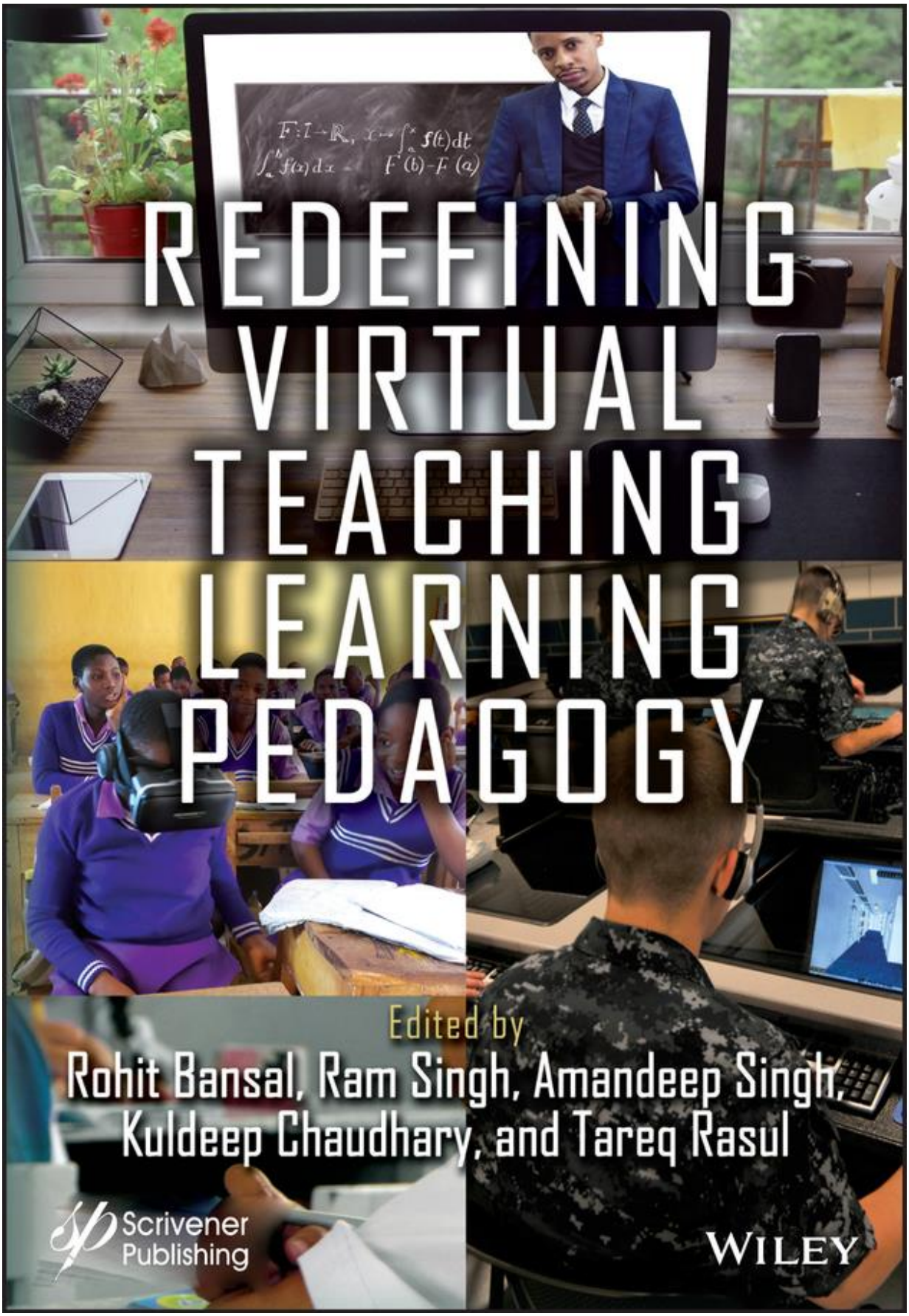
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Edited by

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Ram Singh
Amandeep Singh
Kuldeep Chaudhary
and

Tareq Rasul

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Mediated Learning of the Writing Skill via Zoom by EFL Students

Le Pham Hoai Huong

English Faculty, University of Foreign Languages and International Studies, Hue University, Hue City, Vietnam
Email: lphhuong@hueuni.edu.vn

Abstract
Zoom has been widely used in teaching and learning English for its functions that allow students to work independently yet share their thoughts through interaction via online group discussions [16, 18]. Other features of Zoom such as annotation devices, breakout rooms and screenshare are reported to promote communication through the use of authentic language in synchronous classes [9]. In teaching and learning the writing skill, the application of Zoom is found to develop students' metacognitive strategies in the writing process [15]. Zoom, in sociocultural theory developed by [19] and his colleagues, is considered to be a digital artifact [12] which can mediate the learning process among EFL learners. However, how Zoom as a digital tool mediates EFL students' writing in English and which aspects of English writing EFL students report to learn via Zoom are the questions to be explored. This study was set out to investigate these two topics related to mediated learning of the writing skill via Zoom. The results from quantitative data collected from EFL university students who have experienced learning English writing via Zoom indicate that interaction with peers in breakout rooms mediated the students' thinking process in forming ideas and organizing their papers. Through screenshare of teachers' slides and instructions, students were able to learn essay structures as well as language expressions for different kinds of academic writing. From the findings of the study, implications are put forward for the use of Zoom in teaching and learning the writing skill in English.

Keywords: Zoom, sociocultural theory, writing skill

19.1 Introduction

In the past two years, due to the COVID-19 pandemic, most institutions in the world have turned to the online mode for teaching and learning in general and English in particular. As a result, an array of applications have been designed to serve teaching and learning language skills. Among those digital tools, Zoom has proved to be the most widely used for its various functions such as video conferencing, screen sharing, online classrooms, webinars, and more. Zoom also has other features that can create interactive learning environments, for example, a virtual board with annotation capacity for idea generating, breakout rooms for virtual group work, polls for student feedback, and a chat box to facilitate class discussions. Audio and video recordings on Zoom make it more convenient for review if the lesson is recorded and then played back.

In EFL contexts, learning the writing skill in English at the tertiary level has been considered to be a challenge for EFL students, given the fact that learners have to employ lexical resources, language structures and knowledge to construct meaning which must be correct in terms of language use. Besides, writing English at university level goes beyond simple phrases and sentences. The requirement to write academic language in paragraphs, essays, and reports are the expected outcomes for university students in EFL contexts. In the online learning mode, apart from common challenges such as dependence on technological devices and the internet, students are supposed to have digital competence and literacy when using mobile devices to perform problem solving, information management, and collaborative discussions [1]. Overall, learning the writing skill online at the tertiary level requires not only students' digital skills but also familiarity with this learning and teaching mode.

Research has pointed out the benefits as well as the drawbacks of Zoom utilization in education. On the one hand, Zoom is considered to be an online platform that allows students to work independently yet share their thoughts through online discussions [16, 18]. Discussions in breakout rooms and sharing on virtual screens are reported to facilitate communication through the use of authentic language synchronously [9]. In teaching and learning the writing skill, learning via Zoom is found to develop students' metacognitive strategy in the academic writing process because students ought to plan, identify, correct errors, revise, reread, monitor, and evaluate ideas [15]. On the other hand, it was found that EFL learners experienced anxiety due to time constraints in synchronous online classes through Zoom [17] and technical issues related to typing in Zoom in limited time and writing length [7]. Besides, it is challenging for teachers to manage online discussions in Zoom because students tend to be less willing to provide opinions or less attentive to other learners' opinions [9].

Given the popularity of Zoom in education in recent years as well as the importance of writing in English, it is necessary to investigate how EFL students learn the skill via Zoom. On this ground, this study was set out to explore how Zoom as a digital tool mediates EFL students' learning of the writing skill in English. In this study, Zoom is viewed from the sociocultural perspective which will be discussed further in the following section.

19.2 Literature Review

19.2.1 Cultural Artifacts in Sociocultural Theory

Sociocultural theory proposed by [19] and his colleagues considers that human thought comes from social interaction and interaction with cultural artifacts such as equipment, websites, electronic materials, etc. [12]. According to sociocultural theory, learning takes place when a learner participates in an activity [8, 20]. The cognitive function of humans is basically a mediated process organized by activities and cultural artifacts and symbolic systems or languages [10]. In the digital era, computer-mediated learning [5, 7] has been coined to refer to learning via the support of computer tools and networks.

Mediation is a fundamental concept in sociocultural theory depicting the process in which students regulate others' and/or their own thinking by using "culturally constructed artifacts, concepts and activities" [11, p. 79]. In addition, in this digital age, the mediation via cultural tools tend to be of significance with the advent of social networks and when students learn via online communities through synchronous computer mediated communication (SCMC)" [3]. The mediation process, according to [3], occurs during online collaborative work and learners' thoughts displayed on computer screens in SCMC. This mediating process is supposed to result in a joint construction of knowledge.

Given its features to serve individuals' activities in the process of learning, Zoom can be referred to as a cultural artifact in sociocultural perspective. In other words, Zoom is a digital tool that mediates the thinking and learning process among learners in general and EFL learners in particular. Learning via Zoom with its functions as described earlier in this chapter and interaction with teachers and peers online, learners tend to be assisted to generate thoughts and construct understanding for their English learning.

19.2.2 Previous Studies

An array of previous studies has delved into the topic of computer-mediated learning in language skills and specifically the writing skill via synchronous or asynchronous communication. Synchronous communication refers to the real time when students interact in the same time and space via video conferencing, Zoom, Google meet, etc. and asynchronous communication takes place at any time, or communication at different time intervals via e-mail, Google form, posted lecture notes and social media platforms. For example, the study by [6] examined the overall impact of SCMC on EFL writing and its mediation effects. In a period of eighteen weeks, the participants in experiment and control groups participated in pair discussions through SCMC and face-to-face respectively. Data collected from tests at the initial, interval and final phases, and a pre- and a post-questionnaire indicated that SCMC had benefited the participants because it facilitated self-directed language learning more effectively. Another finding of this study reports that learners' learning strategies to some extent mediated in their learning process. Also focusing on the writing skill, [3] explored the possibility of applying dynamic assessment in SCMC with two English learners learning writing from two universities. The study purposed to observe the students' micro-genetic development of grammatical ability in narrating picture stories. The results of the study emphasized that dynamic assessment and reciprocity patterns contributed to mediate learner's learning and thinking potentials. The use of models, prompts, and cues to acquire knowledge, strategies, and skills played mediating roles in revealing students' writing capacity in dynamic assessment. In addition, reciprocity patterns in the learning process disclosed the restructuring and application of knowledge, strategies, and skills to the solution of problems among the students.

The study by [4] explored the use of Google Docs and its impact on learning IELTS (International English Language Testing System) writing by EFL learners. The cultural artifact used in the study by [4] was Google Docs, not Zoom; however, it bears similar functions to Zoom as a digital tool for mediating purposes. The analysis of EFL learners' academic writing skills through individuals one by one and synchronous dynamic assessment online over the studied platform reveal that learners showed micro-genetic development in all the four criteria of IELTS writing assessment, including task accomplishment, coherence and cohesion, lexical resources, and grammar use.

The study by [13] explored SCMC via Zoom videoconferencing with twenty-five L2 Spanish participants over an implementation period of six weeks during which the students were using Zoom in all language skills, including the writing. The results disclose that Zoom provided a collaborative autonomous learning environment in which students were connected and able to practice their L2 skills. More

specifically, videoconferencing via Zoom is found to serve in telecollaborative exchanges assisting students' language learning.

The study by [2] investigated the writing skill by students in synchronous classes and asynchronous classes delivered via blackboard collaborate ultra. It was found that real time synchronous classes assisted students with engaged communication and immediate feedback, while asynchronous classes at any time helped learners to resolve the difficulties of online learning, complement the English writing classes synchronously and made them feel secure in learning.

The study by [7] compared the effects of learning modes face to face and via computer-mediated collaborative conditions in learning the skills of EFL students. The findings show that the traditional face-to-face learning was more contributive to students' learning of the writing skill than the computer-mediated communication environment. One reason for the lack of effectiveness of computer-mediated learning circumstances is explained to come from the postings that were delayed due to the length of typed writing by students and possible technical issues.

The mediating cultural artifacts in sociocultural theory in this digital era have been referred to not only as computers, and other electronic applications but also as collaborative dialogs and online searches [14]. The study by [14] investigated the types of co-construction of knowledge in writing by EFL students obtained from using collaborative dialogs and online searches, and the extent the co-constructed writing knowledge facilitated each student's academic writing. Data collected from the students' dialogs, search journals online, questionnaires with open-ended questions and their writing texts collaboratively and individually revealed that the students using the mediation tools could promote two types of joint knowledge construction which include language expressions and use.

In general, the previous studies have explored the mediating roles of cultural artifacts in synchronous communication via video conferencing, Zoom, Google meet, etc. and asynchronous interaction via e-mail, Google form, lectures posted and social media platforms and how they led to learning language skills in general and the writing skills in particular among students in terms of co-constructing language knowledge, and autonomous learning. Most cultural artifacts including Zoom have been found to be an effective tool to be used in collaborative communication and assisted students in learning language skills. However, how Zoom as a digital tool mediates EFL students' learning of the writing still in English at the tertiary level and which aspects of English writing EFL students report to learn via Zoom have not been explored. This study was thus set out to answer these research questions.

19.3 Methodology

19.3.1 The Participants

The participants in this study were the second year EFL students at a university in Vietnam who majored in English teaching and interpreting. Their English proficiency ranged from B1 to B2 level in the Common European Reference Framework. They were taking the compulsory course of English academic writing online when the study was carried out. The course contents targeted at teaching students how to write different kinds of essays and letters. The classes met once a week for 100 minutes each time via Zoom. Both the instructors and the students were familiar with Zoom as it has been used at the research site since 2020 when the covid-19 pandemic broke out. The participants were recruited on a voluntary basis and consented to fill a questionnaire given by the researcher online via Google form.

19.3.2 Data Collection and Analysis

Questionnaire was used to collect data for the current study. It consisted of 25 questions on three main themes including mediated learning of the writing skill via zoom with peers, mediated learning of the writing skill via zoom with course instructors, and with other functions of Zoom. The themes were grounded on the principle of the sociocultural theory that humans interact with others and cultural artifacts to mediate the learning process. Zoom in this study is a digital artifact and in the context of learning the writing skill online in this study, students communicated with peers on Zoom, instructors and other functions of Zoom.

The questions were presented to elicit the responses in the five-point Likert scale from strongly disagree, disagree, no idea, agree and strongly agree set for the students to tick. The questionnaire was sent to the participants via a Google form with description of the purpose of the study. The respondents were informed that the study's aim was to obtain information regarding how Zoom was used in the writing classes. Before data was collected, the pilot of the questionnaire was carried out with 10 participants to see if there was any ambiguity in language use or misunderstanding of the questions. However, all the participants in the pilot study showed no difficulties in understanding and were able to complete the questions. The questionnaire was then sent to other students and 158 completed ones were returned. The responses were then processed with the SPSS version 22.0.

The process of data analysis first was carried out to examine the reliability statistics of the whole set of 25 questions of the questionnaire. It was found that the Cronbach's Alpha achieved 0.968, indicating the high reliability of the questions. The following sections present the findings of the study.

19.4 Findings

19.4.1 Mediated Learning of the Writing Skill with Peers via Zoom

Data collected from 158 questionnaires completed by EFL university students are presented in Table 19.1 below.

As can be seen from Table 19.1, the responses for all the statements recorded a high mean value (M = 4.0959) with each statement achieving a mean score ranging from 3.96 to 4.23, indicating students' appreciation of learning the writing via the digital tool of Zoom. More specifically, the mediated learning process was agreed to be facilitated with such features of Zoom like breakout room and chat box, the white board where students and their peers could give comments and discussions related to the writing activities.

Table 19.1 Mediated learning of the writing skill with peers via Zoom.

Statement	Min	Max	Mean	SD
1. Discussing with peers in breakout rooms helps me generate ideas for my writing.	1	5	4.18	0.786
2. Other peers' comments in zoom classes help me with idea planning for writing.	1	5	4.13	0.799
3. Exchanging writing with other peers in zoom classes helps me check the organization and logical coherence of ideas in my writing.	1	5	4.18	0.786
4. The ideas presented by other class members in zoom classes help me to	1	5	4.23	0.715

Statement	Min	Max	Mean	SD
generate further ideas for my own writing.				
5. Interacting with other peers in breakout rooms helps us to co-construct ideas for our writing.	1	5	4.04	0.832
6. Interaction with other peers in zoom classes helps me learn English vocabulary and language expressions for my writing.	1	5	3.99	0.829
7. Feedback from peers in zoom classes helps me to revise my writing.	1	5	4.23	0.750
8. Feedback from other peers in zoom classes helps me to edit my writing to complete it.	1	5	4.19	0.724
9. Groupwork in breakout rooms helps me to reflect on my writing to revise it.	1	5	3.97	0.817
10. Working on writing drafts with peers on zoom facilitates collaboration among us to complete the writing activities.	1	5	3.96	0.717
11. Other members' questions during lessons on zoom make me think of new ideas for my writing.	1	5	4.06	0.850
12. Other members' suggestions about language use in breakout rooms help me improve my writing.	1	5	4.05	0.764

Statement	Min	Max	Mean	SD
13. Other members' scaffolding/guiding comments help me complete my writing activities.	1	5	4.03	0.752
Statements 1–13	1.00	5.00	4.0959	0.58142

As shown in Table 19.1, the highest mean value (M = 4.23) was recorded for both statements that the ideas presented by other class members in Zoom classes helped students to generate further ideas for their writing and that feedback from peers in Zoom classes was generative to writing revision. The students also indicated their high appreciation of the feature of breakout rooms which facilitated discussing with peers and assisted students to generate ideas for writing (M = 4.18) as well as exchanging writing with other for checking the organization and logical coherence of ideas (M = 4.18). The lowest mean value was seen for the statement that working on writing drafts with peers on Zoom facilitated collaboration among students to complete the writing activities (M = 3.96).

19.4.2 Mediated Learning of the Writing Skill with Instructors via Zoom

Learning on Zoom was also viewed in the perspective of how the platform mediated the learning of writing of students in interaction with instructors. Table 19.2 below displays the finding.

Table 19.2 Mediated learning of the writing skill with instructors via Zoom.

Statement	Min	Max	Mean	SD
14. The instructor's lectures on slides in zoom classes help me understand the process of writing.	1	5	4.32	0.766
15. The instructor's lectures on slides in zoom classes help me learn about essay structures.	1	5	4.36	0.759

Statement	Min	Max	Mean	SD
16. The instructor's lectures on slides in zoom classes help me learn new language expressions for different types of academic writing.	1	5	4.23	0.765
17. The instructor's questions during the lessons on zoom help me to generate ideas for my writing.	1	5	4.18	0.747
18. The guiding questions and comments from the instructor help me improve my writing in zoom classes.	1	5	4.27	0.709
19. The instructor's explanations in zoom classes engage me in understanding the purposes and contents of different kinds of writing.	1	5	4.27	0.744
20. The writing activities with facilitation from the instructor help me to construct meaning while I am doing writing in zoom classes.	1	5	4.15	0.739
21. The instructor's guiding/scaffolding comments help me complete my writing activities.	1	5	4.28	0.647
22. The instructor's feedback in zoom classes helps me improve my writing performance.	1	5	4.36	0.679
Statements 14–22	1.00	5.00	4.2672	0.6026

As can be observed from Table 19.2, the mean score for this cluster reached 4.2672, suggesting quite high agreement of the respondents with the roles of Zoom and of

instructors in assisting students with learning the writing skill. The two statements that recorded the highest mean value (M = 4.36) are “The instructor’s feedback in zoom classes helps me improve my writing performance” and “The instructor’s lectures on slides in zoom classes help me learn about essay structures”. Zoom facilitated instructors’ lessons that tended to mediate students’ learning of the writing skill, more specifically, essay structures, and improved their writing in general. The participants also reported to learn the process of writing thanks to the instructors’ lectures on slides in zoom classes (M = 4.32). The respondents however displayed the lowest agreement (M = 4.15) with the statement that the writing activities with facilitation from the instructor helped them to construct meaning while writing.

19.4.3 Mediated Learning of the Writing Skill via Other Features of Zoom

Learning on Zoom, students interact not only with peers and instructors but also with other features of Zoom. Table 19.3 presents the statistics of this cluster.
As an artifact, Zoom can integrate other features that may facilitate students’ learning of the writing skill. Table 19.3 illustrates that an equal and high mean value (M = 4.22) for the statements that the teaching/learning materials presented in zoom classes generated ideas and knowledge for students to use in their writing and other Zoom functions including annotation tools, sharing, raising hand, etc. facilitated ideas sharing and interaction among zoomates. In addition, the students appreciated model essays shared on Zoom (M = 4.15).

19.5 Discussion and Implications

This study was set out to investigate how Zoom as a cultural artifact in sociocultural perspective mediated EFL students’ learning of the writing skill. Responses from the 158 EFL students on the questionnaire were processed to examine the mediating process via Zoom when students were interacting with their Zoomates, course instructors, and some Zoom features in online writing classes. Firstly, the results indicate that as a digital tool,

Table 19.3 Mediated learning of the writing skill via other features of Zoom.

Statement	Min	Max	Mean	SD
23. The teaching/learning materials presented in zoom classes give me ideas and knowledge to use in my writing.	1	5	4.22	0.803
24. The model essays/writings showed in zoom classes facilitate my writing performance.	1	5	4.15	0.756
25. Zoom functions such as annotation tools, sharing, raising hand, etc. facilitate my ideas sharing and interaction with other classmates.	1	5	4.22	0.743
Statements 23–25	1.00	5.00	4.1941	0.6647

Zoom was reported to give students a platform to interact with peers and teachers in the chat box, breakout room and comments on the white board and chat box. Via Zoom, students were engaged in the online discussions and learning related to the writing skill. The feedback, comments from both the instructors and peers in Zoom classes assisted the students to generate ideas and further ideas in their writing process. The process of writing usually requires steps to plan, organize ideas, revise and edit. In all these steps, Zoom was reported to serve as a tool for interaction to take place and to generate students' thinking for the writing activities. Secondly, the aspects of English writing EFL students reported to learn via Zoom ranged from idea generation to other writing components such as structures of essays, organization, language expressions, logical coherence of writing, editing, revision of writings and writing performance/product in general.

Unlike the study by [6] which compared SCMC and face-to-face media learning of the writing, the current study just focused on SCMC on EFL writing and its mediation effects. The results of both studies however suggested that SCMC resulted in more effective language learning because students reported to be mediated by other members' ideas via interaction to complete their own writing tasks and they were to some extent self-directed in the learning process. Nevertheless, the findings of the current study did not reveal micro-genetic development in writing in such features as task accomplishment, coherence and

cohesion, lexical use, and grammatical accuracy as in the study by [4]. This difference could come from the fact that the current study explored learning the writing skill holistically, not the mediating roles of a digital platform on one specific form of writing - IELTS writing, as in the study by [4]. However, the results of the study reveal high agreement of students with the meditating roles of zoom in assisting students with writing in English from idea brainstorming to polishing the final products.

The finding of the study was rather different from what found in the study by [7]. These authors compared the collaborative learning face to face and via computer-mediated mode and the results supported traditional face-to-face learning because the online mode learning delayed postings and had technical issues. In comparison, the current study's findings recorded high agreements of all the participants for all the features of learning via Zoom, indicating that Zoom did not hinder the learning of the writing skill by the students in the current study. The current study however reiterates the findings of the study by [14] revealing that the students using the mediating tool could co-construct knowledge for writing in terms of language forms and expressions. The students in the current study similarly tended to benefit from Zoom discussions, writing exchange, feedback and comments from peers and instructors, which was reported to assist them to generate further ideas and revise their writings.

Originally, sociocultural theory depicts artifacts as general tools that people use in their activities and that artifacts develop users' thinking from working with these tools in activities and circumstances. In the digital era and online learning, such artifacts exist in the forms of computers, online forums, electronic applications and interaction via these tool was referred to as computer-mediated learning via synchronous and asynchronous communication. The current study narrowed the scope to one specific cultural artifact, which is Zoom, given its popularity worldwide in online teaching and learning during the pandemic time. The study's findings indicate that Zoom serves not only as a tool to engage learners in the writing activities at hand but also a platform for interaction among the learners and between the learners and instructors. In this sense, the mediating roles of Zoom are reflected in the process of learning to develop ideas for writing, to reflect on the structures of the essays and to revise them based on the comments and feedback from other members. In general, it could be said that Zoom serves to create a collective mind in the online society, which tended to benefit students' learning of writing in English during the process and in the final products.

19.6 Conclusion

The findings of the study indicate the mediating roles of Zoom in the process of learning writing by EFL students. As a cultural artifact, Zoom provided students with a platform to interact with peers and teachers in the chat box, breakout rooms and the virtual white board. The synchronous communication via Zoom was reported to mediate students' idea generation, planning, revising and editing their writing. Through mediation via Zoom, EFL students reported to be able to think of ideas and direct their attention to other writing components, including essay structures, organization, language expressions, and logical coherence.

This study did not make use of qualitative data. Further studies thus can combine both quantitative and qualitative approaches on the same topic of mediated learning of the writing skill via Zoom to obtain a more holistic picture of how Zoom as a cultural artifact assists students' learning.

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Note

1. *Email*: lphhuong@hueuni.edu.vn