ESL Teachers' Perceptions of Web-Based Collaborative Writing Activity

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Abstract
Collaborative writing was deeply rooted in Lev Vygotsky's sociocultural theory, where social interaction and communication were crucial for learning and cognitive development. Research on collaborative writing has been well-established in the mainstream education of English-speaking countries, however, it has been rarely conducted in the context of second language speakers. In Malaysia, the advancement of education technology has prompted local researchers to explore the practice of web-based collaborative writing activities. However, most local research on web-based collaborative writing has centered on students' acceptance and perceptions of the method. Teachers, despite playing a crucial role in facilitating and moderating students' collaborative writing, have rarely been the focus of these efforts. To minimize this information gap, this study employed a qualitative research approach with the aim of exploring ESL teachers' perceptions of web-based collaborative writing in Malaysian secondary schools. Based on interviews with six experienced and novice ESL teachers in Malaysia, this study discovered that collaborative writing was not well understood among secondary school teachers, particularly senior teachers and those located in rural areas. The findings of this study revealed that web-based collaborative writing in secondary schools was conducted on a smaller scale to suit students' levels of English proficiency. Teachers compensated for their lack of knowledge on the tools by allowing students the freedom to choose any web-based tools and platforms they prefer. The freedom of being in charge of their writing and the support students received throughout all stages of writing was theorized to increase students' creativity and interest in writing. Although the results of this study was based on the perceptions of a small sample, they offered various insights into possible teaching strategies, limitations, and benefits of collaborative writing that are beneficial to ESL teachers in Malaysia, as well as internationally.
Keywords: Collaborative Writing, ESL Students, ESL Teachers, Online Learning, Perceptions, Secondary School

Introduction
The development of Information and Communication Technologies (ICT) in the 21st century has brought about significant changes in the field of education, particularly in the teaching of writing skills (Adnan & Ritzhaupt, 2018). The ubiquity of technology-enhanced writing platforms and related tools has expanded the scope and range of collaboration (Yim &

Warschauer, 2017) to the point where it has the potential to alter the mainstream perception of writing. While years of independent writing have led the general population to perceive writing as a solitary activity, the widespread availability of free and easy-to-access writing platforms and tools in recent years provides the newer generation with opportunities to engage in web-based collaborative writing. The new version of collaborative writing retains the main purpose of the writing activity, which was to produce a final piece of writing through the collaboration of two or more writers (Storch, 2016); however, the platform by which the collaborative writing activity took place was fully web-based. This scenario meant that the writing and social interactions involved throughout all stages of writing were expected to occur online. The incorporation of technology into the writing activity also mitigated the need for physical settings, enabling synchronous and asynchronous web-based collaborative writing activity to happen beyond the boundaries of time and locations.

Collaborative writing activity, regardless of the way it was conducted online or offline, was often misunderstood as peer-response writing activity (Deveci, 2018). Although peer-response activity promoted students' social interaction, the interactions were often limited to pre-writing and post-writing stages. This was in contrast to collaborative writing, where social interaction was believed to happen at all stages of writing, from brainstorming, decision-making, writing, to editing of the composed text (Deveci, 2018). The importance placed on social interaction as the integral component of learning was deeply rooted in Lev Vygotsky's sociocultural theory, where social interaction and communication were crucial in learning and cognitive developments.

In Malaysia, educational technology awareness (Adnan et al., 2020) has led to a number of local researchers exploring the usage of collaborative writing via the web. However, most local research on web-based collaborative writing has centered on students' acceptance and perceptions toward the activity. Researchers' interest in the subject was well-founded. A clear understanding of students' perceptions might provide teachers with feedback on how to adapt their classroom instructions according to students' needs. In sum, exploring how students responded to web-based collaborative writing was beneficial, as it opened room for improvements for both teachers and their students.

Despite having a crucial role in facilitating and moderating students' collaborative writing, teachers' perceptions of the web-based collaborative writing strategy were rarely investigated in Malaysia (Adnan & Sayadi, 2021). Teachers' perceptions were an important topic to investigate, as they determined where a set of beliefs originated from teaching experience, observation, or knowledge. The findings from this study could shed light on the reality of collaborative writing situations, documenting teachers' perceptions of the writing activity could provide other ESL teachers with information on aspects of teaching they may need to improve on.

Background of the Study
Research on collaborative writing has long been established in mainstream education in English-speaking countries; however, it has been barely investigated in the context of second language English speakers (Dobao, 2015; Adnan & Sayadi, 2021). In Malaysia, there has been research on web-based collaborative writing; however, most of it remained unexplored. The local interest in students' perception and acceptance towards web-based collaborative writing activities also made it difficult to find studies that thoroughly discussed teachers' perceptions as opposed to students.

The lack of public records on the effectiveness and limitations of web-based collaborative writing from Malaysia's ESL teachers' perspective was also an issue. There have been no published interviews, forums, or audio-visual recordings of collaborative writing activities took place in Malaysian classrooms. Thus, it was difficult to derive a conclusion without sufficient evidence. This study believed that understanding the effectiveness and limitations of the activity from teachers' standpoints was important to investigate, as it gave ESL teachers awareness of which aspects of their teaching needed improvement to ensure their students truly benefited from the writing experience.

The lack of technological knowledge and skills among Malaysian teachers (Malaysia Education Blueprint 2013-2025) also raised concerns about teachers' ability to facilitate and moderated students' web-based collaborative writing activities. Despite the ministry's efforts to enhance teachers' digital literacy, the majority of teachers were not well-equipped to conduct online learning (Malaysia Education Blueprint 2013-2025). With web-based collaborative writing, this study aimed to explore whether ESL teachers were capable of conducting synchronous or asynchronous writing activities.

Many questions remain unaddressed. A majority of related research mentioned the limitations of web-based collaborative writing, such as insufficient time to conduct the activity, limited facilities, task domination, and lack of full student participation. However, the strategies ESL teachers used to respond to these limitations were not mentioned. There was a demand for information on which collaborative writing application or tool Malaysian ESL teachers preferred to utilize.

Research Objectives
The objectives of this research as follows:
- To explore teachers' perceptions of web-based collaborative writing and its usage in ESL classrooms
- To explore the benefits and limitations of web-based collaborative writing from ESL teachers' perspectives

Research Questions
Two research questions were formulated based on the research objectives as follows:
- How do ESL teachers perceive the impact of web-based collaborative writing on their ability to facilitate the activity?
- What are the benefits and limitations of web-based collaborative writing from ESL teachers' perspectives?

Research Significance
Understanding teachers' perceptions will provide insights into why teachers have differing beliefs or opinions when discussing web-based collaborative writing in Malaysian ESL classrooms. It may even pinpoint the origin of these beliefs, whether from personal beliefs, experiences, or a lack of resources. At the ministerial level, uncovering the reality about ESL teachers' technology knowledge and skills might trigger changes within the system and facilitate plans for improvement. At the school level, the findings from this study may help other ESL teachers rationalize the importance of web-based collaborative writing activities and decide if the writing activity suits the learning environment and their students' needs. For future research, the findings from this research may uncover critical areas in web-based collaborative writing activities that local and international researchers have not explored.

Literature Review
Collaborative Writing

The term collaborative writing has been defined in various ways. One of the first documented definitions was given by Allen (1987), who described collaborative writing as the process of producing a shared document through a substantial sharing of power and responsibility. In recent years, numerous researchers have provided simpler definitions for the term. According to Storch (2016), collaborative writing was the production of texts through collaboration among two or more writers. This definition was supported by Woodrich and Fan (2017), who, in their study, stated that collaborative writing was simply a task that required students to write together to produce a shared text. Deveci (2018), in a later year, commented that collaborative writing was distinguishable from other types of writing. It was unlike peer response activity in which social interaction among students was only encouraged at the pre-writing and post-writing stages. In the same study, Deveci (2018) commented that collaborative writing enables social interaction to happen at all stages of writing, from brainstorming, decision-making, writing, and editing of the composed text.

Collaborative Writing Technologies

In recent years, a multiplicity of second-generation web-based processing tools has entered language classrooms, redefining collaborative interaction among students (Woodrich & Fan, 2017; Hsieh, 2020). In discussing web-based collaborative writing, it was believed that word processing tools would only became more efficient and effective in the future as more educational technologies were developed and updated at an unprecedented rate (Liu & Lan, 2016). Today, there are various technological tools and applications that support web-based collaborative writing (Ahmad, 2020). Among many existing technologies such as Padlet, Weebly, Etherpad, and Office 365, Google Docs is the well-known writing tool that supports the implementation of a student-centered approach in a collaborative learning environment (Suwantarathip & Wichadee, 2014; Ahmad, 2020).

Benefits of Web-Based Collaborative Writing

The significant developments in technology and the rising trend of integrating technological tools into the learning environment have also enabled the exploration of collaborative writing effects (Abrams, 2019; Hsieh, 2020). The ultimate benefit of this type of writing was immediate feedback. The document-sharing and comment section features offered students the opportunity to receive immediate feedback (Kressler et al., 2012; Ahmad, 2020). Unlike a normal classroom where a teacher provided feedback in front of the whole class, online feedback was less intimidating, as students could read through their individual and group progress through the comment section or the private message tool (Hudson, 2018; Ahmad, 2020).

Researchers and teachers also benefit from the ability to track a person's collaborative writing processes (Elola & Oskoz, 2010; Ahmad, 2020). For instance, with Google Docs, if the aim of the writing activity was to have a chain of storytelling, a teacher could begin a story in which each student could contribute. Similarly, when examining students' collaborative writing, if there was an error in the writing, the teacher could highlight sentences for easier detection during students' peer-editing session. It also provided students with several opportunities to adapt to the social way of writing, allowing peer support and guidance.

Another advantage of the collaborative writing tool was that every essay written online was stored online and could be accessed through any electronic device with internet

connection (Suwantarathip & Wichadee, 2014) from anywhere at any time with fewer restrictions (Bikowski & Vithanage, 2016; Yim & Warschauer, 2019). Students should also be given options in deciding which tools to utilize because the knowledge of various tools will benefit them in developing their writing processes (Elola & Oskoz, 2010). Although new technology brings in new opportunities, it may also lead to tension and uncertainty within the classroom. Kessler et al. (2012) provided teachers with a theoretical framework for the co-evolution of collaborative autonomous pedagogy. This framework helped teachers in the development and analysis of collaborative writing projects. Bikowski (2015) also added that the framework (Kessler et al., 2012) offered teachers the opportunity to explore learning within the context of evolving tools, collaborations, and pedagogical practice.

Integration of the framework with the selected word processing tool enabled teachers to monitor students' writing progress and contribution without the need to collect physical drafts (Kressler et al., 2012). Kressler et al. (2012) also stated that by monitoring students' contribution, teachers gained insight into how students individually and in groups utilized the collaborative tools. Shared access given to every group member allowed peer-editing to happen at any time without having to wait for approval to edit from the document owner. The freedom to peer-edit led to more engagement in the writing process. Writing tension was also lessened because of the transparency of the tool, whereby every change made will be automatically saved and can be viewed by the rest of the members. Kressler et al. (2012) then pointed out that the existence of auto-saver encouraged students to take risks in the idea development stage.

A high-quality composition was theorized to be the successful product of collaborative writing (Storch, 2005; Ahmad, 2020). Some examples of successful collaborative writing activities were improved understanding of organization: planning, drafting, reflection, paraphrasing, condensing, conference, and content development (Elola & Oskoz, 2010; Lin & Nooreiny, 2013; Abrams, 2019). Previous research also revealed that group writing produced texts with better content, organization, and introduced students to various knowledge, such as grammar, lexicon, and vocabulary (Shehadeh, 2012; Abrams, 2019). Chao and Lo (2011) discovered that students experienced a sense of accomplishment from editing the shared text. Another study found that collaborative writing activity reduced anxiety issues that were often associated with personal writing (Lin & Nooreiny, 2013; Ahmad, 2020).

Limitations of Web-Based Collaborative Writing
Collaborative writing did not guarantee good results. This belief was based on several assumptions. The first assumption concerned the duration of the activity, as it took time for teachers to learn how to implement the activity and evaluate the learning process, as well as their students' output (Deveci, 2018). Lack of a suitable environment for learning to take place was another issue. Deveci (2018) believed the physical setup of a classroom and hall did not permit students to work in pairs and groups. This scenario was true if the collaborative writing activity did not include the use of technology in learning. However, with portable devices and a stable internet connection, students could still take part in collaborative activities without the need to physically stay in groups. Nevertheless, not every educational institution has the luxury of providing each student with devices and internet connection. In Malaysia, if a teacher plans to conduct web-based collaborative writing, he or she may resort to using the school's facilities. However, due to a lack of computer labs, there is a waitlist for the facilities which may prevent teachers from conducting the activities.

Zhou et al. (2012) measured the students' assignment grades after a collaborative writing task through Google Docs and discovered there was no significant effect on students' learning; it simply influenced their learning experiences. In the same study, students mentioned problems such as the difficulty of keeping track of group members' contributions and formatting the document, which affected the efficiency of the experience. Lin and Nooreiny (2013) in their study of 'Collaborative Writing in Summary Writing: Student Perceptions and Problems' revealed multiple limitations of the activity from the students' perspectives. The researchers believed the main problem experienced by a majority of ESL students during the collaboration activity was limited language proficiency (Lin and Nooreiny, 2013; Yan, 2020). Limited language proficiency hindered successful collaboration and students' writing progress (Fung, 2010; Yan, 2020).

Limited language proficiency experienced by some group members prevented them from expressing their thoughts and ideas clearly (Fung, 2010; Hsieh, 2020; Yan, 2020). ESL students were aware that they were required to communicate in English during the activity, but their lack of proficiency prevented communication from happening (Lin and Nooreiny, 2013; Yan, 2020). Hence, the students compensated for their lack of second language (L2) proficiency by resorting to their first language (L1) (Bakhshayesh, 2016). Another issue pertinent to collaborative writing was students' lack of involvement in the activities. Storch (2016) added that students' lack of confidence in communicating in English caused them to be reserved during the writing activity. In the same book, Storch (2016) stated students rarely voiced out their disagreements or oppose different opinions because they did not want to offend their group members or caused a conflict during the activity.

Chisholm (1990) also noted that the lack of involvement in a group activity was due to reasons such as laziness, shyness, and the lack of interest in the activity itself. The researcher commented that the lack of full participation originated from their feelings towards the activity. According to Chisholm (1990), students at times were uncomfortable and anxious with the collaborative activity as they felt the activity was invading their privacy. Teachers also needed to prepare themselves for issues such as the domination of discussion and unfair task distribution which could cause the writing task to be longer than if it was done individually by students (Lin & Nooreiny, 2013; Hsieh, 2019). The issue persisted for decades as Shea (1995) stated the potential barriers to students collaborating were students who were accustomed to their individualistic style of learning might experience difficulty in collaborating with group members, less proficient students might be dominated by the proficient language user, and some students might take too much responsibility which left others with little to assist (Hsieh, 2019).

In a another interview, students acknowledged that they did not benefit from collaborative writing because the ones who were proficient in the language and had better writing skills dominated the activity with claims, they knew better which minimized the confidence and motivation of less proficient members (Bakhshayesh, 2016; Yan, 2020). Some researchers also noted that unfair task distribution without members dominating one another could also occur when active members unwilling to take part in collaborative writing activity as it felt it unfair for them to did all the work when passive and unproductive members were rewarded with the same mark at the end of the activity even when these members contributed nothing (Al Ajmi, 2014; Dobao, 2012; Hsieh, 2019).

Students were also accustomed to writing as a solitary act (Lin & Nooreiny, 2013; Storch 2005). In an interview conducted by Bakhshayesh (2016), he discovered when students worked with ones they were not familiar with, it did not produce good results. He added

collaborative writing was not productive because each student had their individualistic views towards something; therefore, agreeing on a common belief was very difficult to achieve. Thus, it was possible to imagine that the experience would be more challenging if students were required to work together with non-acquaintance members within a specific period.

Theoretical Basis of Web-Based Collaborative Writing

The importance of social interaction as an integral component of learning was underpinned by Vygotsky's sociocultural theory (Lin & Nooreiny, 2013). The sociocultural theory explained that learning and development were rooted in social events, and learning occurred as learners interacted with other people, objects, and events (Vygotsky, 1978). Noor Hanim (2014) claimed the theory was based on the belief that for learning to happen, learners must become part of the social environment on an interpersonal level and later internalize the experience.

An aspect of the theory relevant to collaborative writing was Vygotsky's theory of Zone of Proximal Development (ZPD), and the theory pointed out "…the distance between the actual development of a child as determined by independent problem-solving and the level of potential development determined through problem-solving under adult guidance or in collaboration with more peers" (Vygotsky, 1978, p.86). Vygotsky's theory of ZPD informed teachers to be aware of the limits students can perform on a task with their existing knowledge or skill sets and how far students can perform with guidance and encouragement from a knowledgeable person. Lin and Nooreiny (2013) believed that scaffolding was a construct related to the theory of ZPD and Vygotskian hypothesis of learning as a process that was socially constructed.

To understand how scaffolding worked in a writing class was fairly simple. In guiding students on how to compose a good essay, the teacher often brings in models of good and weak essays to the class. Accompanying these essay models are graphic organizers, which act as scaffolds for the essay. Continuous exposure to the organizers helps students be aware of their inclusion in future essays without constantly being reminded by the teacher (Noor Hanim, 2014). The use of the web in collaborative writing in writing activity also draws from Social Presence Theory (SP) developed by Christie, Short, and Williams (1976), which demonstrated how individuals presented themselves on the internet (Dixson, 2016; Al-Dheleai et al., 2020). Social presence was a crucial component of web-based collaborative writing (Remesal & Colomina, 2013; Al-Dheleai et al., 2020). It reflected participants' ability to create interpersonal relationships and communicate via the use of online platforms (Al-Dheleai et al., 2020).

Conceptual Framework

In an attempt to explain the teacher's perception of web-based collaborative writing, this study was framed within Vygotsky's Sociocultural theory, Zone of Proximal Development (ZPD) and Scaffolding theory, as well as the Social Presence theory. The conceptual relationships between each construct were demonstrated in Figure 1. It was theorized that perception is based on the 'self' and the 'learning context,' the two major factors of Vygotsky's sociocultural theory (Adris & Yamat, 2017). The first factor, 'self,' related to prior experience or knowledge, whereas the second factor, 'learning context,' was the situation that impacted what was known. In this sense, teachers who have prior experience with web-based collaborative writing are aware of how to develop their students' learning strategies.

The process of deciding the learning strategies for the activity related to the student-centered writing nature of web-based collaborative writing and Vygotsky's Zone of Proximal

Development (ZPD) theory. Taking into consideration ZPD theory, how well students could perform with and without guidance and the importance of students' collaboration, the study believed ESL teachers would not assist their students throughout all stages of web-based collaborative writing. Rather, ESL teachers would demonstrate how to participate in the writing activity and expected students to follow what was demonstrated with the group members. This was the essence of teachers scaffolding their students.

How students and the teacher worked together or presented themselves in this online learning environment related to Social Presence Theory (Garrison, 2009; Al-Dheleai et al., 2020). It described how students and teachers communicated with each other when dealing with lesson constraints that affected students' collaboration. In summary, factors such as teachers' experience, learning strategies, constraints, and students' participation were believed to influence ESL teachers' perceptions about the activity.
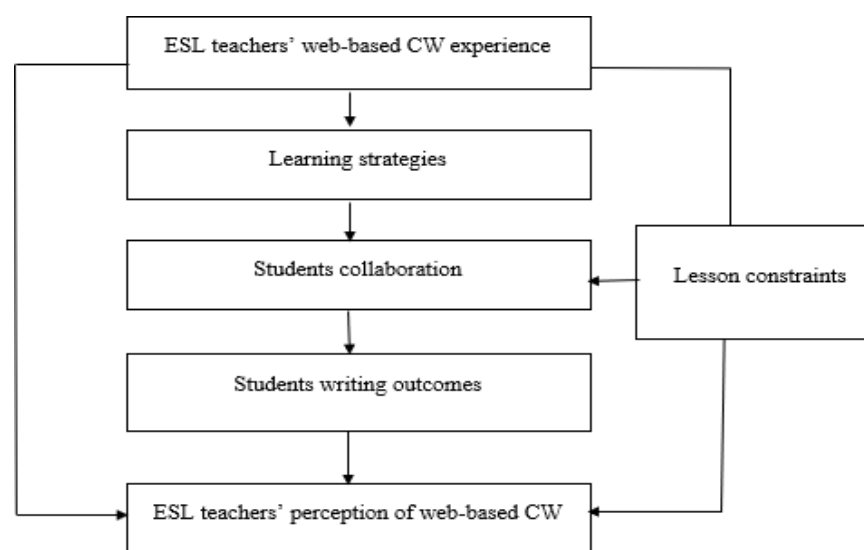

Figure 1. Research Conceptual Framework

Methodology
Inductive Approach to Thematic Analysis

To address gaps in today's literature, the focus of this qualitative research was on identifying themes within the participants' understanding of web-based collaborative writing. This decision enabled the study to further investigate the scope of the subject in question. Therefore, the most appropriate method of analysis would be thematic analysis. However, due to the criticism this method has received in the past, specifically the lack of clear guidelines for researchers to employ, this study chose to implement Braun and Clarke's (2015) six-step process of familiarization, coding the data, highlighting key themes, re-evaluating the themes, defining and naming the themes, and writing up. These steps provided a clear demarcation of thematic analysis and offered a well-defined explanation of how thematic analysis should be carried out. The study also followed an inductive approach to thematic analysis, whereby coding and theme development of the research were directed by the content of the data.

Research Instrument
The instrument for this research was an interview, and the type was semi-structured. The 12 specific questions were prepared for the participants; however, there were times when the participants had to ask follow-up unstructured questions to obtain detailed answers based on their previous responses to a question. The interview sessions lasted approximately 30-45 minutes for each participant and were conducted via voice call.

Pilot Test
Piloting for the interview took place weeks before the first official interview. The pilot session involved a non-participant with ESL backgrounds. The interview protocols and 12 questions were prepared before the pilot test. Based on the responses, adjustments to the questions were made because the pilot participant mentioned that the questions were quite confusing and complex to comprehend and respond to. Many interruptions were occurred when the pilot test was conducted via an online meeting, experiencing issues such as audio lagging, device malfunction, and sudden loss of internet connection. Hence, the official meetings were conducted via voice call.

Research Sampling
This study employed a purposive sampling strategy, relying on their own judgment to recruit participants who could provide a broad range of perspectives on the research subject. The participants' contact details were provided by a liaison, the family members and close contacts of the candidates. The candidates were approached through social media, specifically WhatsApp. The initial contact with candidates focused on clarifying the research and explaining what was expected from the future participants.

Research Participants
The participants who agreed to be part of the research comprised six ESL teachers from different states in Malaysia, stationed in both rural and urban areas. The purpose of selecting diverse locations was to represent the broader population of ESL teachers in Malaysia and to avoid biases. Out of the six ESL teachers who agreed to be participants in this research, two were novice teachers with less than ten years of teaching experience, and four were experts with a maximum of 32 years of teaching experience.

The decision not to focus on one group of expertise served to compare the differing opinions between novice and expert teachers. Four participants possessed a Bachelor's in Teaching English as a Second Language (TESL) from local and international universities. Out of the four participants with a B.Ed. in TESL, two participants have a Master's in TESL from a local public research university. One participant graduated with a Bachelor of English Linguistics and Literature, and another participant graduated with a degree in Accounting but was absorbed by the Ministry of Education in the 1990s to teach English to middle school students.

Each participant works as a government officer for the Ministry of Education and is currently stationed at public secondary schools throughout Malaysia. The participants' ages range from twenty-six to fifty-seven years old. Participants' ethnicity was not a concern, but out of the six participants, four were Malay, one was Indian, and the other was Iban. In summary, the selection criteria for the research participants were strict to ensure the participants could contribute knowledge to the subject of research and represent the broader population of ESL teachers in Malaysia.

Procedure

Each interview was conducted at a different time slot and on different days. The participant was called at the agreed-upon time and date, initiating the introductory protocol by greeting the participant, introducing herself, and confirming whether the participant had read the consent form before the meeting. If the participant indicated that they had not done so, he/she was explained their rights as a participant in the research. Each participant was informed that the session would take no longer than an hour and, if time was running out, the researcher would interrupt to push ahead and complete the interview within the allotted time.

The participant was also asked consented to the conversation being recorded. For participants who preferred not to be recorded, then note-taking was conducted to record the important information. The participant was reminded that at any point during the conversation, if they wished to stop the recording or keep something they said off the record, they could inform. The introductory protocol continued with the participant was asking to disclose their tertiary education background, the duration they had been teaching, and the current location of the school they were stationed at.

After the participant shared their background, the session was proceed with Teachers' Perception of Web-based Collaborative Writing, and any thoughts or opinions shared would greatly help the research. Since the concept of web-based collaborative writing was foreign in Malaysia, it was acceptable if the participant had never heard the term or conducted the session with the students. Based on the participant's experience as an ESL teacher, that they would be able to provide insight into the practicality, possible strengths, and weaknesses of the writing activity.

Later, the interview session were divided into two parts: the focus of Part 1 was to study the teacher's perception and usage of web-based collaborative writing, whereas Part 2 aimed to explore the strengths and limitations of collaborative writing from the standpoint of ESL teachers. Once the participant finished with the briefing, the interview session began. The questions prepared beforehand centered around web-based collaborative writing.

For Part 1, the first question required the participants to define collaborative writing using their own understanding. The response helped this study in figuring out the participant's general understanding of collaborative writing. The participant was also confirmed their sharing and redefined the concept more clearly. The second question focused on determining the role a teacher will likely play during the collaborative writing session, aiming to determine if there was an agreed-upon role a teacher plays when conducting a collaborative activity. The third question focused on figuring out the teacher's knowledge of tools available for use in web-based collaborative writing. This meant the participant was expected to share at least one tool she thinks will suit her classroom.

The fourth question was based on the teacher's perception, as she/he was asked to reflect based on her/his technology skills whether training on conducting web-based collaborative writing was necessary. The question was inserted in this research because there would be gaps in technology knowledge between novice and expert teachers. The participants later was explained the differences between synchronous and asynchronous learning and asked them to reflect on their classroom situation and decide which out of the two was best for their students. Part 1 of the session ended with asking the participant if she believed web-based collaborative writing was practical to conduct.

The research began Part 2 of the interview session by confirming with the participant if she would like to have a break. Based on the answer, the meeting then progressed with the

first question about the benefits of web-based collaborative writing from the participant's perspective as an ESL teacher. The purpose of the question was to figure out if the participant could rationalize the benefits of it from a teacher's standpoint. The next questions focused on synchronous and asynchronous writing. Synchronous writing sessions meant the activity was happening at the same time, for example, during the classroom, whereas asynchronous meant the students worked together at their own time, usually after school hours. Hence, the later questions focused on the participant's thoughts on the challenges they might experience with synchronous and asynchronous.

The final two questions for Part 2 also asked the participant to share her strategies for overcoming the challenges mentioned for synchronous and asynchronous web-based collaborative writing sessions. After every question had been answered, the researcher thanked the participants formally for participating in the sampling aspect of the research. The participant was informed that he/she would receive a copy of the interview session transcript once it was finished.

Transferability and Dependability
The notion of reliability in qualitative research is interpreted differently than conventional notions (Adris & Yamat, 2017). Instead, transferability and dependability are used as elements in qualitative research that are equivalent to the quantitative concepts of reliability and validity. Concerning transferability, the findings in this research can be applicable to other writing activities that take place online, such as peer-response writing activities via Padlets. Regarding dependability, if the research is repeated using participants with the same backgrounds, it will yield similar findings. Since the interview questions were newly developed instead of adopted from previous research, they were reviewed and approved by ESL teachers. As ESL teachers with more than two decades of teaching English, the subject matter experts were able to determine whether the questions could be understood by the research's participants.

Limitations of Research
The circumstances with the COVID-19 pandemic in Malaysia, primarily the closure of schools, social distancing, and movement restrictions, caused this study modified the initial research design. The original plan to focus on a specific school had to be scrapped due to the unavailability of most ESL teachers at the selected schools. Thus, this study decided to sample participants from various states in Malaysia. Sudden participant dropouts also caused the ratio of research participants to become imbalanced. The planned ratio was three for each novice and senior category. However, time constraints prevented this study from finding replacements, hence the final ratio was two novice teachers and four expert teachers. Data collection was done in December and January, busy months for the participants as they had to catch up on the school syllabus. This scenario meant that no participants were available for web-based collaborative writing activities, and the study did not have the opportunity to observe the activity taking place. Therefore, the primary data were gathered through interviews.

Ethical Consideration
All participants were provided with written informed consent. During the interviews, the procedure began with the introductory protocol by informing participants they were free to withdraw at any time, should they wish to do so. Out of six participants, four participants

consented to be recorded during their interviews, while the latter participants wished to take note of the information. Throughout the interviews, each participant was referred to by their pseudonym. Any mention of real names in audio recordings was anonymized, and recordings of each interview session were transcribed manually. The original audio recordings, interview notes, and transcripts were archived on an encrypted computer for future research only.

Data Analysis
Thematic Analysis Process
The data collected from the interviews was transcribed for this research. The transcripts were then read and reread several times, along with listening to the audio recording of each interview on repeat to ensure the accuracy of the recording and transcription. This constant examination of data through repetitive reading mimicked the 'familiarization' step and resulted in data immersion.

The second step of Braun and Clarke's (2015) thematic analysis required 'coding the data.' For this process, the study highlighted phrases or sentences within the transcripts that were pertinent or relevant to the research questions. The study also created a 'code' to describe the content. Table 1 demonstrated how this study discovered codes within the interview transcript. The coding process continued until each transcript had gone through, collating all data into groups identified by a code. The purpose was to have a condensed overview of the main beliefs or shared opinions that recurred in all interviews.

The third step, 'highlighting the themes,' occurred as this study searched for themes. In this process, this study incorporated codes relevant to the research question into a single theme and discarded codes that were not relevant or appeared rarely in the data. The main reasoning behind this decision was to focus on potential themes that were relevant to the research question.

Table 1
Example of Coding

Transcript excerpt (Teacher Z)	Coding
That's why, saythat, I give a topic, okay I give them 3 to two days to write 250 essay or 150 words essay, or just a paragraph, okay? And when we come together in Meet. Okay, I can share because they will email it to me. Okay and I can paste it all using JamBoard or Padlet and they can see and they can share from there.	▢ Give students time to complete writing ▢ Conduct the simplest writing activity ▢ Teacher gather writing products ▢ Teacher share products on accessible platform

The fourth step, 're-evaluating the themes,' focused on refining the themes. This process was undertaken to ensure a coherent pattern within the themes. The decision to split, combine, create a new theme, or discard selected themes depended on whether they reflected the data set as a whole (Braun and Clarke, 2015). This study also modified the terminology of all themes to suit the research and avoid confusion or issues that may arise with previous terminologies. Defining and naming the themes involved creating a succinct or conveying an immediate indication of the gist of the themes. By redefining as necessary, it made the themes not only tell the story within each theme but also ensured that all were related to the overall story evident in the data. Once a succinct name was decided for each theme and there was a coherent pattern with the themes, in the report production stage, this

study chose excerpts from the transcript to illustrate the issues within each theme and presented them as examples of the points made. Table 2 demonstrated how this study conducted steps 3, 4, and 5 of Clarke and Braun (2015)'s six-step thematic analysis.

Table 2
Example of Highlighting, Reevaluating and Redefining Themes

Codes	Theme
• Suitable for proficient students • Not suitable for low proficient students • Suitable for good classes • Challenging for weaker classes • Exclusive to various levels of proficiency.	• *Exclusivity* ▪ **Exclusive to Proficiency Levels (Redefining)**

Findings
The six thematic analysis processes outlined by Braun and Clarke (2015) were employed to analyze the interview transcripts. These themes were essential in elucidating the web-based collaborative writing perceptions of all participants. The identified themes were categorized as "Teachers' Prior Knowledge," "Teachers' Assumed Roles," "Exclusivity to Proficiency Levels," "Assumed Gains of the Activity," and "Constraints in Writing Sessions." In presenting the analysis results, excerpts from the interview transcripts were incorporated to substantiate each finding.

Theme 1: Teacher's Prior Knowledge
This theme was defined as the participants' capacity to articulate their comprehension of web-based collaborative writing activity derived from past experiences. While no conclusive findings were drawn due to the relatively small sample size, the transcript clearly indicated a demonstration of specific knowledge concerning aspects related to web-based collaborative writing.

> *"Okay, basically we teacher have been doing collaborative writing in the classroom. Alright, it's just of course, when you get two students or more to work together and to produce a piece of writing, then I consider it as a collaborative writing. – Teacher M"*

In discussing the general definition of web-based collaborative writing, the majority of the participants demonstrated a basic understanding of the activity, highlighting its type and expected objectives in their definitions. However, the ability to define web-based collaborative writing should not be construed as indicative of greater knowledge and experience. The note of uncertainty in the way participants phrased their definitions and their frequent requests for confirmation led this study to believe that the majority of participants had a general to minimal understanding of web-based collaborative writing. This assumption was later confirmed in subsequent conversations, as some participants noted that they did not have a clear idea of how to utilize online writing tools for collaborative writing purposes.

> *"I, myself, even I am teaching in a school where it is considered as a city school, urban Shah Alam. I can admit that like most of the- like 60 percent of the teachers were not really familiar with the concept of e-learning. I did not blame the teachers for not doing this because like 60 percent of the teachers in my school were senior teachers, I myself was like a young teacher, I was like exposed to this. – Teacher A"*

This study also observed that the lack of knowledge and skills in applying web-based collaborative writing was associated with the seniority of the participants and their perspectives on writing activities. Novice teachers were more exposed to web-based methods compared to senior teachers. As evident in the transcript, teachers with decades of experience teaching writing in physical classrooms were not accustomed to web-based learning as they were unaware of its necessity. However, this observation did not apply to the entire group. One participant belonging to the senior category demonstrated a high awareness of how to conduct writing activities with the assistance of web tools.

> *"I think, looking at our norm, nowadays, I think you have to know. If not, you won't get any writing- or any type of writing from the students, if you have this. Okay, you need to have that strength in order for you to become a teacher for future times. – Teacher Z"*

Despite the imbalance of knowledge between senior and novice teachers, all participants expressed agreement in receiving training if it were provided to them. The participants emphasized that training was necessary to further enhance their knowledge of aspects related to web-based collaborative writing.

> *"Yes of course. We really, really need the training because for myself, I am not exposed to this tool. I'm not exposed to activity. I do not know how to utilize, and how to go about the writing activity, you state the web-based collaborative learning strategies, I don't really know. I think we have just started to use Google Documents in our daily for example, the data and all of that? So, I do not know how to venture more into the activity. – Teacher V"*

The novice teachers were open to receiving training. They asserted that to maximize lesson objectives and ensure smooth lesson delivery, a teacher must be equipped with knowledge and skills on how to utilize web tools and conduct the lesson. Without such knowledge, teachers would find it challenging to assist their students effectively.

> *"Yes, of course, because it can maximize the learning process, and learning objectives so teachers must know how to use the tools first, then they only can teach their students to use the tools. – Teacher MF"*

Theme 2: Teachers' Supposed Roles
The theme 'supposed roles' encapsulated the parts, tasks, or duties that teachers were expected to fulfill when conducting web-based collaborative writing activities. In the absence of a pre-planned lesson to follow, teachers' assumed roles throughout the web-based collaborative writing activity depended entirely on individual perceptions and rationalizations.

"I think I play both roles. Facilitator as yeah- as well as the moderator, you see, the first thing is I have to assign them the duty, the task, as right, the writing task that they have to fulfill. And of course, I have to explain to them and then make sure that, you know that they understand every part of it. Okay, so facilitate them, and along the way I have to make sure I'm a moderator, I have moderate what they are doing so they don't go off the topic. – Teacher M"

The majority of the participants agreed that teachers must initially facilitate their students by providing information on where, what, and how the activity will take place, along with the lesson objectives to ensure that students are aware of what is expected from them. As facilitators, teachers are also expected to discuss the rules of web-based collaborative writing and model how the activity will unfold.

"So, before I my online class, I would break down my rules, like before I start my face-to-face class, I also have my own rules so during online class, I break down my rules and then I prepared two lesson materials so during the online class, I did the synchronous writing lesson and make the lesson as simple as simple as possible that was easy enough for them to do online. And of course, I would model them the first example, exercise so that they have a clear picture on how to do it later. – Teacher A"

The second role that teachers were expected to play during web-based collaborative writing was that of a moderator. Participants considered this role crucial because teachers need to ensure that their students perform according to the task they are required to do.

"Well- I think from my point of view- from schools, my students okay? I will be the moderator, and then also sometimes the dictionary and sometimes, yeah, I think more to moderator because sometimes, students, they try to stray a bit from what they are supposed to do. – Teacher V"

A teacher also mentioned that she had no specific roles because she had to adapt to whichever roles her students required from her. This meant she did not limit herself to a specific category, whether it be moderator or facilitator.

"I usually play the roles of the guider, the prompter, observer and supervisor, so basically, I am everything so if they need help or if they are stuck with their writing. I'm going to help them give them examples, ideas, prompt them, and I observe if they are doing their task or not and I supervise them and of course as a teacher, I always have to grade them. I have to know their strengths and weaknesses. So basically, I play different roles for different situations. – Teacher MF"

In discussing the types of web-based collaborative writing tools or applications suited for their classrooms, all participants preferred to use tools that were free, peer-checking friendly, and easy for their students to access. A common example provided by the participants was Google Docs.

"I like my students to feel comfortable so Google Doc, will be okay because my students they live in rural areas so there are limitations with their use of technologies so better use that is familiar and easy to access. I encourage my student to use Teams, however I realize sometimes I cannot have all students in my class because of data and other issues with their internet connection. - Teacher S"

A participant managed to share a web-based collaborative writing application that had not been mentioned by other participants.

"I think Padlets. Padlets, yeah because it is in our google classroom. It's embedded in our google classroom so easy for the students to access. And then every student in Malaysia, which is in government school they have their own email- government email address. So, it's easier with Padlets where they have access to google classroom and everybody is in the group. And the Padlets is already there. – Teacher Z"

Theme 3: Exclusiveness to Proficiency Levels
The theme 'exclusiveness' refers to how the participants perceived the use of web-based collaborative writing activity with students of different levels of English proficiency. In determining the practicality of the activity in diverse proficiency classrooms, a majority of the participants believed the activity leaned more towards being exclusive rather than inclusive.

"Honestly, I don't think it is practical for low proficiency students and as well as students with an internet connection. Because of their low proficiency in English, they won't be able to understand any single instruction and they really need one to one guidance so it's not practical for them. – Teacher MF"

Web-based collaborative writing activity was deemed to be too advanced for students with low English proficiency or those in weaker classrooms. The reasoning was that if students were experiencing issues with instructions, there was a high possibility they might struggle to produce the final piece of writing.

"Sometimes, I find if it's a weaker class, this web based collaborative writing doesn't really work because they don't even understand the task and they won't know their part. Their contributions to produce a final piece of writing. As you said, they have this inferiority complex that good students will be able to conquer and monopolize the writing and they might just, you know, backslide. They don't really contribute because they feel very embarrassed, maybe? Because they do not know how to tackle the problem. – Teacher M"

Another concerning issue was task domination. Students who felt they could not contribute to the activity might quit before attempting it, thus forcing the more proficient students to complete the task. The concerns participants had about low-level performance were valid. The purpose of the writing activity was to help improve performance, but with web-based collaborative writing, it placed barriers between low-proficient and proficient students.

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Theme 4: Activity Presupposed Gains

The consensus regarding web-based collaborative writing was that the collaborative aspect of the activity, coupled with the availability of tools and resources, fostered students' interest in writing and trained them to be independent in their writing progress.

"So, I find that, this kind of activities, actually kindle the interest in writing. Because sometimes the students are very good, that you don't spoon feed them, you can't keep on spoon feeding them and giving them, you know, what you expect them to do. So, it's good just to leave them and you know, those students some of them, they are really good at- with all of these technologies, gadgets, they can find their way and they can come up with a- pieces of writing or certain production that is really, really shocking. They are so good! So, I feel in a way giving them freedom to work with their own friends and then they find their own way, and sometimes I feel they are very knowledgeable, so give them a chance to just work on it. – Teacher M"

Some participants were aware that the freedom and collaborative aspect of the activity promoted students' creativity in writing and exposed them to various genres of writing.

"The plus point for collaborative learning is my students can learn from each other and they can see there are many other ways of writing because some of my students are very good at narrative, and some are very good at descriptive, and some are very good in factual. So even though I give them one similar topic, so you will get all kinds of types of writing. So, from there they can see, oh, actually you can write it like that. I think that is the good thing about collaborative writing. They can explore more genres but they are not aware of it. – Teacher Z"

In addition to that, the activity boosts students' writing confidence because they work with their friends, helping each other out, especially those with low English proficiency. A participant noted that it made her students view writing as fun rather than stressful.

"I think in terms of collaborative writing itself. It is very practical to conduct with the students where I saw my students were more motivated to learn and they seemed less stressed, because they did not have to come up with the whole essay from scratch. – Teacher A"

Web-based collaborative writing was also less intimidating for students because they do not have to work on a whole essay by themselves, and the criticism they received on their writing was often online, making it less intimidating than having their mistakes reviewed in a physical class.

"It gives students the confidence because they don't have to see the teacher. Students don't have to feel shy when I pinpoint their mistakes. It helps them to be more confident and more independent as they have the opportunity to browse google or another website on their own. – Teacher S"

Theme 5: Writing Session Constraints

This theme focused on the limitations participants experienced when conducting a web-based collaborative writing session. The interview excerpt highlighted a common limitation associated with the activity.

"I have conducted several collaborative writing lessons online, synchronously and first I found out that it was quite difficult to control them. I had 30 students, so they had different questions to ask which would consume more time to answer each of the questions. And then I also found out that this method is not an inclusive method like in one-to-one-and-a-half-hour period not all 30 students could participate directly in the writing exercises. That would take more than one hour because it is online so managing like one student to another would take time. And my students also experience personal struggle at home. Some of them did not have their own gadgets and most of them use their parents' phone and some of the exclusives that were given- they work part time, they had to take care of their siblings so they cannot join the online class. Hence do the synchronous online lesson. – Teacher A"

The first limitation was the internet connection. Although the issue was common in rural areas, disruptions in internet connection can occur at any time. Therefore, a participant noted that students could be left out during synchronous web-based collaborative writing activities. As a result, the best choice was to conduct the activity asynchronously, allowing the teacher to give students days to complete the writing with their groupmates, ensuring students had the time to find solutions for their connection issues.

"So those students who do not- I will make sure that each group will have one laptop and students can go over to their friends' house to work together, to finish their task. Maybe the students can go to the cafe, maybe- But for the time being, I don't think they can do it so maybe the best is assigning them to different groups and I'll make sure in each group they have a laptop and someone with an internet connection. – Teacher V"

The second limitation was the lack of devices to support learning. Participation in both synchronous and asynchronous web-based collaborative writing requires devices. However, with the closure of schools and most economic sectors due to the COVID-19 pandemic in Malaysia, office work had to be done at home. As a result, there were not enough devices for all family members at home. The category most affected by this situation was students from low-income families because their parents could not afford to purchase devices for the children.

"Yes, they are sharing the devices. Sometimes they are sharing with their parents, sometimes, they have to laptop sharing two or three of them at home. So, there are many weaknesses but we have- we now cannot do anything, we just have to accept. – Teacher Z"

Another limitation of web-based collaborative writing as an asynchronous and synchronous classroom activity was that some students had limited knowledge of tools for the activity, especially in a rural classroom. The participant noted that her students, rather than doing it themselves, at times asked a friend to do it for them. Some even tried to copy-paste information from the internet and submit it as their final writing product.

"I know their knowledge is very weak in using online stuff. So, they might not contribute as much as their other friends do and some of them of course they are not very good using web based- what you call- finding out points, I mean based on internet. So, I don't know I just feel that some of my students they feel like 'teacher, we cannot do, we let others do'. They don't

really participate, that's the problem. We don't have 100 percent participations from students. – Teacher M"

The third limitation was students' lack of interest or involvement in web-based collaborative writing activity. This issue was expressed and experienced by all participants. During synchronous writing activities, students would turn off their webcam. Therefore, they had no idea if the students were doing the task or not.

"Students ignore the teacher and not enough effort from the students. As an example, we provide student with sentences and what they have to do is think a little bit so it becomes complete sentences but we waited and they did not respond so what to do? – Teacher S"

All participants also had students who refused to cooperate, and there was nothing the teacher could do but inform the parents. Some participants spoke about approaching the students personally, but they claimed it rarely worked because they could not help students who refused to accept their offers of assistance.

"Sometimes we personal message the student and the student are aware that they have to attend but they did nothing so what to do? – Teacher S"

The other limitation was related to issues with submission. The majority stated that for web-based writing, as long as the students attempted to do the task, participants would share their work on a platform accessible to all students and discuss the final product. If students refused to submit their writings after being informed repeatedly, there was nothing the participants could do.

"If that is the problem for my children, say that whomever that passed up their work, I will share with them in their google classroom because they can look at it again and again, because as you know in google classroom everybody has a class, isn't it? – Teacher Z"

Discussion
Research Question 1: How do ESL teachers perceive the impact of web-based collaborative writing on their ability to facilitate the activity?
All participants successfully defined web-based collaborative writing, however, this achievement did not necessarily reflect the teachers' extensive knowledge and experience in web-based collaborative writing. Subsequent findings revealed that the activity was unfamiliar to ESL teachers, especially for those accustomed to the traditional method of teaching writing. Senior teachers not only encountered challenges in conducting general synchronous and asynchronous writing activities but also struggled to grasp how writing could be done collaboratively online. This led to some participants feeling dissatisfied with their teaching capabilities.

The persistent lack of technology skills and knowledge among teachers, highlighted in the National Education Blueprint (2013-2025), remains unresolved. Nevertheless, the ministry should learn from previous experience and recognized the imperative need to equip teachers with technology knowledge and skills, irrespective of their seniority in the profession. Since all participants welcomed the idea of technology training, this study believed that if they were trained in technology and understood how to conduct collaborative

learning activities online, their opinions about web-based collaborative writing would likely change.

Furthermore, all participants concurred that the type of web-based collaborative session depended on the students' level of English proficiency. Participants believed that synchronous writing sessions were suitable for lower classes, while asynchronous activities were more appropriate for advanced classes. The consensus was based on the belief that students in lower classes required supervision and moderation to stay focused on their writing task, unlike those in advanced classes who were predominantly of mid to high levels of English proficiency. Many participants claimed that students in advanced classes only needed a general task description and could collaborate with their groupmates at their own pace.

Additionally, participants discovered that collaborative writing with advanced classes resulted in well-written outputs. The findings of this study supported the claims made by Shehadeh (2012) and Abrams (2019) that indicated collaborative writing enhanced content, organization, and vocabulary in student writing. Overall, all participants agreed that they would serve as facilitators and moderators during web-based collaborative writing. One participant noted that, with lower-proficiency students, facilitating learning by introducing the web-based activity and its objectives was not sufficient as the teacher must also moderate by demonstrating how to participate and providing examples.

Given the consensus for synchronous writing sessions in lower classes, a participant emphasized the need for teachers to silently monitor group writing sessions and intervene if groups struggled. Roles were similar for advanced classes, with teachers facilitating the writing session and more proficient students given greater freedom but still requiring occasional moderation. The findings also agreed with the roles teachers played in different types of web-based collaborative writing activities but emphasized that with lower classes, teachers should not intervene too often to allow students to experience a sense of accomplishment from editing shared text (Chao & Lo, 2011).

Research Question 2: What Are The Benefits And Limitations Of Web-Based Collaborative Writing From Esl Teachers' Standpoints?

The participants shared various advantages of web-based collaborative writing, including the improvement of creativity in writing, fostering students' interest in writing, and exposing them to various genres. However, these benefits were based on their perceptions without concrete evidence. No tests were conducted to compare students' writing before and after the activity, so this study only recorded what was mentioned by the participants during the interview sessions. If teaching observations were conducted, there would be some evidence regarding the legitimacy of the activity in improving students' writing. Nevertheless, this study still consider participants' claims of students' improvements to be true based on their teaching experience and past research. Previous researchers noticed improved understanding of paraphrasing, condensing, organization, conferencing, and content development (Elola & Oskoz, 2010; Lin and Nooreiny, 2013; Abrams, 2019).

The majority of participants also believed that web-based collaborative writing activities reduced stress and anxiety associated with writing. The participants revealed that students were less stressed because they did not have to construct an essay individually, each step of the writing process was assisted by groupmates, from brainstorming and decision-making to writing and editing the composed text (Deveci, 2018). With web-based collaborative writing sessions, writing feedback was often given virtually, so students did not have to experience

being called out in front for their mistakes. This method was less intimidating, as students could read feedback in the comment section or the private message tool (Hudson, 2018; Ahmad, 2020). Most participants preferred this method of giving feedback because it was easier and did not demotivate students' efforts. Previous research also mentioned that collaborative writing activities lower anxiety issues often associated with personal writing (Lin & Nooreiny, 2013; Hudson, 2018; Ahmad, 2020).

All participants agreed that internet connection issues and the lack of devices were the crucial factors that prevented the success of web-based collaborative writing. Internet connection issues were not limited to rural areas, disruptions could happen at any time and anywhere (Norman et al., 2022). With the lack of devices, it was something that could not be helped, as not all students came from well-to-do economic backgrounds, and most parents could not afford to purchase extra devices (Norman et al., 2022). In discussing how to counter these two factors, almost all participants agreed to give students ample time to find solutions to their connection issues. The participants claimed they would suggest to their students to borrow devices and find places with an internet connection if these two factors prevented them from participating in web-based collaborative writing. Some participants also claimed that if the issues persisted, they would prepare an asynchronous module for affected students if they wished to try out web-based collaborative writing activities.

Regarding the limitations of web-based collaborative writing, the majority of participants noted exclusivity as its main limitation. According to the participants, the activity was not inclusive to various levels of English proficiency. They believed that in a classroom of diverse proficiency, only students with mid to high levels of English proficiency would truly benefit from the activity. Those with lower English proficiency would experience difficulty in collaborating and contributing to the writing task. The participants also believed this situation would lead to task domination, as those who felt they could not contribute might quit before attempting it, forcing the more proficient students to complete the task. This study supported participants' opinions because similar issues were revealed in previous research (Hsieh, 2019). ESL students were aware they required to communicate in English during the activity, but their lack of proficiency prevented effective communication (Lin & Nooreiny, 2013; Yan 2020; Donny & Adnan, 2022). Not only that, Storch (2016) noted that students' lack of confidence in communicating in English causes them to be reserved during the writing activity. Overall, limited language proficiency is believed to be a factor that hinders the success of students' collaboration and writing progress (Fung, 2010; Yan, 2020).

Implications of the Research
This study emphasized the importance of considering teachers' perceptions, as they played a crucial role in determining the success or failure of the activity. If a teacher fails to effectively communicate activity instructions and fulfill their role throughout the process, both parties, the teacher and students will not derive meaningful benefits from the activity. It appeared that the participants exhibited a positive attitude towards web-based collaborative writing, showing enthusiasm for learning how to implement it with their students. After the pandemic, students engaged in this activity in a more supportive environment, such as the school's computer lab. The insights shared in this research will prove beneficial to future researchers aiming to comprehend teachers' perceptions of collaborative writing activities conducted via the web.

Recommendations

In Malaysia, finding ESL teachers proficient in technology is challenging because web-based collaborative writing is not a well-known writing strategy or activity among ESL educators. This situation was evident in the absence of a literature review on the matter. This study engaged with teachers who had experience conducting web-based collaborative writing, even though the activity was on a small scale. Consequently, this study involved sampling participants from urban areas, as teachers in cities are believed to be more exposed to educational technologies and can provide greater insights into web-based collaborative writing compared to teachers in rural areas (Norman et al., 2022). Furthermore, it would be beneficial to include teachers with less than 10 to 15 years of experience, as individuals in this age group are more open to the use of technology in classroom compared to those nearing retirement in a few years (Adnan et al., 2020).

In future research, maintaining an equal ratio of participants is essential. The aim is to ensure that opinions from both novices and experts are heard equally and not biased towards one side. As indicated in the findings, a majority of expert teachers lacked technical expertise and knowledge, whereas novices were generally trained to be proficient in delivering web-based classroom instruction. It is advisable to study perceptions on the research subject from both perspectives, highlighting differences in perceptions, skills, and acceptance of web-based collaborative writing for a reliable comparison. Moreover, participants' own observations revealed numerous benefits of web-based collaborative writing. Therefore, future research would make a significant contribution to local knowledge of collaborative writing by delving deeper into the benefits, as this current research did not extensively explore those aspect.

Conclusion

In conclusion, research on web-based collaborative writing has provided insights into aspects of collaborative writing that are scarcely explored among local and international researchers (Adnan & Sayadi, 2021). Although the small-scale research was conducted in Malaysia and specific to the context of second language English users, the knowledge gained from this research offers readers an overview of the crucial roles a teacher plays in the success of web-based collaborative writing.

This study acknowledged that the web-based collaborative writing activity itself might not be inclusive of secondary students with diverse economic backgrounds and English proficiency levels. However, it was essential for students to be exposed to collaborative writing through online platforms because, in the future, a significant portion of writing will be conducted online, especially in tertiary-level education and certain careers (Norman et al., 2022).

Therefore, ESL teachers must introduce their students to web-based collaborative writing activities, regardless of the scale of the writing task (Adnan & Sayadi, 2021). Hopefully, in the post pandemic era, ESL teachers can use online learning as an opportunity to enhance their ICT skills and knowledge in the area of web-based collaborative writing. In other words, once the pandemic was over, and physical schools resumed, teachers could bring students to computer labs and implement this activity without constraints affecting their lessons (Norman et al., 2022).

Acknowledgement

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