and it is more efficient to study."*(CW_S2)

Regarding the students completing the tasks via Google Docs would make them undertake similar activities portrayed by the students as follows:

> *"Yes, I will use Google Docs again. It's easier to control since the screen is bigger than the WAG screen, and there are more tools and format options in case you need to mark the answer."* (AW_S7)
> *"Yes, I will, because it's easy to use and easy to correct if there's a mistake."* (MA_S1)

Pertaining to the extent of the sense while using Google Docs in online collaborative grammar learning, the students depicted in the narration below:

> *"In the sense of its various tools, such as the sharing tool and a useful comment section that will directly notify the other members of a shared document in case someone wrote a comment. The insert link section where you can easily share links in the text within the documents between members of a shared document."* (AW_S7)

> *"Google Docs greatly influence the collaborative learning environment because it provides us with collaborative learning processes such as editing and creating documents and completing assignments with friends."* (EPK_S3)

> *"Google Docs influence a collaborative learning environment in team works. Because all the members in the group can write their opinions there and others can review it in real-time or simultaneously."* (CW_S2)

Concerning the benefits of the lecturer's feedback while accomplishing the tasks in online collaborative grammar learning, the students voiced the following redaction:

> *"Yes, it is beneficial, especially if it's via Google Docs, because I'd like to know my grammatical mistakes, so I can do better in the future. In addition, Google Docs is the perfect tool for me because I can always study it back in a Google Docs file."* (AW_S7)

> *"Not really, because sometimes we don't get the notification from Google Docs that makes us not know the feedback from the lecturer."* (MA_S1)

Relating to the Google Docs help keep track of the student's learning in online collaborative grammar learning, the students illustrated the following:

> *"Yes, it does, because we can review it at home anytime by just clicking the link that is given by the lecturer."* (CW_S2)

> *"Yes, because the use of Google Docs is very helpful in learning in this digital era where everything is very practical with the help of technology, it will be easy to track how far our learning has come in learning activities, especially when added with features that support learning for us."* (EPK_S3)

> *"Yes, Google Docs is a very practical tool to help me keep tracking of my learning because I can always access it easily without having to scroll up and down like in WAG."* (AW_S7)

To reveal the second question of the research, how the undergraduate Indonesian EFL learners' views on utilizing WhatsApp to learn English Grammar online collaboratively, the following findings display as follows:

Students' View on OCGL via WhatsApp

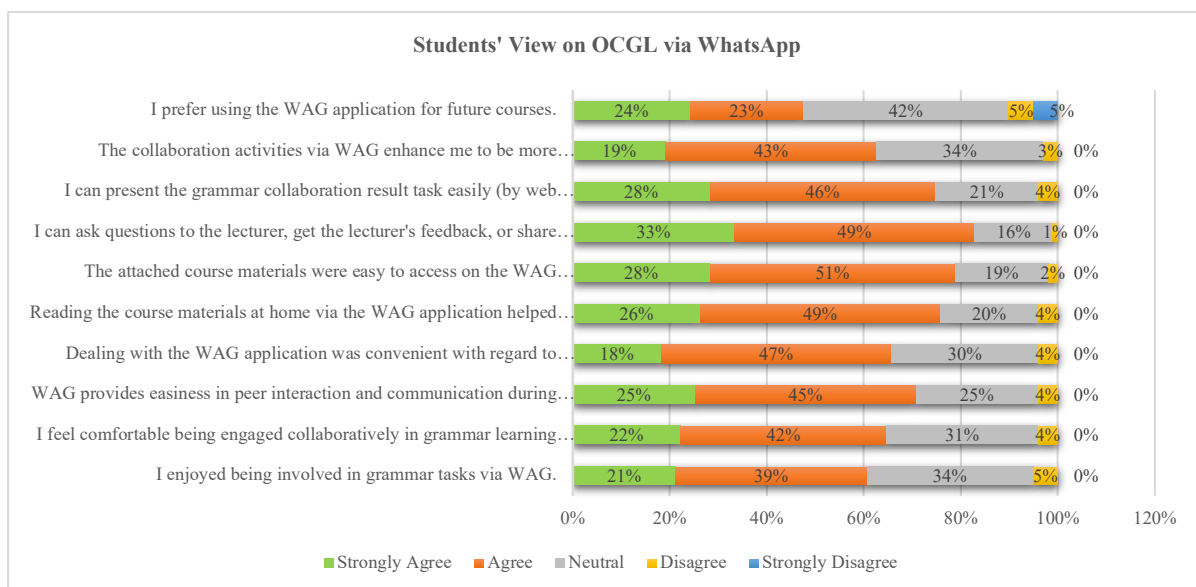| Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I prefer using the WAG application for future courses.	24%	23%	42%	5%	5%
The collaboration activities via WAG enhance me to be more…	19%	43%	34%	3%	0%
I can present the grammar collaboration result task easily (by web…	28%	46%	21%	4%	0%
I can ask questions to the lecturer, get the lecturer's feedback, or share…	33%	49%	16%	1%	0%
The attached course materials were easy to access on the WAG…	28%	51%	19%	2%	0%
Reading the course materials at home via the WAG application helped…	26%	49%	20%	4%	0%
Dealing with the WAG application was convenient with regard to…	18%	47%	30%	4%	0%
WAG provides easiness in peer interaction and communication during…	25%	45%	25%	4%	0%
I feel comfortable being engaged collaboratively in grammar learning…	22%	42%	31%	4%	0%
I enjoyed being involved in grammar tasks via WAG.	21%	39%	34%	5%	0%

Figure 2. Students' View on Online Collaborative Grammar Learning via WhatsApp

Figure 2. demonstrates from the initial item that 39% of the students agreed they enjoyed being involved in grammar tasks via WhatsApp Group (WAG). Next, 42% of the students agreed that they felt comfortable being engaged collaboratively in grammar learning via WAG. WAG provided easiness in peer interaction and communication while learning grammar is assented by the students at 45%. Dealing with the WAG application was convenient for keeping track of the learning confirmed by the students in 47%. Reading the course materials at home via the WAG application helped me to be well-prepared for class discussions concurred by the students in 49%. Meanwhile, 51% of the students approved that the attached course materials were easy to access on the WAG application. In addition, 49% of the students agreed that they could ask questions to the lecturer, get the lecturer's feedback, or share their thoughts about grammar in a fast response on WAG. Subsequently, 46% of the students affirmed that they could easily present the grammar collaboration result task (by web link/direct audio or visual) on WAG, and 43% of the students acceded that the collaboration activities via WAG enhanced their confidence and comprehended the grammar materials better. Surprisingly, 42% of the students claimed neutral about the preference of using the WAG application for future courses.

In delving deeper to get information about the student's views on utilizing WhatsApp Group (WAG) as the venue in Online Collaborative Grammar Learning (OCGL) by conducting interviews with voluntary students. The findings begin with the willingness of the students in the utilization WAG for future studies in the context of OCGL as follows:

> *"Yes, I will do it with WAG considering that we can interact directly with teachers and friends in a group which makes it easier for us to connect with each other in the group."* (EPK_S3)
> *"Yes, I will use WAG since I can easily access WAG through my phone, and it gives WAG a plus point. So, I'm not saying no, even though if I should choose one between WAG and Google Docs, I'd choose Google Docs."* (AW_S7)
> *"Yes, I will, because we can use WAG to share the PPT or additional material about the lesson and also can discuss the lesson, but if the lecturer wants to explain the lesson, I prefer to use Google Meet or Zoom.* (CW_S2)

With respect to the utilization of WAG in OCGL, the students depicted to reattempt similar activities in its platform as follows:

> *"Yes, because it makes it easier for us to do assignments and discuss with others."* (FMR_S4)

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> *"No, as for the grammar task, as I mentioned previously, I find it easier to use Google Docs as the tool to complete the task because, in WAG, the more messages I receive on the group, the older messages get buried by the new messages, and it will be a bit tricky to keep track of it since I have to scroll back up to see the old messages."* (AW_S7)
>
> *"No, I wouldn't. In my opinion, it is not too efficient because there are so many members in the group. The message would be sink."* (CW_S2)
>
> *"No, I won't, because it's kind of difficult to be correct if there's a mistake"* (MA_S1)

In regard to the students' sense of using WAG in OCGL and the extent its application influences them, the result of the interview excerpt is as follows:

> *"As for the WAG, its influence might not be as huge as Google Docs. Otherwise, if I have to list a few of them, I guess it would be easy access to WAG and how it notifies me right away when there's a text within the WAG. The little downside of using WAG is the app contributes a bit of a distraction sometimes if the person uses the WAG on their mobile phone instead of their computer or laptop."* (AW_S7)
>
> *"WAG affects the collaborative learning environment because, in the discussion group, we can listen to each other, provide input, and share assignments with friends so that we can complete tasks according to expectations and get satisfactory results for us together."* (EPK_S3)

On the subject of the advantages of the lecturer's feedback via WAG in OCGL, the students' viewpoints in the following:

> *"Yes, because feedback via the WAG from the teacher is very useful regarding grammatical concepts because this can allow the students to know what correct grammatical concepts are like and can ask for a more detailed explanation regarding grammatical concepts from their teacher in the WAG."* (EPK_S3)
>
> *"For me, every feedback is considered beneficial. But again, messages on WAG get buried as more messages come in. But, we can do a starred feature on WhatsApp where we can click star important messages such as feedback so we can track it back."* (AW_S7)
>
> *"No, I don't, because sometimes using WAG is not so efficient because there are so many members in the group. The feedback from the lecturer would be sink."* (CW_S2)

Concerning the students in the WAG who were assisted in tracking their grammar learning progress, the voices from the interview results are:

> *"Yes, it does, but sometimes when we want to review the lecture at home, we have to scroll the message from the lecturer."* (CW_S2)
>
> *"Yes, WAG can help track learning and is very helpful in the teaching and learning process. This media is also very helpful for teachers in interacting with us during learning activities."* (EPK_S3)
>
> *"No, I admit it's a bit difficult to keep track of WAG because I have to spend time to actually scroll up to the buried messages with the newer messages."* (AW_S7)

The results of students' views on using Google Docs capture the platform as a promising tool in online collaborative learning due to its benefits and joyful experiences. At the same time, the WhatsApp Group application is perceived as a potential venue for facilitating the students because of the compatible quick response and communication in the textual discussion section. Nevertheless, both platforms and

applications were viewed as having limitations, such as Google Docs being viewed less for a live explanation from the instructor and WAG being inefficient in displaying the materials, taking more time to search for the information, and correcting the exercise mistakes.

DISCUSSION

The present study deployed the investigation on the students' view while utilizing Google Docs and WhatsApp in online collaborative grammar learning. The initial result of the students' outlook on using Google Docs in OCGL revealed alignment with previous studies that the students viewed positively (Alshammari et al., 2017; Khalil, 2018). The students scrutinized OCGL via Google Docs positively due to intrinsic motivations such as enjoyment, ease, comfort, engagement, and fun, which is similar to the findings of Magen-Nagar and Shonfeld (2018). Consistent with Ebadi and Rahimi (2017) in accomplishing the given tasks via Google Docs, having the opportunity to learn a teamwork skill, mutual sharing of knowledge, solving problems as a group, negotiation in a dialogical final decision, peer comparison, responding to the feedback and how to react, built a beneficial interaction, and communication practices. Aligned with Such (2019) , the activities in collaboration and cooperation generate the scaffolding process that prompts the students to solve the problems autonomously prior to consulting the lecturer or instructor. In harmonization with Alsahil (2024) , despite the online platform, the students perceived the flexible time in learning the materials that could be learned in the context synchronously and asynchronously whether constructed by the group, other groups, or the lecturer's feedback. In other words, the instruction's tracking of learned materials and activities can be captured whenever the students need it. Thus, OCGL via Google Docs facilitated the students to experience into three dimensions peer-to-peer, multi-directional, and individual scaffolding (Hsieh, 2017). However, as confirmed to Alharbi (2020), the students experienced obstacles in getting updates of feedback notification delays in undertaking the revision. Otherwise, the update can be seen from the e-mail notification except for the unsupported device. Given the positive perception by the students is indicated that Google Docs is the potential platform to be applied in grammar learning, particularly in the online collaborative setting. As the students reported, the intention to use OCGL in the future was facilitated with Google Docs that aligned with Hoang and Hoang (2022). The hurdles when operating Google Docs emerge from individual issues such as incompatible devices, signal networking, lack of recognizing the feature items, and lack of participation as the collaborator. To anticipate the barriers, the instructor needs to monitor and ascertain the device and the readiness of the collaborator when the instruction is designed on Google Docs.

Moreover, the students' perspectives toward the use of WhatsApp in OCGL were favorable, which is in accordance with (Hamad, 2017; Nurhijannah, 2022; Ta'amneh, 2017). Concerning the usefulness of WAG, the students perceived it as affirmatively delightful and pleasant when they conducted OCGL, which is consistent with Alshammari et al. (2017). The valuable point is that the OCGL mediated on WAG can be fast and responsive because it is installed on a smartphone. Hence, the students had the opportunity to collaborate, communicate, and interact with learning simultaneously on its platform, as in line with La Hanisi et al. (2018). Similar to Hamad (2017), collaboration, interaction, and cooperation worked optimally via WAG since the platform is portable and flexible that the students could respond in the formal and informal venue. Despite the limited device storage when documents were attached on

WAG, the students conveyed that the files could be transferred via hyperlinks to prevent the overload of device contents, and this is in accordance with Moreno-Guerrero et al. (2020). Meanwhile, relating to the feedback in WAG, the students viewed it positively but, at the same time, quite perceived it as challenging since the inefficient space that the user should scroll in ample times to find the needed information which is aligned to Bensalem (2018). In addition, the students viewed WAG as less supported in a video conference with many participants. Therefore, the students in the context of the explanation section preferred synchronously utilizing a video conference device such as Zoom or Google Meet to pursue a deeper understanding of the explained materials due to a neutral attitude from the students for future study via WAG. However, the experiences described by the students OCGL via WAG illustrate a promising application that needs to be adopted. Moreover, external storage for additional materials or documents should be considered, for instance, via other attached platform links and concerned with the virtual meeting platform that is friendly and usable to the student's preferences.

Online collaborative grammar learning via Google Docs in pedagogical instruction provides the opportunity for the learner to engage in grammar activities and solve problems in teamwork. The learners can collaborate synchronously altogether in real-time with their teams when they have a task to solve. In addition, whether the lecturer and the learner can write and replay the feedback regarding the correction synchronously or asynchronously with the detailed information of the date and time. Thus, all the activity information can be tracked on Google Docs including the revision progress that has been deleted or added. However, due to the learning progress via Google Docs only in textual display, there might emerge a misconception among the users. Hence, the addition of another support tool is suggested for clarification and confirmation such as via WhatsApp. WhatsApp as a messenger application allows learners to verify the grammar task progress on the chat with the lecturer whether in inquiring, clarification, or confirmation. Moreover, the activities on Google Docs easily can be shared on WhatsApp by attaching the links for friendly storage. To strengthen the material understanding for the learner, the addition of video conferences is suggested to prevent misunderstanding on textual communication or dialogue between the instructor and the learner.

CONCLUSION

The current study strengthens the potential of utilizing Google Docs and WhatsApp for online collaborative grammar learning. The students' views indicated positive intrinsic motivations, such as comfort, enjoyment, and ease when learning via Google Docs or WhatsApp. The students perceived the collaboration and interaction activities favorably since the discussion was in a virtual setting. Both the platform and application offer opportunity spaces for enhancing teamwork skills such as communication and interaction. The students leveraged more confidence and comprehension of the grammar materials they had learned through Google Docs and WhatsApp. The students self-regulated and autonomously emerged when they monitored the instructor's feedback and revised and evaluated the tracking progress. The intentional use of that platform and its application in future studies by the students represented the benefits of online collaborative grammar learning. Regarding the hindrances of using Google Docs or WhatsApp as the learning media in OCGL, the instructors are suggested to organize to consider technical and technological issues such as networking stability, adaptable technology tools usage, efficiency in sharing

materials, compatibleness device information, explicit guidelines and role as the collaborator to avoid unfairness contribution. In other words, for the instructors, a definite procedure in pre-, whilst, and post-instructional is recommended in an online grammar teaching syllabus. However, the present study limits the students' views of dual-learning aid to online collaborative grammar settings. Future studies can explore distinct ankles in diverse platforms or applications, different constructs, subjects, domains, contexts, or various learning modes. Since the current study is in a small scope, the next investigation can be in a larger coverage to delve into more generalization results.

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