CHAPTER 2

LITERATURE REVIEW

2.1 Google Docs

Google Docs is a free web-based word processing program made by Google. It is accessible through a personal computer, Android, iOS, Chrome OS, and BlackBerry. Google Docs is compatible with Microsoft Word format, making it easier to work across platforms and/or applications. In addition, its collaborative ability to work with other people in real-time makes it a good alternative for collaborative work (Alharbi, 2019; Alsubaie & Ashuraidah, 2017; Alwahoub et al., 2020; Fathimah et al., 2020; Mudawe, 2018; Romero-Ivanova et al., 2020; Seyyedrezaie et al., 2016; Suwantarathip & Wichadee, 2014). Moreover, when a Google Docs document is created within the supervisor(s)' Google Drive, a real-time push notification will be delivered to the owner of the folder for any changes that have been made by anyone who has access to it (Mudawe, 2018; Romero-Ivanova et al., 2020). A real-time chat is also available when two or more people are opening the same document, making a possibility to do collaborative work and discussion (Mudawe, 2018). The feature to see and revert to previous versions of the document is available within Google Docs. This feature could help supervisors to track down any changes made historically and assess them. The commenting feature will let users add a sticky note-like comment anywhere the users would put it (Alwahoub et al., 2020). It comes with resolve and re-open features that will allow users to purge (resolve) and restore purged comments (re-open) at will. To connect with pedagogical practices in writing, Ebadi & Rahimi (2017); and Alharbi (2019) agreed that Google Docs, as a whole, has the potential to create an interactive environment for group projects and assignments.

Numerous studies on the use of Google Docs as a medium to implement collaborative learning have been conducted, and most of them showed positive results towards the use of Google Docs for collaborative learning (Alharbi, 2019; Alsubaie & Ashuraidah, 2017; Ebadi & Rahimi, 2017; Jeong, 2016; Mudawe, 2018;

Seyyedrezaie et al., 2016; Suwantarathip & Wichadee, 2014). A recent study by Alharbi (2019), as mentioned previously, pinpointed that Google Docs could potentially create an interactive learning environment. It is also capable of creating a relaxed, motivating environment (Mudawe, 2018). Previous research (Seyyedrezaie et al., 2016) focused on peer feedback suggested that giving peer feedback on the Google Docs platform could improve students' confidence to write and evaluate based on the feedback they receive from their peers. In addition, Jeong (2016), who conducted mixed-method research about students' cognitive perceptions towards collaborative writing courses, came up with results that positive attitudes were mostly received from the participants involved. There is also research (Alsubaie & Ashuraidah, 2017) that compares how students perform when writing individually and collaboratively using Google Docs as the media. The result shows increasing scores of the students' assignments both working individually or collaboratively.

2.2 Online Written Feedback

Speaking about feedback broadly in education, Rofiqoh and Chakim (2020) stated that it is a response given by teachers towards the students' performance, attitudes, and behavior. Ellis (2009) in Rofiqoh and Chakim (2020) refers to feedback as "a means of motivating students to learn and assess the reliability of language learning" (p. 59). To add, Kauchak and Eggen (1989) argued that feedback could be used with any knowledge of current behavior to increase the performance of students (as in Rofiqoh and Chakim, 2020). To combine them all, feedback could be defined as a response given to assess and motivate the students to escalate their performance, attitudes, and behavior.

Feedback could be classified broadly into written and oral. Written feedback involves any kind of feedback that is written on students' work or assignments. Whilst oral feedback, as the name suggests, is feedback given orally. Rofiqoh and Chakim (2020) researched written and oral feedback in writing classes. They suggested that feedback is best combined, written followed by oral. However, the combination of written and oral feedback could not be established in Google Docs

solely. With that in mind, written feedback is the only suitable type of feedback in this study.

From feedback in general terms to types of feedback and finally, in what media is being used to give feedback, a term of online written feedback could be used to refer to written feedback that is addressed in an online platform—i.e., Google Docs.

2.3 Conditions of Learning

The theory of Conditions of Learning by Gagne (1970) specified that there are various types or levels of learning. The importance of these classifications is that they require distinctive sorts of instruction for each category. Verbal information, intellectual skills, cognitive strategies, motor skills, and attitudes are the five major areas of learning identified by Gagne (1970). Each type of learning requires a unique set of internal and external variables. For example, in order to acquire cognitive strategies, the learner must be given the opportunity to practice creating new problem-solving skills; in order to acquire attitudes, the student must be exposed to a credible role model or convincing arguments. Learning activities for intellectual skills, according to Gagne, can be structured in a hierarchy based on their complexity: discriminating, chaining, concepting, rule using, and problem-solving. The hierarchy's main purpose is to define criteria that must be met in order to support learning at each level.

The first hierarchy of intellectual skills is discrimination. At this level, when a student is able to conduct distinct responses to a series of similar stimuli that differ in a structured manner, this is known as discrimination (Gagne, 1970; Maheshwari, 2013). An example of discrimination in the context of undergraduate thesis writing supervision, a student can tell whether the feedback given by the supervisors was corrective, constructive, or other kinds of feedback. Discriminating this feedback is essential for students in order to continue their work and make progress. When a student encounters barriers or obstacles that prevent continuous learning, discrimination learning becomes more difficult (Maheshwari, 2013). Hence, this

skill could measure the students' ability to distinguish what kind of feedback they get.

The next hierarchy is chaining. This level is a more sophisticated type of learning in which the student learns how to join two or more previously acquired stimulus-response relationships into a connected sequence. This method of learning involves connecting previously taught Stimulus-Response. This form of learning frequently appears to happen so naturally that we are unaware of the sequence of events that lead to it (Maheshwari, 2013). Connecting to the context of undergraduate thesis writing supervision, a student can connect two or more feedbacks given by the supervisor(s)—regardless of the orderly occurrence of the feedback—to make sense of it and come up with arguments is an example of chaining. This skill could measure the students' ability to link between pieces of knowledge.

Concepting is the process by which the learner learns how to arrange learning in a systematic structure and stimulate deeper learning (Maheshwari, 2013). It is the process by which the learner learns how to produce consistent responses to varied stimuli. A contextual example for undergraduate thesis writing supervision would be the student's understanding that a particular concept, say, a persuasive paragraph, is not perfectly appropriate for an undergraduate thesis. This skill measures the students' strategy to learn and comprehend the feedback.

Penultimate to the hierarchy of intellectual skills is rule-using. Maheshwari (2013) explained that rule using (or rule learning) is the capability of comprehending two or more concepts and applying them to a particular situation whether it is new or old. Simply, it is how students can use a particular concept in a scenario without violating the rule of the concept. An example in undergraduate thesis writing, similar to the example provided in the previous paragraph, is when students can combine the concept of narrative paragraph and descriptive paragraph to explain how a phenomenon happened and the analysis of why that phenomenon occurred. This skill measures the students' ability to apply the pieces of knowledge they synthesized into the context they face.

Ultimately in this hierarchy of intellectual skills is problem-solving. In a simple explanation, problem-solving involves the process of inventing a complex rule by integrating multiple concepts and applying it to solve a particular problem and/or other problems of a similar nature (Gagne, 1970; Maheshwari, 2013). One obvious example in the context of undergraduate thesis writing supervision is when students received feedback from the supervisor(s) and then attempted to resolve it by using their intellectual skills. This skill measures the students' strategy to formulate a solution to solve the feedback.

All in all, the five intellectual skills aforementioned can be translated as the students' cognitive perception. It is how the students think about something based on the five intellectual skills.

2.4 Study of the Relevant Research

Studies carried out by many researchers have shown many results on students' perceptions of using Google Docs for writing (Alharbi, 2019; Alsubaie & Ashuraidah, 2017; Ebadi & Rahimi, 2017; Jeong, 2016; Mudawe, 2018). Alharbi (2019) researched a similar issue with the current study but focusing on (1) how Google Docs could innovate teaching and learning practice and (2) how the students view it. In his study, the participants were appreciating both feedback from the instructor as well as from their peers. They further added that feedback from an expert is important since they are experts in writing. But peer feedback is good as well since they can provide different perspectives. The participants in his study concluded that Google Docs is a preferable application for collaborative writing and editing—considering its features, potentials, and conveniences.

An almost identical to this study (Mudawe, 2018) also explored students' perceptions on the use of Google Docs for dissertation writing. In the study, the students perceived Google Docs as a tool that is easy to use, user-friendly, accessible, and has various features—very practical. They also added that the platform could minimize the time required to revise their work compared to face-to-face revision. In addition, they also argued that it surpasses the limitation of scheduled supervisory, which is good that they could interact out of office hours.

The students finally consolidated and agreed that Google Docs would provide benefits for collaborative writing.

Another study that explores the different perceptions of individual writing and collaborative writing using Google Docs has been carried out by Alsubaie and Ashuraidah (2017). The participants in their study pinpointed that they feel the same with any other studies in terms of Google Docs as a useful application for group work. However, the participants here perceived that they prefer individual work to collaborative work. They further added that they find it more comfortable working collaboratively inside the classroom. They also stated that it was because the teacher could not trace who worked less or more. However, the results of the study showed that students with collaborative writing still perform better compared to individual writing.

Survey results from Jeong's (2016) study about using Google Docs as collaborative writing in EFL writing instruction showed that most of the participants responded with a positive attitude. The participants claimed that they enjoy using Google Docs as an online writing system. They also added that Google Docs only require uploading files, no printing file is needed which is what they see as very convenient. The instantaneous feedback giving is what they see as an enjoyable experience. Meaning that they could get feedback from instructors as well as peers in no time. They concluded that Google Docs is an effective tool for online collaborative writing.

In this research, the perception being investigated is limited and adjusted to the cognitive theory of Conditions of Learning by Gagne (1970). The participants' intellectual skills, which include discriminating, chaining, concepting, rule-using, and problem-solving, towards the feedback they acquire from their supervisors will be studied deeply. Each category of Gagne's Conditions of Learning will be implemented as a measurement in order to obtain the participants' responses.