



Writing-skill Development of Graduate Students Through a Google Jamboard Platform: A Study of Graduate Students from a Public University in Bangkok

Phalaunnaphat Siriwongs

Graduate School of Business and Advanced Technology Management, Assumption University, Thailand

E-mail: phalaunnaphat@hotmail.com, ORCID ID: <https://orcid.org/0000-0001-6426-8741>

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Abstract

Background and Aim: The purposes of this research were to develop writing skills through a Google Jamboard platform and determine Jamboard acceptance in graduate students from a public university in Bangkok. This quasi-experimental research made use of a pretest and a posttest.

Material and Methods: The sample was 50 graduate students at the Faculty of Graduate Studies. The research instruments used in data collection were a writing rubric from Northeastern Illinois University (adapted from Univ. of Washington, Barbara Walvoord, Winthrop Univ., Virginia Community College System) and a seven-point Likert scale questionnaire. The data were analyzed using the descriptive statistics of arithmetic mean and standard deviation, and a paired-sample t-test. Research hypotheses were tested using a pair-sample t-test.

Results: The results of the hypotheses testing showed that the students obtained better scores on writing. The result was statistically significant at 0.05.

Conclusion: The students performed better in writing, and this difference is significant at the 0.05 level of significance. This implies that there is strong evidence to support the idea that there is a genuine improvement in the writing skills of the students under investigation.

Keywords: Writing-skill; Graduate Students; Google Jamboard Platform; Public University

Introduction

Technology is a powerful learning tool with limitless potential to enhance the educational system, which can be recognized as the digital education revolution. Online teaching and blended learning have become a part of teaching in higher education for nearly two decades. Education that is run by technology has widened, and many learning institutions currently offer online courses that students can access without any constraints and no longer need note-taking or summarizing in the traditional classroom as they can find the resources with just a touch of the screen (De Freitas, Morgan, & Gibson, 2015). In parallel to technological development, many educators have been experimenting with some promising technology-enabled approaches, sometimes called “hybrid,” or “personalized learning” models-essentially, a mix of in-person and online learning. One of the most common practices is the integration of technology into English language teaching. According to (Hinkel, 2006) teaching listening and pronunciation is supported by teaching speaking while teaching reading is generally connected to teaching writing and vocabulary, and teaching writing is linked to reading and grammar usages based on common perspectives on contemporary language curricula. Writing is always regarded as an important skill in teaching and learning English, and it stimulates thinking, organizes ideas, and cultivates the ability to summarize, analyze, and synthesize, teaching writing online particularly offers new ways to apply both technological and pedagogical concepts that focus on ways of sharing, discussing, and responding to students. It is imperative nowadays to prioritize a collaborative and cohesive online learning environment with the use of online software applications or platforms in teaching that can enhance the sharing of thoughts regardless of space and time constraints and play an important role in supporting discussion. With the power of Google and its platforms, Jamboard, an interactive whiteboard, allows advanced capabilities making knowledge-gaining and sharing quicker and easier. Students can engage in group discussions and debates on a given topic or an image provided by the lecturer. Basically, Jamboard is designed as a web-based whiteboard system that creates multiple whiteboards in one session, enables visual collaboration between users in real time, and supports remote teaching and learning. This encourages students to brainstorm and share their feelings without worries. Also, this interactive tool stimulates students to engage with the texts at whatever levels they feel most comfortable with confidence and supports the exchange of ideas rather than a competitive or anxiety-inducing quest for credit or approval. Draucker & Siena (2021) said, “As a part of Google Apps for Education, Jamboard is a collaborative medium for learning writing which is simply used for writing





down ideas or opinions in terms of words, phrases, clauses, and sentences, and adding either pictures or images.” Not only can Jamboard support more attractive and synchronous collaboration between the lecturer and graduate students during a writing class in real-time but it also offers availability through a computer, a laptop, a tablet, or a mobile phone regardless of cost or location.

In English study courses of the Language Center in the Faculty of Graduate Studies at a public university in Bangkok, writing is mainly focused on, and students are encouraged to learn how to write in English effectively and to develop ideas into a written form. Based on the researcher’s discussion with seven lecturers who are responsible for writing courses, students have difficulties in syntactic and lexical analyses to build sentences. In short, they possess limited vocabulary and poor understanding of grammar, so they have difficulties in doing their writing tasks. Additionally, many students struggle to understand the structural components of English as using an improper structure complicates the content and comprehension of the text (Nik, Hamzah, & Rafidee, 2010). This leads to writing anxiety which becomes an obstacle in students’ production of well-organized text. Finally, writing problems at different stages of learning causes a lack of confidence in students. Correspondingly, students’ focus is set in the wrong direction because they always take notes instead of understanding and interacting with friends, and later, students appear bored and less involved in the learning experience. Unfortunately, no lecturers at the Language Center use Jamboard to collaborate with students or induce in an active new way; hence, the researcher intends to introduce Jamboard as an interactive tool to enhance writing skills and make graduate students more enthusiastic and interested in writing practice during the class.

Objectives

Leading from the research questions, the research objectives are framed accordingly as follows:

RO 1: To develop graduate students’ writing skills through Jamboard

RO 2: To determine Jamboard acceptance to develop writing skills in graduate students

Literature Review

1. Writing and Writing Concepts

Gibbons (2009) said that writing involves writing something, producing a written product of some kind, and that product cannot be divorced from its purpose and from the context in which it will be read.

Hedge (2005), there is a need to organize the development of ideas or information; ambiguity in meaning must be avoided through accuracy; the writer must choose from complex grammatical devices for emphasis or focus; and finally, they must pay attention to the choice of vocabulary, grammatical patterns, and sentence structures to create a feasible meaning and an appropriate style to the subject matter and reader.

Emig (cited in Sharp, L.A.2016) did her research for her dissertation to investigate how student writers kept going on the writing processes by conducting eight case studies with twelfth-grade students in one public high school in The United States of America and provided ten dimensions of the recursive composing process to analyze data from each case study. Before the analysis of data occurred to set up a category system, those dimensions in an outline format had been presented. Regarding the process of writing, Emig noted the lack of attention to prewriting, including time management and tranquil spaces “for certain kinds of facing with words and concepts” (p. 99). The result revealed that the act of revision was out-of-date due to not enough time indicated for significant “Reformulation or reconceptualization” (p. 99) to happen.



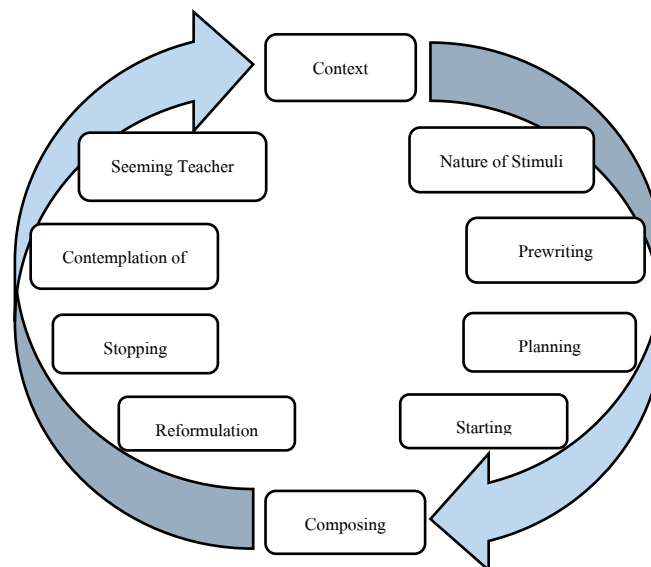


Figure 1 Emig's (1971) ten dimensions of the composing process. (Cited in Sharp, L.A.2016)

2. Unified Theory of Acceptance and Use of Technology (UTAUT)

The Unified Theory of Acceptance and Use of Technology (UTAUT) has been used as a baseline framework in various studies to measure technology use and adoption. The UTAUT framework comprises five constructs namely performance expectancy, effort expectancy, social influence, facilitating conditions, and hedonic motivation respectively. Performance expectancy is concerned with individuals' beliefs about the usefulness of the technology to perform different activities (Venkatesh et al., 2003). Effort expectancy refers to individuals' beliefs about the ease or effort associated with technology use (Venkatesh et al., 2003). Social influence means the impact of other people's (peers, instructors, and friends) beliefs on individuals' intentions or behavior (Venkatesh et al., 2003). Facilitating conditions relate to the availability of enough resources and support for individuals to use the technology (Venkatesh et al., 2003).

In terms of implementing UTAUT in the research paradigm, as mentioned earlier, many researchers favor relying on UTAUT as the framework in their analyses of data derived, and from their studies, it is found that UTAUT is beneficial for teaching and learning. Some studies were conducted to find out the effects of some constructs of UTAUT while others carried out their studies to investigate other constructs of UTAUT.

Conceptual Framework

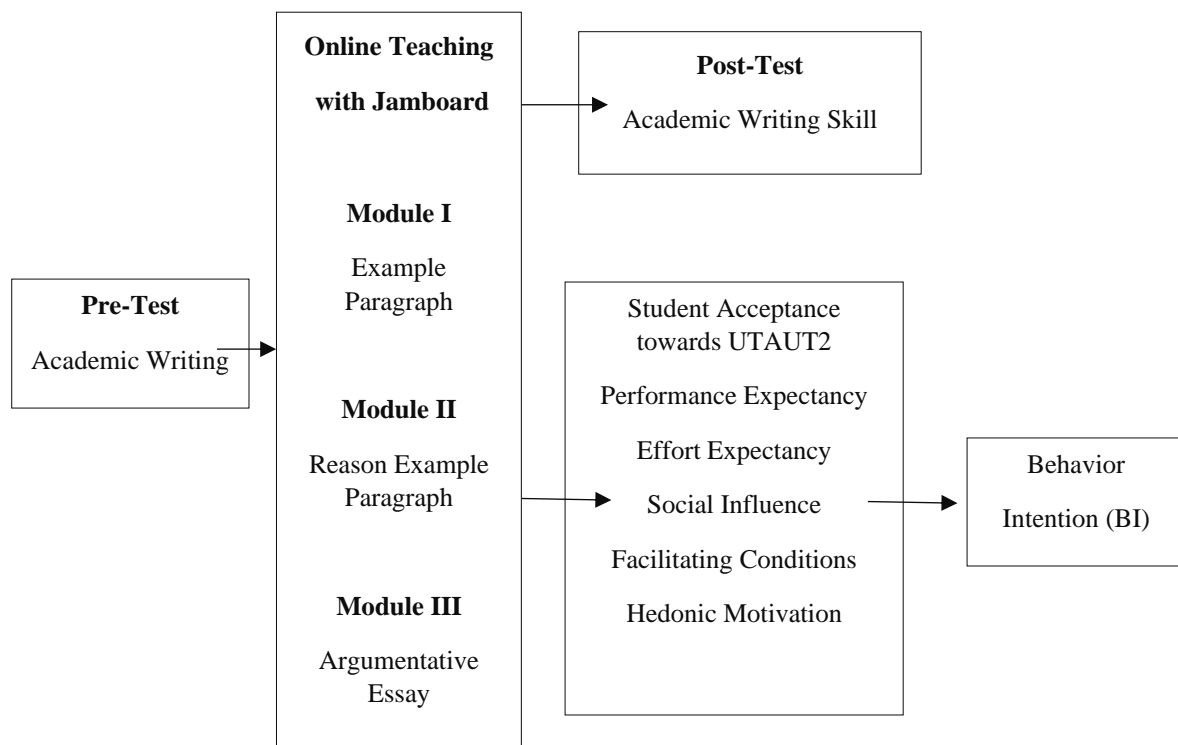


Figure 2 Conceptual Framework

Methodology

The quantitative method approach is used to develop Graduate Students' writing skills through Jamboard. The objectives of this research are to answer the research questions, measure the variables, and prove or disprove the hypotheses. To achieve the research aims, this research requires a one-group pretest-posttest design in which the group of graduate students is selected in a non-random way to collect and analyze data. For this quantitative research, the forty-eight-hour course in a month presented twelve hours a week and took place with the use of Jamboard eight times a week covering three hours a class. The researcher and lecturer, indeed, was responsible for fifty graduate students who earned no credits from this course. Lecturers distinguished between what the students had already known and what they should have known after completing the course. An interview with seven lecturers who were responsible for writing courses and familiar with teaching in this field was arranged. Along with this, the researcher reviewed literature, and documents, and analyzed data to define variables used in developing writing skills and instruments.

The research population in this study comprised 50 graduate students from the Faculty of Graduate Studies in the public university in Bangkok. The Faculty of Graduate Studies of the public university in Bangkok offers various English courses for graduate students sent to 50 students who were arranged by the officer and selected to participate in the practice and the research study by using census sampling.

Data Analysis: List of Variables, Hypotheses, and Analysis Tools

Statistical Analysis Methods	Hypotheses	Independent Variables	Dependent Variables
Pair-Sample T-test	H1: There is a significant difference in students' performance after using the Jamboard application in writing skill development.	Students' Performance	Pre- and Post-Test Scores



Statistical Analysis Methods	Hypotheses	Independent Variables	Dependent Variables
Multiple Regression	H2: Graduate students' intention to use Jamboard significantly influences the actual usage of Jamboard in writing-skill development.	Behavior Intention/Use Behavior	UTAUT Scores

Result

1. The develop graduate students' writing skills through Jamboard

UTAUT Questionnaire for Jamboard Acceptance

UTAUT Questionnaire for Jamboard Acceptance had moderately agreed with the highest mean on “Performance Expectancy”, “Hedonistic Motivation”, “Effort Expectancy”, and “Facilitating Conditions” respectively while the graduate students did agree on the lowest mean on “Social Influence”. The overall result from the UTAUT Questionnaire for Jamboard Acceptance was moderately agreed level.

Performance Expectancy completely agreed with the highest mean of “Using Jamboard increases my productivity.”. This was followed by “Using Jamboard increases my chances of achieving things that are important to me.”, “I find Jamboard useful in my writing skill development.” while the graduate students had agreed on the lowest mean of “Using Jamboard helps me accomplish things more quickly.”. The overall result from the UTAUT Questionnaire for Jamboard Acceptance in terms of Performance Expectancy was moderately agreed level.

Effort Expectancy had moderately agreed with the highest mean on “Learning how to Jamboard is easy for me.” and “I find Jamboard easy to use.”. This was followed by “My interaction with Jamboard is clear and understandable.” while the graduate students agreed on the lowest mean of “It is easy for me to become skillful at using Jamboard.”. The overall result from the UTAUT Questionnaire for Jamboard Acceptance in terms of Effort Expectancy was moderately agreed level.

Social Influence moderately agreed with the highest mean on “People who are important to me think that I should use Jamboard.” and “People whose opinions that I value prefer that I use Jamboard.”. This was followed by “People who influence my behavior think that I should use Jamboard.”. The overall result from the UTAUT Questionnaire for Jamboard Acceptance in terms of Social Influence was moderately agreed level.

Facilitating Conditions had moderately agreed with the highest mean on “Jamboard is compatible with other technologies I use.”. This was followed by “I know necessary to use Jamboard.”, “I have the resources necessary to use Jamboard.” while the graduate students agreed on the lowest mean of “I can get help from others when I have difficulties using Jamboard.”. The overall result from the UTAUT Questionnaire for Jamboard Acceptance in terms of Facilitating Conditions was moderately agreed level.

Hedonistic Motivation moderately agreed with the highest mean on “Using Jamboard is enjoyable.”. This was followed by “Using Jamboard is fun.”. While the graduate students had agreed on the lowest mean of “Using Jamboard is very entertaining.”. The overall result from the UTAUT Questionnaire for Jamboard Acceptance in terms of Hedonistic Motivation was moderately agreed level.

Behavioral Intention moderately agreed with the highest mean on “I intend to continue using Jamboard in the future.”. This was followed by “I plan to continue to use Jamboard frequently.” while the graduate students agreed on the lowest mean of “I will always try to Jamboard in my daily life.”. The overall result from the UTAUT Questionnaire for Jamboard Acceptance in terms of Behavioral Intention was moderately agreed level.

2. To determine Jamboard acceptance to develop writing skills in graduate students

The comparison of the writing-skill development of graduate students through a Google Jamboard Platform by using a t-test

Referring to the score of the pretest writing-skill development of graduate students through a Google Jamboard Platform and the score of the posttest writing-skill development of graduate students

through a Google Jamboard Platform, it can be seen that the two-score tests presented different results namely the pretest writing-skill development of graduate students through a Google Jamboard Platform is lower than the posttest one. Based on the result of the t-test, there is a difference in significance between the pretest and post-test scores. To summarize, using of Google Jamboard Platform to improve students' writing skill development of graduate students is effective.

The significance of the graduate students' intention to use Jamboard towards the actual usage in writing-skill development

The model presents a rather low prediction power of 81.60% ($R^2 = 0.816$, $p < 0.05$) of total the actual usage of Jamboard in writing-skill development. The most important predictor variable is Hedonistic Motivation. Then, the predictor variable is Social Influence. The last predictor variable is Facilitating Conditions which is positively related to the actual usage of Jamboard in writing-skill development. The remaining independent variables (Performance Expectancy and Effort Expectancy) play no role in increasing the actual usage of Jamboard in writing-skill development at the 0.05 significance level. The three independent variables meet the requirement of multicollinearity and are statistically significant.

Overall finding

Regarding this item, "Using Jamboard increases my chances of achieving things that are important to me.", 41 respondents moderately agreed. Two of the respondents (4.90 percent) chose somewhat disagree. Three of the respondents (7.30 percent) chose neutral. Three of the respondents (7.30 percent) chose somewhat agree. 16 of the respondents (39.00 percent) chose moderately agree. 17 of the respondents (41.50 percent) chose to completely agree. The opinion level about this item, "Using Jamboard increases my chances of achieving things that are important to me." is shown in Figure 2.

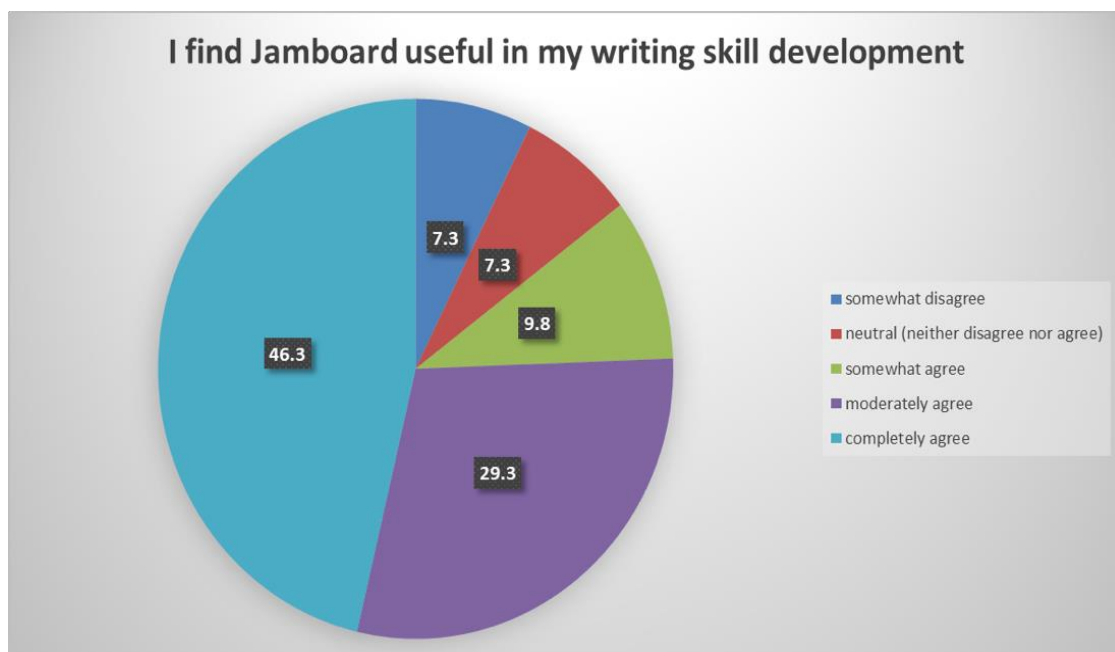


Figure 2 I find Jamboard useful in my writing skill development.

Discussion

Concerning this research, the section relates to the following objectives: to develop writing skills through a Google Jamboard Platform and to determine Jamboard acceptance in graduate students from a public university in Bangkok. First, the result of this study regarding developing graduate students' writing skills through Jamboard reveals that the overall result from the UTAUT Questionnaire for Jamboard Acceptance was moderately agreed level. Performance Expectancy obtained the highest



mean score followed by Hedonistic Motivation, Effort Expectancy, and Facilitating Conditions while the lowest rated was Social Influence. The results of the study suggested that Google Jamboard be a type of digital whiteboard from Google that can be used to interact directly virtual by teachers and students. In particular, Jamboard is here to facilitate collaboration in real time between teachers and students so that they can make learning more interesting and interactive. Rosidah (2021) said that Jamboard is a digital whiteboard from Google that has been integrated with various cloud services. Too, The NSW government (2015) explained that Jamboard is Google Suite's digital whiteboard that extends a rich collaborative experience for every classroom so that teachers and students can design a Jam, edit or revise words, sentences, or ideas from their devices, and share with others. This is where everybody can collaborate on the Jam anytime and anywhere.

With this in mind, the overall result was a moderately agreed level for Performance Expectancy because graduate students from a public university in Bangkok agreed on both “Using Jamboard increases my productivity” and “Using Jamboard increases my chances of achieving things that are important to me”. This finding is supported by Nagamani (2021) who accentuated that real learning opportunities for both instructors and students can be truly delivered by the use of the Jamboard; students obtain a great amount of knowledge by participating in Jamboard activities with which communication and information literacy skills are vital in the twenty-first century and cooperatively dealt. Along with this, Virto and Lopez (2020) reiterated that the Google Jamboard, an interactive smartboard, lets teachers and students engage on a virtual whiteboard, brainstorm ideas, and create sketches. Apart from this, the Google Jamboard enables students to practice their writing skills, receive feedback from commentators or teachers, and give comments or suggestions on one platform. Draucker & Siena (2021) asserted that the Google Jamboard is an application as a part of Google Apps for Education, especially for learning writing, providing a canvas that students and teachers can use to write down their ideas or opinions collaboratively. Like a conventional whiteboard, the Google Jamboard is a medium of instruction for a writing platform, picture adding, and conceptualization; besides, it can also invite students to interact appropriately with teachers and students so that they can make the writing class more interesting and attractive. Those activities in the writing class employ writing their ideas, solving problems, and drawing collaboratively and synchronously with easy access through the handphone, tablet, or computer.

Effort Expectancy; The overall result was moderately agreed level. This is because graduate students from a public university in Bangkok think using Google Jamboard is easy for them, and the interaction with Jamboard is clear and understandable. This finding is supported by Sukmawati & Nensia (2019). Their findings demonstrated the effectiveness of using Google apps in the teaching and learning of foreign languages and in improving learners' English language skills. Conventional whiteboards can be used as a means to write materials or add pictures and other information with a pen, eraser, sticky notes, photos, circles, text boxes, and lasers at the same time with virtual face-to-face between teachers and students (Rosidah, 2021). According to Maulina et al. (2019), application learning is not meant to take the place of traditional in-class instruction; rather, it is intended to serve as a complementary educational resource that students can use to augment their education and expand access to education for those who cannot get enough educational facilities. Apart from Google Jamboard, a free web-based office suite that anyone can use for online learning is Google Docs with useful tools i.e., documents, presentations, spreadsheets, drawings, and forms as well.

Concerning social influence, the overall result was moderately agreed level. This is because graduate students from a public university in Bangkok agree that “People who influence and are important to their behavior think that they should use Jamboard.”. Google Jamboard, an interactive whiteboard, can be used in the classroom to encourage student involvement in real-time. This interactive media can help students find ideas quickly and compile them into well-organized paragraphs into good writing products as much as the Jamboard application provides several tools as mentioned above. Yulianto (2021) said, “By using the Jamboard, students can arrange their ideas before starting to write, so they will not lose what to write”. Also, this finding is supported by Venkatesh et al. (2003) who insisted that the social environment has a major impact on people's behaviors. Generally, the subjective norm means that personal behavior is influenced by the people around you, especially those who are considered important. Social factors can be seen as the subjective culture of the individual reference





group. Based on Thompson et al. (1991), personal behavior is influenced by specific social situations or interpersonal relationships, such as colleagues and leaders or employers and employees. Regarding the image, it can be understood as the perception that the use of (new) technologies can raise the image or status of a person's social system and have the opportunity to increase reputation and visibility (Moore & Benbasat, 1991).

On the part of facilitating conditions, the overall result was moderately agreed level. This is because graduate students from a public university in Bangkok think that Jamboard is compatible with other technologies they use, and they possess the knowledge/resources necessary to use Jamboard. Google Jamboard is accessible as a mobile app and a web-based service offering a learning environment for students more enjoyable and raising student motivation to learn and reach their planned learning objectives at the end. In addition to accessing anywhere and at any time, online learning is extremely useful to both teachers and students. With a range of previously accessible programs, passive students can become active, allowing all professors and students to connect and socialize effectively. Draucker & Siena (2021) stated that Jamboard is practically useful and flexible, and students can select texts or words at whatever levels they feel happy, with/without anxieties about the assessment from their teacher or friends. As a result, students are comfortable with useful features. To be specific, many a student felt that Jamboard is a good and helpful tool for collaborative reading; they love to use it for group work on account of the easy exciting ways of learning, discussing, and creating mind mapping with their groups. They considered using Jamboard for teamwork training in one job and making the group assignment productive. This result is consistent with Thompson et al. (1991). The findings affirmed that facilitating conditions can be recognized as objective factors in the environment that surge the willingness of individuals to use technology. For example, guidance can be obtained when selecting a system or timely assistance can be provided when the system is difficult.

In consideration of hedonistic motivation, the overall result was moderately agreed level because the graduate students from a public university in Bangkok reflect that using Jamboard is enjoyable, fun, and very entertaining. Jamboard is a user-friendly platform for educators and their students to learn through. Jamboard is a great tool to achieve participant collaboration. This is an important feature of online learning as it allows social constructivism to thrive. This finding is supported by both Bakala et al., (2022) and Ndwambi et al., (2022) stating Jamboard for participants to reflect on learning experiences from the past, including that of the place for technology within the classroom. In this sense, Jamboard is an innovative tool on which focused learning through reflection and enhances students' ability to learn through technology. It is in line with the work of Pothier (2021); it was stated that Jamboard, which is a product of Google, is effective and everyone is truly familiar with it; plus, there is no account registration required to access it. Like other Google applications, they help students communicate, share, or discuss comfortably and promote real-time access and a multi-person editor (Khoiriyah, 2021). In addition, Jamboard also offers a variety of attractive features to create a mind map with sticky notes, pens, text boxes, pictures, and many more to support the students in creating a mind map as efficiently as they can.

Hedonistic Motivation; The overall result was moderately agreed level. This is because the graduate students from a public university in Bangkok reflect "I plan to continue to use Jamboard frequently and continue using it in the future". Google Jamboard comprises features that can be used as a forum for collaboration and sharing and also facilitates modernization learning promoting communication, critical thinking, creativity, and collaboration. Trask (2022) said that Jamboard is appropriate for various teaching styles in many ways allowing students to become fresh, involved, and continually better; moreover, Google Applications, such as Google Drive which functions as a file storage and a link can be shared with others. Similarly, Sukmawati & Nensia (2019) examined the effectiveness of using Google apps in the teaching and learning of foreign languages. Their findings demonstrated the effectiveness of these Apps in improving learners' English language skills. Further, Jamboard can also be used as a virtual medium for all fields of study, especially learning English writing skills as students can gradually share their short writing ideas.

2. To determine Jamboard acceptance to develop writing skills in graduate students; The result of the study also showed the score of pre-tests writing-skill development of graduate students through a Google Jamboard platform; the pretest writing-skill development of graduate students through a





Google Jamboard board platform is lower than the posttest. There is no doubt that using the Google Jamboard Platform to improve students' writing skill development was effective. This is because Jamboard is an interactive digital whiteboard for visual collaboration. The user can add frames, change the background, write with a digital pen in different colors, create a text-box, add a shape, insert an image, or create a sticky note. These draggable components can be used to design or devise activities suitable for language learning, such as brainstorming sessions, preview activities, and exercises involving grammar, sentence structures, and word power. To make it interactive, it should be shared and editing access should be allowed. Once ready, Jamboard can be downloaded as an image or a PDF. This shows that the current study is in line with previous research conducted by Sulistyaningrum et al. (2021) and Hasanah, E.V.A. (2019) In their study, Sulistyaningrum et al. (2021) described the use of Pear Deck and Jamboard media in learning mathematics in elementary schools. The study's findings indicated that Pear Deck and Jamboard media significantly raised students' engagement in mathematics learning during the Covid 19 Pandemic. It was also mentioned that the combined use of two or more online media for learning mathematics in elementary schools would be very important and beneficial for teachers and basic education institutions. As well as that, in Hasanah's research, HASANAH, E.V.A. (2019) claimed the effect of using Jamboard media on learning motivation and learning outcomes of recitation of Tajwid in class IX students at the Islamic Junior High School AL Azhar 1 Jakarta. The results of the study indicated that Jamboard has a direct positive influence on learning motivation, Tajweed Learning Outcomes, and recitation learning outcomes. It is with the conclusion that the result above with the acceptance of the research hypothesis suggests that Jamboard as a medium helps improve students' abilities in learning reading.

Recommendation

Further study should be undertaken to apply the results of this study. First, the research could be broadened to include other public universities in Bangkok. Second, the recommendation is a different approach to the research using a different methodology, for example, interviews which could provide a deeper understanding of developing writing skills through a Google Jamboard platform and determine Jamboard acceptance in graduate students from a public university in Bangkok. This is because graduate students seemed to appreciate the opportunity to express their feelings and reasons that determine Jamboard acceptance. Also, many used opportunities to fill out the open questions about suggestions for site management. Additionally, the sample size of this study is relatively small, which may limit the generalizability of the findings. Future research is needed to broaden the size of respondents so that the research will be more representative. Future research is expected to examine how this Google application influences other language performance or learning outcomes in various language learning contexts.

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