Online Scaffolding Strategies: Case Studies of Asian EFL Learners in an Academic Writing Course

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Abstract—The article reported a case study investigating the scaffolding strategies of twelve Asian EFL learners in four small groups' scaffolding strategies during two online collaborative writing (OCW) tasks in a composition course using Google Docs as a writing platform. Of interest was how EFL learners with different L1 scaffold each other while co-constructing OCW tasks, and also if scaffolding strategies used during OCW tasks influence writing performance. Data collection included pre-test and post-test writing, two OCW tasks on descriptive and argumentative essays, learners' use of scaffolding and non-scaffolding negotiations during OCW tasks observed through Google Docs revision history, and student reflection. The findings showed that learners in small groups employed both scaffolding and non-scaffolding dialogues to jointly construct their OCW tasks by giving advice, providing suggestions, responding to questions or requests, asking questions, or clarifying ideas. Learners who contributed more texts directed their team and initiated both scaffolding negotiations and non-negotiations while performing group work. The study results also revealed that members who employed more scaffolding negotiations during their OCW processes likely produced a better quality of writing in their post-test. Nevertheless, these findings indicated that members in small groups benefited from both scaffolding and non-scaffolding negotiations as they helped in task revisions. The findings contributed to research that has investigated online scaffolding strategies in EFL learners' collaborative writing tasks.

Index Terms—scaffolding strategies, online collaborative writing, writing performance, EFL learners, negotiations

I. INTRODUCTION

In recent years writing instructors have shown growing interest in how they can assist students in acquiring rhetorical forms of academic written language. One of the most useful techniques for supporting their learners is scaffolding, a notion which owes much to the earlier work of Vygotsky (1978, 1987) and Wood et al. (1976) who posited that learning occurs when learners interact with their social environment, particularly when they engage with more knowledgeable peers (Wilson & Devereux, 2014). In academic settings, scaffolding is a crucial element to support learners to make gradual progress from one step after another along their learning continuum. To some scholars (e.g., Hammon & Gibbons, 2005; Van Lier, 2004), scaffolding is a means of assistance granted by a supporter who has the potential knowledge to provide substances or things which can assist in the process of acquiring knowledge and enhancing the learning experience. Learners need scaffolding to move forward and reach beyond their current potential challenges. Van Lier (2004) marked six features of scaffolding: (1) contextual support – accepting errors as part of the learning process; (2) contingency – providing support depending on partner's reaction; (3) continuity – repeating the same action over time; (4) flow – allowing communication flows in a natural way; (5) handover – encouraging partners to take control when they accumulate sufficient skills; (6) intersubjectivity – showing mutual engagement and support. Therefore, in acquiring knowledge, teachers and more knowledgeable partners act as scaffolders to assist less able peers to reach higher levels of knowledge development (Pritchard & Woollard, 2010). Once learners show sign of progress on their own, scaffolding can be withdrawn, otherwise it can become counterproductive rather than making a positive impact (Verenikina, 2003). In an academic writing context, scaffolding can be orchestrated in various forms. Shooshtaria and Mir (2014) outlined some practical examples of guided learning through practice, including (1) joint construction of texts (group members jointly construct an essay with the teacher as a 'scribe' or 'mentor' who would suggest word choices or phrases); (2) peer response feedback when students work in small groups, using guiding questions or prompts provided by the instructor; and (3) teacher feedback (guidance information to assist future writing).

Currently, a growing interest of the centrality of tasks in online writing with an integration of technology has given rise to new pedagogy in L2 writing. Therefore, the potential links between technology and scaffolding have gained prominence (Hsieh, 2019; Rovira, 2015). The need of employing scaffolding strategies with online writing tasks to promote learning interaction and permit learners to seek support from peers requires further investigation, particularly

in a classroom where learners come from culturally and linguistically diverse backgrounds enrolling in an online composition course. Hsieh (2019) claimed that to date limited attention has been paid to how online resources can facilitate peer scaffolding and learners' collaborative learning experience, in particular an EFL/ESL classroom with culturally diverse learners (Kitjaroonchai & Suppasetseree, 2021a, 2021b; Li & Kim, 2016). Majid and Stapa (2017) investigated Malaysian ESL learners by employing Facebook in a blended learning classroom to explore learners' scaffolding techniques while constructing descriptive essays. All the participants were native Malaysians with similar English proficiency level. Added to that, Hsieh (2019) examined the interactions among native Chinese EFL learners with the assistance of online resources in collaborative writing (CW) assignments and how online resources support their collaboration. Large gaps remain underexplored in the investigation of how EFL/ESL learners with different L1 backgrounds who have not met each other before, interact and scaffold each other while performing online collaborative writing (OCW) tasks during the current pandemic. The present study, therefore, addresses the gap by exploring how first-year university students with different L1 backgrounds in Asian countries scaffold each other while jointly constructing their academic essays in Google Docs files.

II. LITERATURE REVIEW

A. Scaffolding

The concept of scaffolding was earlier explained by Wood et al. (1976) as a "process that enables a child to solve a problem or achieve a goal which would be beyond his unassisted efforts" (p. 90). Likewise, in Vygotsky's (1978) translated book entitled, "*Mind in society: The development of higher psychological processes*" asserted that scaffolding occurs when young learners interact with their social environment, including more knowledgeable partners or adults who could support them to move to a higher level of current performance. Scaffolding is relational by nature, engaging both the course instructor and learner's participation (Van de Pol, 2012), and is therefore related to Vygotsky's (1978) zone of proximal development (ZPD) in which more capable peers assist their partners to move forward (Hsieh, 2019; Lantolf &Thorne, 2007). From Vygotsky's notion of ZPD, it can be inferred that an individual's cognitive development is enhanced through assistance and scaffolding provided by more capable peers or experienced adults (Chaiklin, 2003). Through positive interactions and support from more knowledgeable peers, individual learners will enhance their cognitive functions at the higher levels, such as the ability to think more critically, the ability to improve problem-solving skills, or the ability to find a useful technique in acquiring a language in a more effective way. Therefore, scaffolding is perceived to be "a form of support for the development and learning of young learners" (Rasmussen, 2001, p. 570) in knowledge building with the assistance of teachers or capable peers who provide essential tools to enhance the learning experience (Huang, 2019). Hanjani and Li (2014) advocated that language scaffolding should conform to three conditions: drawing members' attention to the problem, giving a clarification or solution, and reciprocating the scope of task-related episodes, so that the collaborators could improve their work. Hannafin and Land (1997) further claimed that scaffolding is not limited to teacher-student or peer-to-peer interactions, but technological tools also play a vital role in enhancing individual learning curves. In a language learning context, Mavrou et al. (2010) and Guti érrez (2006) acknowledged that the presence of computer-assisted learning tools or educational software applications promote learners' language discussions and interactions and assist in behaviors such as providing further explanations, which encourage learners to co-construct language-related knowledge while engaging in group projects. Added to this, Boggs (2019) went on to claim that even with self-scaffolded corrective feedback in English L2 writing course assisted by computer-assisted learning tools, learners demonstrated durable increases in grammatical accuracy in the long term compared to those learners who received teacher-provided scaffolding. In short, we may conclude that learners can enhance their knowledge through support from teachers and more knowledgeable peers, or even scaffold themselves through the use of instructional tools and learning applications made available today. For this reason, OCW activities become an effective pedagogical approach to increase scaffolding in the language classroom.

B. Online Collaborative Writing With Google Docs

Online collaborative writing (OCW) tools such as Google Docs (GD) have been extensively integrated in L2 writing classrooms over the last decade (Lee & Hassell, 2021). This web-based word processing tool is designed to permit multiple writers to collaborate and edit their writing synchronously in real-time or asynchronously (Woodrich & Fan, 2017). The tool permits collaborators to construct texts in their time of convenience and space-independent fashion while using the built-in window chat or comment to interact with other team members and revisit their revision history to edit or revise their shared texts. Collaborating on the web-based tool provides opportunities for learners to negotiate on tasks, share linguistic resources, conceptualize lexical units and grammatical rules, and subsequently enhance a cognitive advantage that influences knowledge gains on an individual level (Alghasab et al., 2019; Chen, 2019; Li & Zhu, 2013). The use of web-based collaborative tools motivated learner engagement and participation in group writing and increased peer interactions (Williams & Beam, 2019; Zhang, 2019) and stimulated learners to negotiate meaning in the target language and correct each other's mistakes. Researchers (e.g., Olson et al., 2017) found that in OCW, the group whose members showed more balanced participation during the collaborative process, their co-constructed essay was positively correlated with higher rated quality, and the presence of a group leader with transparent roles was associated with higher quality written text. Furthermore, Li and Zhu (2017) went on to claim that team members who

exhibited mutual interaction patterns (highly engage or interact with peers' texts) were found to produce high-quality written text, while low quality written text was marked in groups that exhibited lower levels of mutuality. More recently, Elabdali and Arnold (2020) found that the team whose members showed high mutual interaction in both discussion posts and revisions appeared to have positive effect on the text quality of short stories. In contrast, Arnold et al.'s (2009) study showed no relationship between members' level of collaboration in group writing and their grammatical accuracy, cohesion, and overall scores of the texts. Savasci and Kaygisiz (2019) found that Turkish EFL students who were exposed to CW tasks for an entire semester spanning 14 weeks showed no preference of group work over individual writing, and they claimed that they could monitor their self-improvement more productively. Other disadvantages of CW were reported by Ghufron and Ermawati (2018) that the inactive participation and irresponsible members added more work to the leader or the high-skilled partner, which resulted in the unbalanced workload.

The review of these previous studies shows mixed findings of OCW activities – both advantages and drawbacks. The majority of this previous research has been conducted on EFL or ESL learners who share the same native language and collaborate in small groups. Few studies have explored learners with different L1 backgrounds negotiating on tasks and scaffolding each other while co-constructing tasks via online word processor, such as GD (Kitjarooonchai & Suppasetseree, 2021a), particularly learners who are new to each other undertaking an online writing course. Therefore, there is a need for more research on how culturally diverse learners interact and negotiate on language scaffolding to perform OCW tasks. With this as a gap, this present study aims at filling this research gap by addressing the following research questions.

1. How do EFL learners with different L1 scaffold each other in OCW tasks?
2. Do scaffolding strategies from OCW tasks influence individual writing performance?

III. METHODOLOGY

The study adopted an embedded case study (see Yin, 2009), which examined learners working in small groups, with its own bounded system but embedded within the same study site. Each sub-group was bounded by time and setting (two OCW tasks spanning ten weeks operated in an international university setting). In this present study, the frequency of learners' uses of scaffolding strategies while co-constructing two OCW tasks in GD was investigated.

A. Participants

The participants were 35 first-year university students coming from nine different countries in Asia, namely Cambodia, China, India, Indonesia, Malaysia, Myanmar, the Philippines, Thailand, and Vietnam, enrolling in a composition course at a small international university located in central Thailand. The participants' English language proficiency levels ranged from pre-intermediate to advanced [comparable to A2 – C1 based on the Common European Framework of Reference for Languages (CEFR) scale] as shown by their IELTS overall band scores adopted by the university where this study was carried out. Learners were teamed up in groups of three or four members, as recommended by previous researchers (Dobao, 2014) for effective team collaboration and for reducing chances of members' slacking off from group work. Learners formed their own teams, but each group should have at least one member from a different nationality. Group members could withdraw their participation during the CW process if they experienced disputes or conflicts. Since the study employed an embedded case study, the researcher conducted an in-depth investigation by examining learners in small groups: language scaffolding, their inputs and text contributions, discussion and comments in GD archives, and reflections. To fathom the phenomena being investigated in depth, the researcher selected four groups based on three criteria: (1) members were varied in English language proficiency, (2) all members in the group were from different L1 backgrounds, and (3) at least two members stayed off-campus during the time of data collection. Therefore, the embedded case in the present study shortlisted 12 students from four divergent groups. The profile of the participants is demonstrated in Table 1.

TABLE 1
PROFILE OF THE PARTICIPANTS IN THE EMBEDDED CASES

Group	Pseudonym	Gender	Nationality	IELTS overall band score	Major of Study
	Joel	Male	Filipino	7.5	Public Health
G1	Soteal	Male	Cambodian	5.5	Education
	Sanit	Male	Thai	4.0	English
	Naw Moo	Female	Myanmar	6.5	Education
G2	Thanh Vu	Male	Vietnamese	5.0	Entrepreneurship
	Zhang Chen	Male	Chinese	4.5	Computer Information System
	Raynold	Male	Malaysian	4.5	Computer Information System
G3	Sophak	Female	Cambodian	6.5	Accounting
	Farbian	Male	Male	5.0	Entrepreneurship
	Linda	Female	Malaysian	6.5	English
G4	Bella	Female	Malaysian	5.0	Education
	Piyaporn	Female	Thai	5.5	English

B. Writing Tasks

The study was conducted in a composition course offered to first-year university students in the first semester of the 2021 academic year. In the present study, two types of writing genres: descriptive and argumentative essays were used for data analysis. Three controlled topics were shortlisted for each team to choose one for a descriptive essay. The controlled topics were (1) Describing your university, (2) Describing an unforgettable event, and (3) Describing your favorite place. Likewise, these controlled topics for argument were shortlisted, which included (1) Should curfews be imposed on campus? (2) Is college education necessary? and (3) Should college students have part-time jobs while they study? Each team picked one topic to collaborate via GD files and began their first OCW task in week three after receiving training for six hours during the orientation on how to use GD toolbar, including its collaboration features like comment or chat window, review version history, and editing mode in the first and second weeks of the research phase. Each group was given three weeks to complete each writing task.

C. Data Collection Procedure

Data were collected from the students' pre- and post-test scores using Jacob et al. (1981) Composition Analytic Scoring Rubric consisting of content (30 pts), organization (20 pts), vocabulary (20 pts), language use (25 pts), and mechanics (5 pts). Students were asked to take a pre-test writing on an opinion essay entitled "*All levels of education, from primary school to university, should be free of charge*" with the average word length of 300-400 words within 70 minutes using Microsoft Word during the second week of research implementation and submit it through the learning management system (LMS Moodle). Then each group was engaged in two OCW tasks: the first task (descriptive essay) was carried out from weeks 3-5, while the second task (argumentative essay) was constructed from weeks 6-8. The team members' use of language scaffolding strategies while engaging in two OCW tasks was recorded, tabulated, and analyzed quantitatively. In week 10, the post-test was administered in the same protocol as the pre-test. Student reflections were used in discussion for data triangulation in establishing corroborating evidence and enhancing understanding of learners' scaffolding strategies.

D. Data Analysis

Learners' pre- and post-test was assessed by three raters who have taught composition (researcher included), and the average scores were used for analysis to compare their mean scores and examine the differences in writing performance after engaging in two OCW tasks. Learners' use of language scaffolding while constructing OCW tasks was coded by adapting Hanjani and Li's (2014) evaluative negotiations on scaffolding and non-scaffolding frameworks to identify learners' negotiations on tasks while engaging in writing tasks. According to these researchers, an evaluative negotiation should conform to three conditions to be counted as scaffolding: (1) It should address members' attention to the problem being discussed, (2) It should provide alternative(s) or explanation (s), and (3) It should expand or clarify the immediate task so that members in the team could improve the quality of work. The framework of language scaffolding and non-scaffolding proposed by Hanjani and Li (2014), with their examples is illustrated in Table 2.

TABLE 2
EVALUATIVE NEGOTIATION FRAMEWORK ON SCAFFOLDING AND NON-SCAFFOLDING

	Scaffolding	**Example**
Evaluative Negotiations	Advising	ST1: Change this to full-name to Asia-Pacific International University instead of AIU. ST2: Ok, thanks.
	Instructing	ST1: Each of us need to describe one tourist attraction in our hometown. ST2: Yes, we can do that. ST3: I agree with this idea.
	Providing options	ST1: I moved this phrase to paragraph 6 for it fits better. ST2: I thought about that too, it should be in the final paragraph.
	References	ST1: You need this source from: https://www.asiahighlights.com/thailand/chiang-rai, C. Check this website ST2: Thank you.
	Response to questions	ST1: I added the specific name of the city after you ask if we should be more specific to the description. ST2: Oh, great.
	Response to request	ST1: I added "bougainvillea trees and palm trees" as you requested to be more specific to the description. ST2: That's cool.
	Non-Scaffolding	**Example**
	Asking question	ST1: I don't understand this phrase. What do you mean when you say "at this moment we should resolve this embarrassment? ST2: Maybe it's my mistake. Let me check that out.
Evaluative Negotiations	Clarifying	ST1: Did I understand this correctly when you say "It is famous for its architecture" you mean the architecture of "the white and carving throughout centuries temple" you are describing right? ST2: Yes, you are correct.
	Expressing certainty	ST1: I'm pretty sure the flags displaced at the round-about represent the nationalities of study body in the university. ST2: Not only students but teachers or staff members too.
	Expressing uncertainty	ST1: I don't think this one is a correct counterargument and rebuttal. ST2: I'll read again from the slides the teacher showed us. ST3: I remember that counterargument can be stated in the last paragraph before the conclusion as the teacher said.
	Justifying	ST1: I understand that this term can be used as noun and verb form, and here is a noun if I'm correct. Then it should be in a plural form "designs".
	Rejecting advice	ST1: The word choice you have suggested "in the nutshell" means the same with what I wrote here "to conclude"
	Requesting advice	ST1: Would you give some ideas to add a little more detail on this body paragraph to support the topic sentence? ST2: To me, it sounds okay already.

Note: Texts were directly taken from learners' negotiation on tasks in GD comments.

IV. RESULTS

To respond to Research Question 1, the researcher analyzed how members in small groups scaffolded each other in task negotiations while engaging in OCW tasks by calculating their frequency counts of evaluative negotiations concerning scaffolding and non-scaffolding. The percentage of text contributions, scaffolding, and non-scaffolding used are presented in Table 3.

TABLE 3
PERCENTAGE OF TEXT CONTRIBUTIONS, SCAFFOLDING, AND NON-SCAFFOLDING

Group	Pseudonym	NWC Task1	Task2	PTC Task1	Task2	SCF Task1	Task2	NSCF Task1	Task2
1	Joel	646	780	73	73	23	18	15	17
	Soteal	124	160	14	15	3	5	11	8
	Sanit	115	128	13	12	5	1	12	3
2	Naw Moo	498	757	63	89	16	14	8	10
	Thanh Vu	268	43	34	5	8	5	13	7
	Zhang Chen	24	51	3	6	4	3	6	5
3	Raynold	20	122	2	12	3	5	5	6
	Sophak	803	799	82	79	7	11	3	6
	Farbian	156	91	16	9	1	2	2	3
4	Linda	511	315	59	42	7	9	7	5
	Bella	130	75	15	10	1	3	5	6
	Piyaporn	225	360	26	48	8	6	4	8

Note: NWC = No. of word counts; PTC = Percentage of text contributions; SCF = Scaffolding; NSCF = Non-scaffolding

Evaluative negotiations in the present study are classified as scaffolding and non-scaffolding dialogues while learners were engaged in OCW tasks in GD. The analysis showed that small groups employed both scaffolding and non-scaffolding dialogues to jointly construct their essays by giving advice, providing suggestions, responding to questions or requests, asking questions, or clarifying ideas while working on text revision. Based on the evaluative negotiations outlined in Table 2, 168 out of 343 (49%) evaluative negotiations from the two OCW tasks combined were categorized as scaffolding, whereas 175 (51%) evaluative negotiations were non-scaffolding dialogues. Group 1 produced the most scaffolding dialogues (55 tokens or 33%), followed by Group 2 (50 tokens or 30%) and Group 4 (34 tokens or 20%) respectively. The analysis further revealed that learners with higher language proficiency level contributed more texts in

both tasks, and they employed more scaffolding and non-scaffolding strategies to direct their teams in essay construction.

To further analyze small groups' frequency of use of scaffolding and non-scaffolding dialogues, the researcher investigated GD history archives for each small group and read and reread the comments from GD files where their OCW tasks were located, and coded the scaffolding and non-scaffolding dialogues as outlined in Table 2. The analysis of small groups' scaffolding and non-scaffolding negotiations in terms of frequency of use for each type are presented in Table 4.

TABLE 4
FREQUENCY OF USE FOR EACH TYPE OF SCAFFOLDING AND NON-SCAFFOLDING

Group	Pseudonym	Scaffolding						Non-Scaffolding						
		AV	INT	POT	RE	REQ	RER	AQ	CF	EC	EU	JF	RJA	RQA
	Joel	18	9	7	3	6	3	13	8	5	2	4	0	0
1	Soteal	2	2	1	0	3	0	7	3	2	3	1	1	2
	Sanit	0	0	0	1	3	2	8	2	1	3	0	0	1
	Naw Moo	13	6	3	2	4	2	7	3	3	1	3	0	1
2	Thanh Vu	3	2	3	2	2	1	9	3	1	4	1	0	2
	Zhang Chen	0	0	2	1	3	1	5	1	0	2	1	1	1
	Raynold	0	0	2	1	4	1	3	0	0	4	1	1	2
3	Sophak	7	3	2	1	3	2	4	2	1	1	0	0	1
	Farbian	0	0	0	0	2	1	2	0	1	1	0	0	1
	Linda	6	4	2	1	2	1	6	1	2	1	1	1	0
4	Bella	0	0	1	1	2	0	4	1	0	2	1	1	2
	Piyaporn	4	3	2	0	4	1	5	2	1	0	0	2	2

Note: AV = Advising; INT = Instructing; POT = Providing Options; RE = Referencing; REQ = Responding to Questions; RER = Responding to Requests; AQ = Asking Questions; CF = Clarifying; EC = Expressing Certainty; EU = Expressing Uncertainty; JF = Justifying; RJA = Rejecting Advice; RQA = Requesting Advice

A. Scaffolding Negotiations

Scaffolding negotiations were constructive supports that group members rendered to their partners to widen their cognitive skills and language development by drawing peers' attention to the language related problems, offering suggestions or solutions to improve the quality of writing in both sentence and discourse levels (Hanjani & Li, 2014). The most frequently used of scaffolding dialogues performed by small groups in the present study were "advising" (53 tokens), "responding to questions" (38 tokens), and instructing (29 tokens). Some samples of scaffolding negotiations are illustrated in the following excerpts.

(a). Excerpt 1. Advising (Group 1-Task 1)

(1) Joel: We might revise this as "Tourists visit Angor Wat to see the splendid and meticulous design structures of the Khmer architecture temples (be more descriptive)"

(2) Soteal: Oh, Thank you so much.

(3) Joel: You're welcome.

In Excerpt 1, Soteal attempted to describe why tourists like to visit Angor Wat in her home country, but her description lacked vivid adjectives. Joel gave advice by altering a sentence incorporating descriptive adjectives. In this scenario, Joel scaffolded his peer in revising the language and sentence structure by incorporating some descriptive adjectives.

(b). Excerpt 2. Responding to Questions (Group 1-Task 2)

(1) Soteal: Hi! Is this sentence correct and supporting the topic sentence in this paragraph because I modified it from the website?

(2) Joel: When we adapt or modify any sentence from other sources, particularly a long statement, without giving a proper source or citation, it is still considered plagiarism. Or we simply make it a direct quote and put a source where the text comes from.

(3) Soteal: Get it and thanks a lot.

(4) Joel: Great!

Scaffolding could take place in the form of responding to a question by giving further information to resolve a misconception of a particular issue being discussed. In Excerpt 2, Joel responded to Soteal's inquiry if the way she modified a statement from an online source was considered an act of plagiarism. Joel gave an explanation and offered a solution to Soteal's concern.

(c). Excerpt 3. Instructing (Group 2-Task 2)

(1) Naw Moo: If we say a college student should have part-time jobs, we should have legitimate reasons why we think so. We should not be in the middle without solid grounds.

(2) Zhang Chen: Yes, I agree. In this case I was trying to say if a student has economic issues, they can have a part-time job to help them get some pocket money to spend.

(3) Naw Moo: But our reason is not only for the economy. We need three elements in our thesis to argue and advance with evidence.

(4) Thanh Vu: That's right because we need to come up with three things as we learn in class to make our thesis appealing and obvious.

Scaffolding could also come in the form of instructing other peers to improve on threshold concepts that help navigate learners' perception of the subject being discussed. In Excerpt 3, Naw Moo commented on Zhang Chen's viewpoint on a student needing a part-time job to alleviate their financial constraint. Naw Moo thought such a notion was not convincing enough and there must be three other good points to support it. In this scenario, scaffolding can strengthen the thesis statement.

B. Non-Scaffolding Negotiations

Non-scaffolding negotiations are peer interactions or communication that do not directly involve giving further support to improve the quality of writing. Instead, they express or react on scaffolded help initially provide by members in the group. The most frequently used of non-scaffolding negotiations used by small groups include "asking questions" (73 tokens), "clarifying" (26 tokens), and expressing uncertainty (24 tokens). Some samples of non-scaffolding negotiations are demonstrated in the excerpts below.

(a). Excerpt 4. Asking Question (Group 3-Task 2)

(1) Raynold: Can I add some information about online school in rural areas too, and how it affects students' work during this virus epidemic?

(2) Sophak: Yes, that is also okay with me to include in the discussion.

Asking questions helps the team members to clarify unclear issues or misunderstanding so that they could move on. In Excerpt 4, Raynold was curious if he should include rural schools in the paper since marginal schools also run online classes to assist students during the pandemic. Although this negotiation does not bring language development directly, it supports the team to ponder and consider incorporating the proposed ideas.

(b). Excerpt 5. Clarifying (Group 4-Task 2)

(1) Piyaporn: This long statement about curfews sounds great to me and I wonder if it is taken from an online source somewhere. If yes, make sure to provide a reference for it.

(2) Bella: I found this from a website, and I will give a source later. Thanks for reminding.

(3) Linda: Yeah, we need to provide proper sources whenever we borrow others' writings. The teacher is strict about this.

Non-scaffolding negotiations could be provided in the form of clarification when members make something clearer. In Excerpt 5, Piyaporn checked if the sentence Bella wrote was borrowed from somewhere else. If yes, a reference must appear to avoid the issue of plagiarism. Her remark was supported by Linda.

(c). Excerpt 6. Expressing Uncertainty (Group 2-Task 2)

(1) Thanh Vu: I'm not sure if this first sentence can be a good topic sentence for the body paragraph.

(2) Naw Moo: It is fine. You mean part-time jobs prepare students for career opportunity before they enter labor market right. We can add supporting sentences to this topic.

(3) Thanh Vu: Yes, noted.

When a member expresses uncertainty on issues related to a group project, the team can discuss further and draw a conclusion. In this example, Thanh Vu was unsure if a starting sentence can serve as a topic sentence. Naw Moo approved it for the statement can be advanced with supporting details. Thanh Vu took note of it.

These EFL learners were assigned to collaborate on two academic essays using GD spanning three weeks for each task. It was found that each team had a dominant writer who served as a group leader to direct the team, build rapport, and initiate the interactions to accomplish their tasks. It was not surprising that the main writer from each group was the one with higher language proficiency level (see Tables 1 and 3), and their contributions remained stable across both tasks. In the GD history archives, the members in Groups 1 and 2 were more engaged with one another, and invested slightly more time in editing and revising their essays compared to the other two groups.

To address the second research question whether scaffolding strategies used by learners influenced individual writing performance, a pair sample *t*-test was conducted to compare possible changes in the quality of writing observed through pre-test and post-test writing scores produced by learners in small groups. The analysis of the pair-sample *t*-test is shown in Table 5.

TABLE 5
RESULTS OF LEARNERS' WRITING PERFORMANCE

Domain	Writing Test	n	Mean	SD	MD	t	df	p
Overall score	Pre-test	12	67.33	7.40	7.50	-6.01	11	.000**
	Post-test	12	74.83	8.74				
Content	Pre-test	12	20.08	2.50	2.58	-4.88	11	.000**
	Post-test	12	22.66	2.96				
Organization	Pre-test	12	13.83	1.40	1.83	-4.00	11	.002*
	Post-test	12	15.67	1.92				
Vocabulary	Pre-test	12	14.16	1.52	1.25	-5.74	11	.000**
	Post-test	12	15.41	1.72				
Language use	Pre-test	12	15.75	2.30	1.50	-2.46	11	.032*
	Post-test	12	17.25	2.83				
Mechanics	Pre-test	12	3.54	0.54	0.29	-1.73	11	.111
	Post-test	12	3.83	0.83				

Note: **p < .001 (2-tailed); *p < .005 (2-tailed)

As shown in Table 5, learners engaging in OCW tasks showed significant improvement in the post-test writing in each language domain. The overall average score of the post-test writing increased by 7.50 points: pre-test score (M = 67.33, SD = 7.40) and post-test score (M = 74.83, SD = 8.74) for all language domains; t (11) = -6.01, p < .001), indicating an increase in individual writing performance. The domain on "content" increased by 2.58 points and 1.83 points for "organization", and "language use" 1.50 points, whereas the average score for "vocabulary" improved by 1.25 points. To further examine if there was any correlation between learners' frequency of use of scaffolding strategies on learners' post-test writing, Pearson's Product Moment Correlation Coefficient (Pearson's r) was used to analyze the data, the results are shown in Table 6.

TABLE 6
CORRELATION BETWEEN POST-TEST SCORE, TEXT CONTRIBUTIONS, SCAFFOLDING AND NON-SCAFFOLDING

Variable	Descriptive Statistics			Correlation				
	N	M	SD	Post-test	PTC_T1	PTC_T2	FSC	FNSC
Post-test	12	74.83	8.74	_	.783**	.786**	.863**	.554
PTC_T1	12	33.33	28.38		_	.880**	.783**	.382
PTC_T2	12	33.33	31.59			_	.806**	.334
FSC	12	14.41	12.44				_	.769**
FNSC	12	14.58	6.99					_

Note: ** Correlation is significant at the .01 level (2-tailed).
     PTC_T1 = Percentage of text contribution in Task 1
     PTC_T2 = Percentage of text contribution in Task 2
     FSC   = Frequency of use of scaffolding negotiations
     FNSC   = Frequency of use of non-scaffolding negotiations

As shown in Table 6, there were positive correlations between percentages of text contributions and learners' post-test score in OCW Task 1 (r (10) = .783, p < .001), and in OCW Task 2 (r (10) = .786, p < .001). This implies that text contributions during OCW essays had a positive relationship with learners' post-test writing performance. Furthermore, the analysis also revealed that the frequent use of scaffolding negotiations during OCW processes could encourage learners to construct better texts in their post-test writing (r (10) = .863, p < .001). The frequent use of scaffolding negotiations had a positive correlation with the use of non-scaffolding negotiations (r (10) = .769, p < 001). This indicates that learners who produced more scaffolding negotiations were also found to employ more non-scaffolding negotiations while performing group tasks. In other words, members in small groups who contributed more texts in their OCW tasks took initiatives in leading their teams using both scaffolding and non-scaffolding negotiations. Both scaffolding and non-scaffolding negotiations showed a positive relationship with the quality of the texts produced.

V. DISCUSSION

The present study addressed two research questions. The first research question was concerned with how EFL learners with different language and cultural backgrounds scaffold each other while co-constructing essays via GD. The results showed that learners in small groups employed both scaffolding and non-scaffolding strategies during OCW task construction. The ratio of their use of scaffolding negotiations (i.e., advising, responding to questions, instructing, and responding to request) was comparable to the ratio of their use of non-scaffolding negotiations (i.e., asking questions, clarifying, expressing uncertainty, and requesting advice). These findings are congruent with the results of previous studies on students' interactions while engaging in collaborative tasks (e.g., Hanjani & Li, 2014). These researchers posited that learners working in pairs or small groups employed both scaffolding and non-scaffolding strategies to

accomplish their goals and build social bonds. Group leaders play a significant role in engaging, scaffolding, and guiding their teammates in some way. In the present study, learners' collaborative behavior remained stable despite tasks shift. These results contradict previous studies (e.g., Li & Zhu, 2017; Elabdali & Arnold, 2020) who found that group members changed negotiation patterns and the fluidity of language scaffolding during small group CW could occur across different tasks. Nevertheless, the current findings are consistent with Li and Zhu's (2013) study which reported that small groups exhibited stable interaction patterns in providing language scaffolding in text co-construction – the main contributor in Task 1 also showed a prominent role in Task 2. In the present study the high-skilled partner played a dominant role in stimulating other peers for their collaboration. Lewis (2010) posited that learners from culturally diverse backgrounds would unlikely interact with other international partners unless they are instigated or pushed by a proactive leader to participate in team building activities and get familiar with each other first. In addition to language privilege members held in team collaborations, the roles of individuals, particularly the main author, is vital in shaping the interaction to put forth language scaffolding (Hsu, 2020; Kitjaroonchai & Suppasetseree, 2021a). In contrast, less-skilled writers play a subservient role or even withdraw their participation when they are not supported (Zhang, 2019). Therefore, high-skilled partners need to keep their teammates on task and scaffold less-able partners during text construction (Shooshtari & Mir, 2014).

From the findings, Groups 1 and 2 produced slightly more tokens of scaffolding and non-scaffolding negotiations due to the supportive role of team leaders as evidenced by the members' reflections. Sanit from Group 1, who had low proficiency level reflected that "*Our group has a supportive leader with great English skills who can always help us when we do our group writing in Google Docs*". Sanit's claim was supported by Soteal who further wrote, "*My group leader comes with a strong background in English that we can take his advice and follow his suggestions*". When group members become more familiar with each other despite their language barrier, they could still interact spontaneously in a friendly manner. The findings provide evidence that learners at the same study level, despite culturally and linguistically diverse backgrounds would collaborate successfully when they build trust, become more open-minded, and receptive to new perspectives as they interact with each other. This phenomenon gives way for more capable peers to scaffold their lower-skilled partners in essay construction (Hammond & Gibbons, 2005) when individuals are willing to build rapport and support each other. In contrast, if a group leader does not exhibit an active role in directing the team into negotiations, chances of scaffolding or peer interactions are unlikely to occur. The lack of scaffolding negotiations among members (which could be due to their language proficiency) kept them from active engagement in discussions at the onset, which in turn reduced their mutual interactions. This was supported by members in Group 3's statement when Raynold reflected, "*I could not help much to my group because I struggle with my English writing and could make mistakes if I write more*", and Sophak stated, "*I led the team because after waiting for many days nobody started a line. Collaborative writing sounds strange to me for each person has different ideas. It's totally a new experience to work with someone I don't know.*" This implies that a member's language proficiency can be a hurdle to contribution when not supported by a team leader.

Although these members in small groups negotiated to some extent, they were inactive in extended engagement with peer's comments on the GD chat window. In other words, their responses to comments were mostly choppy manifesting the form of a dead-end response that leads to no further discussion.

In terms of the second research question whether scaffolding strategies used influenced learners' writing performance, the present findings seem to echo recent studies on CW (e.g., Alghasab et al., 2019; Latifi et al., 2021) which asserted that EFL learners who received CW training could eventually develop essay content and organization and improve their individual writing skills. In other words, the benefits of peer scaffolding negotiations while engaging in OCW tasks could be translated into better quality work when learners construct their own essays. This might be because CW provides ample language opportunities during which learners could negotiate and interact with one another as well as monitor their CW process (Zhang, 2019). The accumulated experience from CW essay construction stimulates them to internalize knowledge gained into their individual writing (Lantolf &Thorne, 2007). Furthermore, peer scaffolding and positive interactions affect collaborative inquiry that helps navigate learners to internalize knowledge when they happen to construct their own texts. Peer scaffolding and positive interactions during the CW processes assist learners to recognize, rectify, and modify their language acquisition, leading to better writing practices. Therefore, the findings of this study give evidence for writing instructors to stimulate those learners who perceive writing as a personal act by illustrating that scaffolding negotiations during the CW process can support individual writing skills and nurture their language development.

VI. CONCLUSION AND IMPLICATIONS

The present study was designed to investigate Asian EFL learners working in small groups that used scaffolding strategies while they were engaged in two OCW tasks in GD, and if the scaffolding strategies employed had any influence on individual writing performance. The findings showed that learners used both scaffolding and non-scaffolding dialogues to jointly construct their collaborative essays by giving advice, providing suggestions, responding to questions or requests, asking questions, or clarifying ideas while engaging in OCW tasks. It was found that one member (member with higher language proficiency) from each team dominated writing space and guided his/her peers in scaffolding negotiations. Less contribution of texts and scarcity of scaffolding strategies produced were due to

members' low language proficiency. The findings further suggested that members who generated more scaffolding negotiations during OCW processes likely constructed better texts in their individual writing. This implies that learners working collaboratively benefited from both scaffolding and non-scaffolding negotiations as they helped in task revisions while constructing their own texts.

Some implications can be drawn from this study, an important one being that, learners in small groups with cultural diversity and varied language proficiency levels performing OCW tasks scaffold each other and allow their ZPD to emerge. Knowledge is brought out and enhanced through members' interaction and peer supports. Such positive learning experiences assist learners to absorb knowledge for future access, or when they need to take steering control over the task to accomplish their goals. In addition, social interaction and negotiation in academic settings are shaped by both internal and external factors including good rapport, language competence, and social roles individuals hold that urge them to exhibit the actions. Furthermore, this study revealed that learners in an EFL writing context who contributed more texts and actively engaged in scaffolding negotiations, showed a tendency of improvement in their individual text production. This phenomenon informed us that to produce a quality of writing, writers need to endorse an exploratory and recursive writing process, and often peers intervene at several points in text production. Writing instructors need to raise learners' awareness to improve their writing quality by emphasizing that success in academic writing involves active participation in the assigned tasks, positive engagement in social interactions, and willingness to learn from knowledgeable peers. Therefore, preparing EFL learners from culturally diverse backgrounds to collaborate in a multilingual classroom context will equip them for future careers and prepare them to accept challenges in a multicultural world where English is used as a medium for business communication. To better perceive the significant role of peer scaffolding in OCW tasks via a web-based collaborative tool, the influence of scaffolding negotiations on group writing products, as well as on individual writing improvement could constitute an important research direction. Furthermore, cross-cultural collaboration among learners with cultural and linguistic differences in OCW environments deserves further investigation.

However, this study, being a case study in nature, did have its limitations. The study employed an embedded case investigating learners in four small groups engaging in two OCW tasks spanning ten weeks. In future research, a broader range of OCW tasks, prolonged engagement of members, and larger groups should be recruited to enrich data on online scaffolding strategies. Furthermore, this study examined members' scaffolding negotiations in written texts recorded in GD archives. Future research may consider adding records of real time voice-chat while members are engaged in OCW tasks.

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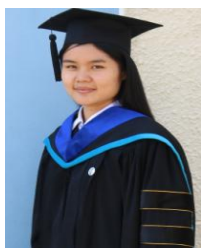
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