

**Online Feedback in a Visible Learning School:
An Investigation to Study the Effect of Online Feedback
during Online Sessions Conducted through Nearpod**

التغذية الراجعة عبر الانترنت في مدرسة تطبق التعليم المرئي:
دراسة استقصائية عن تأثير التغذية الراجعة عبر الانترنت خلال حصص الاونلاين
عبر تطبيق نيربود

by

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A dissertation submitted in partial fulfilment

of the requirements for the degree of

MASTER OF EDUCATION

at

The British University in Dubai

January 2022

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ACKNOWLEDGMENT

I would like to express my deepest sense of gratitude and appreciation to my dissertation supervisor, Dr. Emad Ayyash, for his time and effort as he helped me to accomplish this work. Also, I am really thankful for his invaluable guidance and coaching throughout writing this dissertation.

I would like to acknowledge and thank all of the staff in charge of the school, teachers and students who participated in my research.

ABSTRACT IN ENGLISH

Since feedback is one of the most significant elements that supports the learning process and online learning is a demand nowadays, the present study utilizes mixed methodology to investigate the effect of online feedback that is conducted through Nearpod during online sessions in one of the private schools in Sharjah, UAE that implements the visible learning principles. Classroom observations qualitatively collected the data about the characteristics of online feedback, which are summarized as being 1) immediate 2) frequent 3) able to increase the students' awareness of each other's mistakes 4) able to allow the students to think critically 5) balanced 6) able to foster equity and establish a sense of community 7) having 3 levels, which are task level, process level and self-regulatory level. Besides, a quasi-experiment quantitatively gathered data about the effectiveness of online feedback during online sessions, which was found very effective after comparing the pre-tests and post-tests data of both the control and experimental groups. The results were in agreement with the qualitative data collected from the teachers' semi-structured interviews.

ABSTRACT IN ARABIC

نظرا لأن التغذية الراجعة هي واحدة من أهم العناصر التي تدعم عملية التعلم والتعلم عبر الإنترنت هو مطلب في الوقت الحاضر ، فإن الدراسة الحالية تستخدم منهجية مختلطة للتحقيق في تأثير التغذية الراجعة عبر الإنترنت التي يتم إجراؤها من خلال جلسات عبر الإنترنت في إحدى المدارس الخاصة في الشارقة ، الإمارات العربية المتحدة التي تنفذ Nearpod خلال مبادئ التعلم المرئية. لقد تم استخدام الملاحظات الصفية كوسيلة لجمع البيانات حول خصائص التغذية الراجعة عبر الإنترنت ، والتي يتم تلخيصها على أنها: (1) فورية (2) متكررة (3) قادرة على زيادة وعي الطلاب بأخطاء بعضهم البعض (4) قادرة على السماح للطلاب بالتفكير النقدي (5) متوازنة (6) قادرة على تعزيز الإنصاف وتأسيس شعور بالمجتمع (7) أيضا وجود 3 مستويات للتغذية الراجعة، وهي مستوى المهمة ومستوى العملية ومستوى التنظيم الذاتي. إلى جانب ذلك ، أيضا لقد تم عمل شبه تجربة لجمع البيانات حول فعالية التعليقات عبر الإنترنت خلال الجلسات عبر الإنترنت ، والتي وجدت انها فعالة للغاية بعد مقارنة الاختبارات قبل و بعد التجربة.

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CHAPTER 1

INTRODUCTION

1.1 Background

Deng & Benckendorff (2020) declared that “The ongoing Covid-19 pandemic as a particular context has required quicker and higher education engagement with online approaches, especially for universities that were not already part of mass online learning”. Due to the spread of the global pandemic Covid-19, the educational authorities around the world and specifically in the United Arab Emirates have to turn into the online learning system to guarantee the continuity of the teaching and learning process across the country. Therefore, schools started to look for alternative online platforms that assist the teaching process to proceed through these times and one of these platforms is Nearpod that got widely used in the Emirati schools.

Since the beginning of the 21st century, there has been a flood of technology available to students. Technologies are changing very fast within a digitally resource-based world (Abrahams, 2010; Altbach, Reisberg, & Rumbley, 2009; Sarkar, 2012). Technology is not only becoming more significant but also more learners are becoming what is so-called net generation; young people who have grown up exposed to computer-based technology (Manuguerra & Petocz, 2011; Prensky, 2012). With the help of educational apps, BYOD (Bring Your Own Device) plays a great role in enhancing the learning experience of students in UAE as many schools allowed the students to use their own devices to facilitate the connectivity issue. BYOD provides a great interactive learning experience as it is associated with cloud-based technologies.

Nearpod is recognized as one of the most interactive cloud-based technologies (Delacruz, 2014). It is known as an e-learning multi-platform that enables students to communicate with each other as well as with the lecturer in real-time. Nearpod plays an effective role in motivating as well as engaging the students during the sessions. The features of Nearpod include interactive presentation software that gives the students immediate feedback on their performance.

1.2 Problem Statement

From a future-directed perspective, the world is progressively becoming more digitally resourced, so technology rapidly changes as well (Abrahams, 2010; Altbach, Reisberg, & Rumbley, 2009; Sarkar, 2012), therefore, new applications and programs are needed to match the expectations of this digital generation (Bradwell, 2009; Gosper, Malfroy, & McKenzie, 2013; Lai, 2011; McLoughlin & Luca, 2006). The United Nations Educational Scientific and Cultural Organization (UNESCO) (2020) asserted that online education should help students to build a trustful learning environment, gain an emotional identification sense that releases their competitive desire and above all should provide the students with timely and effective online feedback because it provides the learners with the sense of achievement and increases the authenticity of the virtual learning experience.

Thus, with the presence of online education, online feedback is an issue that is more critical than ever especially in the Emeriti context as the lack of this practice could result in the students' feeling of frustration, diminished self-efficacy and demotivation (Carless & Boud, 2018). Hence, online feedback is a significant component of the updated teaching and learning process that deserves to be studied. Consequently, this paper is dedicated to studying the online feedback that

is delivered through the online application Nearpod from different angles in the UAE context. As online feedback delivered through online platforms is somehow new to students, teachers, policymakers and school administrators. There is a persistent need to investigate this new topic as the current situation promotes all kinds of online communication tools.

1.3 Research Questions

The purpose of the study is to identify the effect of online feedback collected through Nearpod, in one of the schools that implements visible learning in Sharjah, UAE.

This study has been organized with the questions given as the following:

- What are the characteristics of online feedback conducted in a visible school through Nearpod?
- To what extent is the online feedback effective during the online sessions conducted through Nearpod?
- What is the effect of online feedback during online sessions conducted through Nearpod from the teachers' perspectives?

1.4 Significance of Study

The aim of this study is to contribute to the growing research area by exploring the characteristics and effectiveness of online feedback through the virtual platform Nearpod along with its effect from teachers' perspectives. First, although an enormous number of teachers around the world and specifically in UAE registered accounts on Nearpod, very little research has been dedicated to examining its effectiveness in classes (Delacruz, 2014). Generally, Nearpod and its benefit

have been recently discussed in the online education situation (Lyttle, 2018) and this caused a lack of its literature, which creates the need to run investigations around it. Moreover, although feedback was widely investigated by research, it was rarely mentioned in the literature on computer-supported education (Geister, Konradt & Hertel, 2006, p. 465). Therefore, this research is very significant as it discusses Nearpod application and its role in carrying out online feedback during the online sessions in the Emirati setting. Due to the novelty of online feedback through applications in educational institutes, more research is required internationally and nationally.

As the aforementioned, a huge number of research investigated feedback, however, online feedback is relatively new (Geister, Konradt & Hertel, 2006) in the global context as few countries started it before the pandemic while many other countries were compelled to implement it due to the circumstances of Covid-19. One of the main studies about feedback was carried out by Hattie (2007), in which a meta-analysis; which combined the results of 435 studies, $k = 994$, $N > 61,000$ of empirical research, was conducted to study the feedback effects, in traditional classes, on the learning process of students and this study expanded the Visible Learning research (Hattie and Timperley, 2007; Hattie, 2009; Hattie and Zierer, 2019). In general, the results of the meta-synthesis show that feedback has become the target of teaching practice and research. Previous research has already emphasized on different benefits of online feedback when it comes to assessments since it helps reduce plagiarism (Baker, Thornton, & Adams, 2008; Batane, 2010), permits instant marking and thereby decreases the workload done by administrative (Buckley & Cowap, 2013). Similarly, Gibbs and Simpson (2004) stated that feedback is important for learning progress, however, students' engagement is necessary for the success of the feedback process and this was and still is

an ongoing concern in education (Handley, Price, & Millar, 2011) and this concern did not disappear in the digital context.

The issue of covid-19 is being faced by the world for 2 years which has brought abrupt changes in the education system. To continue educational activities in the scenario of compulsory social distancing the utilization of technology has been increased. Different tools and techniques have been used to shift education online. Therefore, due to the novelty of the issue, the interest of the researchers has been raised exploring technological tools for education. However, in the past researches very few studies have been found discussing the role of Nearpod during the COVID-19 scenario and feedback of students.

Practically, this study will be very helpful for teachers to understand how Nearpod can play an effective role in conveying online feedback to students since giving written traditional feedback on every error used to be time-consuming. Furthermore, this research will alert policymakers and educational leaders on the importance of online applications and platforms like Nearpod for learning and giving online feedback in their educational institutions by shedding light on the areas of applicability of such technology. Also, it will assist curriculum designers to incorporate such digital resources while planning for new editions of school books. Therefore, this research is significant because of its novelty from both theoretical and practical implications nationally in UAE and internationally as well.

1.5 Organization of Thesis

The current paper consists of 5 chapters. The first chapter is an introduction that presents the study background, problem statement, research questions and study significance. While, the

second chapter reveals the study literature review as it includes many sections; which are the conceptual framework, theoretical framework and previous relevant researches. Chapter 3 elaborates the utilized methodology to collect data showing the method, instrument, sample and data analysis for the research questions. Chapter 4, which is 'finding and discussion' presents the results of the collected data of each research instrument. Finally, chapter 5 includes the study conclusion that summarizes the whole research process revealing the study recommendations, implementations and limitations

CHAPTER 2

LITERATURE REVIEW

This part of the study discusses the conceptual framework, the theoretical framework and relevant studies.

2.1 Conceptual Framework

The main concepts that will be defined in this part are online teaching, Nearpod, feedback, online feedback and visible learning.

2.1.1 Online Teaching

Online teaching, also called e-learning, is a different way of organizing teaching (Pardo, 2014). This type of education is currently provided by schools in UAE. It is designed so that those people who, for whatever reason, cannot attend face-to-face classes can receive training from home. However, the methodology used in this type of teaching does not differ much from that used in face-to-face classes, i.e., an innovative methodology is not taught, but it is very traditional since it only consists of the students studying on their own the manual that the teacher offers them (Pardo, 2014). E-learning has a great advantage, but it also has several disadvantages that can affect both the learner and the teacher (Pardo, 2014).

In terms of how to deliver distance learning, it is imperative that the teacher follows the following steps (Pardo, 2014):

1) To give a reference text that includes the content that is going to be taught during the course. This text can take different formats:

- a. A written document for students to refer to the different concepts.
- b. An outline or PowerPoint presentation outlining each of the sections of the lesson.
- c. A recording or a videoconference in which the subject matter is explained to the students.

In the case of videoconferencing, the lessons would be given in real-time.

2) The teacher will prepare some activities with the aim of deepening the content taught through the reference text. In addition, these exercises will demonstrate if the lessons have been understood and if the students are able to apply them in real life.

3) Both the knowledge acquired by the students and the methodology taught by the teacher must be evaluated. Therefore, the following methods will be used:

- a. The most appropriate way to assess the wisdom achieved by students is through a multiple-choice test, since in this type of test the time is limited, making it impossible to search for the answers. In addition, it should be considered that once a question has been answered, it should not be possible to go back to modify the answer.

The exam with developmental questions should be totally ruled out because of the ease of cheating that they entail.

- b. Once the course has finished, the students should have the opportunity to evaluate the teacher, the methodology used, the concepts taught, etc. It is also important that they highlight

everything that in their opinion did not work or could be improved, as well as highlighting the positive aspects of the course.

2.1.2 Nearpod

Nearpod is an online tool and a cloud-based application used to advance dynamic learning and student commitment in the classroom. It is an electronic, intuitive form of Microsoft PowerPoint or Google Slides. PowerPoint presentations or Google Slides effectively transfer into Nearpod, and the presentations are added with numerous intuitive exercises. “Nearpod” an invention so feasible is widely available with internet access it shifts amongst lecture/presentation mode, to individual and group work (Perez, 2017).



Figure 1. Nearpod Website Display

2.1.3 Feedback

Feedback is defined as “information that allows for comparison between an actual and a desired outcome” (Mory, 2003, p. 746). Hattie and Timperley (2007) explained that feedback refers to

the information given by an agent regarding aspects of one's understanding or performance. The teacher, who is the agent giving feedback, must not only be evaluative but must also redirect thinking and prompt learners to be evaluative and critical of their own work in hopes that they will improve and correct themselves. Carless and Boud (2018) also defined feedback as a formative process that guides learners through questioning, commenting, scaffolding and giving examples and models. In addition, Hattie and Timperley (2007) suggested a feedback model considering students as active agents and giving them the responsibility to construct information within the feedback process. Three questions lead this model from the students' perspective: What am I doing (Feed up)? How am I doing (Feedback)? What is my next step (Feedforward)?

2.1.4 Online Feedback

Ni Chang (2011) defined E-feedback (Electronic Feedback) mentioning that "it is characterized as comments and responses that an instructor provides to students' written assignments or learning activities submitted via the Internet in the assessment process. In our contemporary technologically-oriented society, the utilization of instant text messaging and omnipresent cell phones forms a habitual mindset that instant feedback is what students expect". Also, with the rise of information and communication technologies, the term e-feedback is utilized to refer to the feedback given through means as e-mail or any online teaching platform (Dysthe et al., 2010).

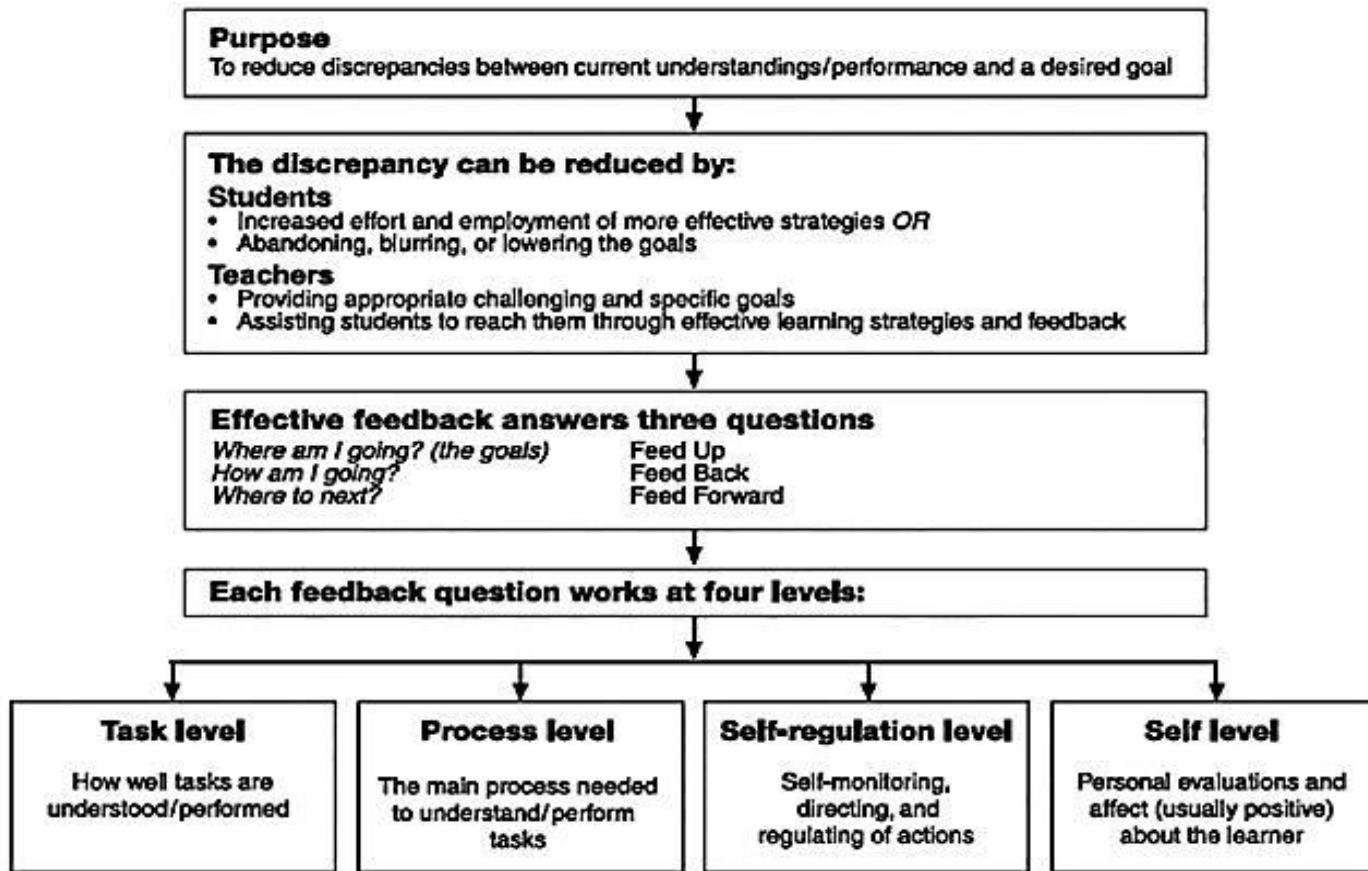
2.1.5 Visible Learning

Wisniewski B. et.al (2020) stated that “The Visible Learning research aimed to develop, present and defend a set of propositions and a story about not only the mean effects of many influences on student achievement but the variability of these means. As Hattie and Clarke (2018) have recently stated, a danger lies in over-simplifications, simply using average effect sizes, and ignoring the variability across many studies, influences, contexts, and moderators”.

Visible learning research is a meta-analysis (435 studies, $k = 994$, $N > 61,000$) that depends on empirical research about feedback impact on students’ learning process (Hattie and Timperley, 2007; Hattie, 2009; Hattie and Zierer, 2019). The results of this research show that feedback has a greater effect on motor and cognitive skills outcomes than on behavioral or motivational ones.

One of the main domains that visible learning research focused on is feedback and specifically effective feedback. According to Hattie and Timperley (2007), effective feedback must be driven by three questions posed by either a teacher or a student: What am I learning (What are my goals)? How am I doing (How am I doing while achieving the goals)? What is my next step (What is my next goal)? The feedback level is determined by the effectiveness of the responses to these questions as it bridges the gap between the student’s understanding and the task they are required to do.

Figure2: Hattie & Timperley (2007). A Model of Feedback to Enhance Learning



2.2 Theoretical Framework

The theories that underpin this study are Vygotsky’s Zone of Proximal Development (ZPD) and connectivism.

One of the theoretical frameworks that underpin this study is ‘Zone of Proximal Development,’ or ZPD proposed by Vygotsky (1978). It is mostly cited as “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers” (Vygotsky, 1978, p. 86). Feedback is one of the scaffolding processes

that ZPD focuses on. From Vygotsky's point of view, learning happens in a social context, when a student is helped by another more skillful student (Lindblom-Ylänne & Pihlajamäki, 2003). With the help of caring teachers, learners are motivated to acquire new concepts. Such a learning environment is considered emotionally supportive (Hall, 2002; Stipeck, Feiler, Byler, Ryan, & Salmon, 1998; Sheppard, 2008). This emotionally supportive classroom shortens the distance between the teacher and the learners, and then the teacher cultivates the learning positive effect, which contributes to learning mastery (Brookfield, 1987; Christophel, 1990, Hall, 2002; Pogue & Kimo, 2006).

Connectivism is another theory that is related to the study as it emphasizes the idea that knowledge is not limited to time or place. It asserts that today's learners have to develop their abilities by using the network and digital learning skills to widen their perspectives (Siemens 2005). Connectivism highlights that knowledge does not only abstractly exist in the human brain but also exists in the world around us (Dreamson, 2020). This explanation shows that knowledge is found in systems that individuals access to take part in specific activities. Researchers sometimes refer to connectivism as the "digital age learning theory" due to the way it explains the technology's impact on people and their learning and communication ways (Kergel, 2020). As such, this theory tries to transcend the classical learning ones; i.e. cognitivism, behaviorism and constructivism in order to be viewed as the "standard progression" of these theories (Jones, 2016). Actually, connectivism theory and the social constructivist theory seem to be similar since both of them provide interactive commutative learning environments (Ng, 2016). Connectivism focuses on digital learning through networks and resources variation (Asher Rospigliosi, Greener and University of Brighton, 2014). Nearpod is an online platform that is a part of these digital

resources. However, this theory was criticized claiming that it endangers the learning process because it reduces it and changes it to mindless “clicks” while looking for information (Morbiter J. et. al., 2014).

2.3 Literature Review

This part revolves around the relevant studies on online teaching, Nearpod, and online feedback.

2.3.1 Online teaching

There is indeed a debate about the traditional way of education such as schools, colleges, and universities where students physically attend classes or lectures and the online teaching and learning ways. However, the online education system is gaining popularity where students can attend their classes or lectures through the internet while sitting in their homes. The benefits of the online education system were seen and observed at a higher level when Covid-19 came in. Following that situation, the government authorities and higher education sectors decided to shift education into online mediums and platforms. By doing this, the responsibility of parents increased. Now they have to do multitask (Delacruz, 2014). During these months, instructors at each level tried methods and ways of teaching until they discovered their top choices. K-12 schools utilized collective Zoom classrooms for student commitment and learning (Burton, 2019). The utilization of these advancements is arising to be the main way out to proceed with the course of information conveyance without compromising in any way regarding the wellbeing of the youngsters (Tornwall et al., 2020). On the other hand, Fies and Marshall (2006) mentioned that it is not easy for some students to access online teaching because it is expensive and if

schools provide learners with gadgets, then instructors need to improve the students' educational experience.

2.3.2 Nearpod

Hamam (2021) stated that Nearpod is an effective online platform for teaching and learning because of the different kinds of templates and activities that this platform offers for free for teachers all over the world! It was found incredibly beneficial for online synchronous classes and valuable for learners' engagement (Burton, 2019). According to Lowry-Brock (2016), Nearpod was created to assist students to be active learners. He also found that Nearpod helped teachers design their lessons from scratch. Moreover, it is a flexible platform that allows teachers to shift from the presentation/lecture mode to individual and group work mode (Perez, 2017). Students can take part in the exercises with the devices they have (Dunbar, 2016) and they can clarify how they apply the learned information into their autonomous work. Other than expanding commitment, students were eager to attempt innovations that appear to further develop their delight and energy (Pemg and Lee, 2013). In another study, data showed that learners agreed that the Nearpod content is motivating and beneficial (S. Delacruz, 2014). J. Banitt et. al. (2013) declared that by using Nearpod, students are able to apply the learnt knowledge into individual independent outcomes and that this software is able to increase students' engagement and excitement since they are using new technologies. This point is supported by G. J. Hwang (2015), who stated that Nearpod assists teachers to adapt different activities to cater to the different needs and styles of the learners. He also mentioned that this platform generates a student-oriented learning environment since learners take ownership of participating in the classroom activities to develop their knowledge. Similarly, A. Simpson and Walsh (2014) considered that Nearpod is an

excellent interactive platform that gives purposeful outputs that result in learners' academic development. It is found useful for both teachers and students because of its attention-generating features (Beranek, et.al, 2014). In addition, it's also worth observing that learners can use Nearpod on their parents, or guardians' cellphones, making connection easier for learners who don't have access to Wi-fi or a computer at home (Buttrey, 2021). The involvement of parents in the educational system is very important to motivate and keep the children regular in such learning programs and make this program; Nearpod, effective and efficient for both educational institutes and students (Feri and Zulherman, 2021). According to Delacruz (2014), Nearpod has many beneficial features and one of them is the real-time results that appear after very timed activity. It shows the overall performance of the class because it reveals the correct answers, wrong answers and students, who did not participate in answering the questions. Unlike, the traditional way of assessing students as it consumes time to distribute, collect and grade papers and therefore, reduces efficacy.

As mentioned before, Nearpod was appraised by many studies, yet other studies mentioned its vices. Hakami (2020) agrees that the use of technology is advantageous, but at the same time, he declared that it might minimize the learners' attention and disrupt their learning if the devices are misused, especially, when utilizing them for activities unrelated to the content. Therefore, according to Mattei & Ennis (2014), students might consider technology as an entertainment program, rather than an educational tool. Fies and Marshall (2006) mentioned studies that praised the online response systems, such as clickers, since such programs increase students' engagement, but at the same time, other studies reported that by using such response systems, the embedded curriculum will lack rigor. In order to have a rigorous curriculum, teachers need to

incorporate the response systems with high order thinking skills, which is difficult because these programs may only have multi-option questions not only open-ended questions that promote high order thinking skills. Another challenge was mentioned by M. Sanmugam et. al. (2019) is the ability of students to register in Nearpod lessons using their nicknames with which they can stay anonymous while expressing their answers and opinions, and this might create unexpected or unrelated students' responses. They also stated that for a large class of students, it is difficult and time-consuming for the teacher to read, post and give feedback to every response given by the learners. Moreover, Rybak (2018) stated a worth taking note that students tend to skip topics when the teacher assigns a student-paced Nearpod presentation, some students might rush through the slides skipping videos to questions in order to finish the lesson very quickly. One last drawback of Nearpod is the lack of some features that an e-book normally possess like highlighting tools, dictionary or text-to-speech options (Delacruz, 2014).

2.3.3 Online Feedback

The Research investigated feedback and its effect on the learning process; however, online feedback is a relatively new area of online education research that needs more attention because of the recent shift in the teaching and learning methodology; from traditional face-to-face to distance learning.

Deennen et.al.(2015) Hong (2002), and Young and Norgard (2006) stated that feedback is more important in online context than in face-to-face teaching because it enhances the student-teacher and student-student interaction, and consequently compensates the physical gap and potential students' retention caused by online learning. Effective classroom online feedback needs to have

certain conditions: a) it has to be related to the learning objective and to be given immediately (Gaytan & McEwen, 2007; Wang et al., 2008; Wolsey, 2008); b) it must be offered continuously (Gibbs & Simpson, 2004; Nicol & Macfarlane-Dick, 2006; Nicol, 2009) ; c) it should focus on both product and process (Hattie & Timperly, 2007). The feedback will have more potential to promote learning if it applies the previous attributes (Hatziapostolou and Paraskakis, 2010). According to Hong (2002), the traditional way of giving and getting feedback may no longer be satisfactory as it does not fully meet the students' expectations unlike online feedback, which fastens the process and makes it more useful. Furthermore, Sorensen and Takle (2005) mentioned that in order to have a significant contribution to the asynchronous setting, teachers need to support the learners by using feedback sensitively to suit the different needs and styles of learners. Peat and Franklin (2002) stated that online feedback is individualized scaffolding mean and is highly needed for today's learners; therefore, a higher quality of feedback is expected. According to Ambler et al. (2014), the quality of online feedback is more targeted and therefore more effective. Effective feedback promotes students' learning by assisting them to construct concepts (Berge, 1995) and showing them their strengths and weaknesses (Hatziapostolou & Paraskakis, 2010) so they can meet the course objectives (Laurillard, 2002).

Furthermore, immediate online feedback is easily revealed to students because the results are usually shared on the classroom screen through a pie graph or bar chart. It helps both teachers and students to grasp some missed concepts about the lessons or correct misunderstood ideas so the teacher can reteach these concepts immediately (Chen, Whittinghill, & Kadlowec, 2010). If the feedback is not immediate and timely, it will lose its effectiveness because it will cause a delay in students' advancements in thinking and learning process (Fisher & Frey, 2013;

Hatziapostolou & Paraskakis, 2010). The immediate prompted feedback is placed at the top rank of the rationales that facilitate learning (Dennen's, 2006). In Piffell & Sibley, (2003) and in Song et. al.(2004) research, the students' perspective revealed that programmed feedback significantly increases students' ability to learn since it helps them understand the course materials.

Moreover, another advantage for online feedback or e-feedback in synchronous and asynchronous settings turns learners to be more proactive as they can ask for help when needed without relying on the teacher's initiative (Dysthe et al.,2010). Also, online feedback can be accessed by students and teachers at any time or place (Hast & Healy, 2018; Palmer, 2005; Timmis et al.; Turney et al., 2009) including the privacy and the comfort of their homes (Hast & Healy, 2018). Similarly, it permits repeated access of feedback compared to the one given in the face-to-face setting (Parkin et al., 2012). An additional favorable benefit of online feedback regarding student assessments is that it does not only help students by facilitating the submission and access processes (Ambler et al., 2014; Bridge & Appleyard, 2008; Hast & Healy, 2018), but also it helps teachers while monitoring, reducing plagiarism (Baker, Thornton, & Adams, 2008; Batane, 2010), and decreasing administrative workload (Buckley & Cowap, 2013). With all the mentioned above, online feedback has shown other advantages such as the legibility of online feedback that got improved because it is no longer handwritten (Bridge & Appleyard, 2005). Also, online feedback saves the cost of printing out the assignments (Bridge & Appleyard, 2008; Hast & Healy, 2016) and saves the time of proofreading (Hast & Healy, 2018). Finally, both the online work and feedback cannot be lost since they are stored online (Hast & Healy, 2018).

It is widely recognized that good teaching includes instructor-student feedback, and in online courses, feedback is given through different modes of interaction, *synchronous* and *asynchronous*

(Pyke & Sherlock, 2010). Technology has the potential to make it more effective, timely, and efficient, but must be thoughtfully applied (Fiock & Garcia, 2019).

Not all that glitters is gold, it is found that online feedback is advantageous yet it has not been considered positive all the time(cf. Selwyn, 2016). According to Hong, (2002), Young and Norgard, (2006), instructor feedback is not useful when delayed especially for students “Generation Y”, who are “technology savvy”. The engagement with online feedback depends on having the appropriate technological access since connectivity is sometimes a concern to some students as well as having technological literacy (Hast & Healy, 2016, 2018). Moreover, students’ motivation to get the online feedback was questioned by Mensink and King (2020), who stated that students are more engaged with feedback on hard copies rather than the online version. Also, the absence of face-to-face discussion may lead to misinterpretation of feedback because of the lack of the instant chance for clarification (Andrade, 2010; Hast & Healy, 2018; Hattie & Timperley, 2007), so it reduces discussion opportunities (Hattie & Timperley, 2007; McLoughlin & Luca, 2006). Another disadvantage for the delayed online feedback is that learners might access their feedback when the marker is not immediately accessible which leads to depersonalization, reduction of self-regulated learning (McCabe et al., 2011; Parkin et al., 2012), and decline in the efficacy of engagement (Hast, 2017). Finally, Johnson et. al. (2019) noted that although both traditional and online feedback is advantageous to students, yet online feedback is not more time-saving or simpler than hard copy feedback.

As more students engage in online distance learning, which includes both synchronous and asynchronous sessions, the presence of online feedback is more critical than ever. Some of the difficulties students face are due to isolation; they are unable to locate critical information or

course components or are simply unable to use them (CHED, 2020). This can result in feelings of frustration, diminished motivation, and diminished self-efficacy (Carless & Boud, 2018).

2.4 Summary

The global pandemic of COVID-19 has not only altered the lives of populations, it also changed the way teachers teach and the way students learn by hugely integrating technology in that process to bridge up the physical gap. That is why further research needs to be done on both international and national; UAE, contexts in order to investigate its impact on all aspects of teaching and learning.

CHAPTER 3

METHODOLOGY

3.1 Introduction

The aim of this study is to answer questions about the characteristics of online feedback, its effectiveness in context and its effect from teachers' perspectives. It consists of many parts that are related to the study methodology. It starts with a summary of the utilized methods in the study by displaying them in a table showing the method, instrument, sample and data analysis way for each of the three questions. Then, the research paradigm and the research design sections that illustrate the reason behind choosing the methods in order to answer the research questions. Also, there is a representation of study sampling and used instruments, which are observation, quasi-experiment and interviews. Lastly, the validity and reliability section reveals how each chosen instrument is valid and reliable in the study setting.

These questions were answered using a mixed methodology; quantitative and qualitative methods in order to understand any contradictions between qualitative findings and quantitative results as the mixed methods provide a voice to the participants of the study and their experiences. Accordingly, the first research question, which is about online feedback characteristics in a visible school, was investigated qualitatively by running classroom observations in a grade 3 class as this grade level is a middle stage between the stages of learning basic skills and mastering them. An observation checklist, designed by Brooks et al, (2019), was used during the online English classes' observations that lasted for 5 sessions and included 25 students. While, the second research question that is about the effectiveness extent of the online feedback was

answered quantitatively through a quasi-experiment involving 20 students from grade 3 as well: 10 of them were the control group that did not receive any treatment and the other 10 students were the experimental group that received the treatment, which is the online feedback during the writing sessions. Lastly, the third research question about the effect of online feedback during online sessions conducted through Nearpod from the teachers' perspectives was qualitatively answered to get the perception and experiences of 4 teachers in grade 3 section through semi-structured interviews.

3.2 Summary of Methods

Creswell (2014) declared that the second most significant part after the aims of the study is the research questions. The formation of the research questions is controlled by the study motivation, these questions are essential to structure the research methods, sample and instruments used to collect data along with its analysis (Creswell and Tashakkori, 2007). The following table shows an outline of the study method:

Study Questions	Method	Instrument	Sample	Data Analysis
QR1.What are the characteristics of online feedback conducted in a visible school through Nearpod?	Qualitative	Observation	Class of 25 of grade 3 students through 5 English sessions	A Matrix of Feedback for Learning (Brooks, et.al, 2019)

QR2. To what extent is the online feedback effective during the online sessions conducted through Nearpod?	Quantitative	Quasi-experiment	2 groups of 10 students from grade 3 sections	Pre-test and post-test analysis
QR3. What is the effect of online feedback during online sessions conducted through Nearpod from the teachers' perspectives?	Qualitative	Interviews	4 classroom teachers in grade3 section	Thematic analysis

Table 3: An Outline of the Study Methodology

3.3 Research Paradigm

Lincoln et al., (2011) identified paradigm as a philosophical set of beliefs, which is essential to guide the research activities and later mold the researcher’s worldview or perspective. The two terms ‘paradigm’ and ‘worldview’ are usually utilized synonymously (Creswell and Clark, 2017). Worldview is defined as “a way of thinking about and making sense of the complexities of the real world” (Patton, 2002, p.69). Furthermore, Walsh and Kaushik (2019, p. 1) declared that

“Each paradigm has a different perspective on the axiology, ontology, epistemology, and rhetoric of research”. It was found that the mixed-method research paradigm is related to ‘Pragmatism’ because this paradigm is a problem-oriented philosophy that encourages researchers to use any philosophical and methodological approach that serves their study (Tashakkori & Teddlie, 2003). Likewise, Walsh and Kaushik (2019, p.8) mentioned that mixed methodology pragmatism “connects the process of designing the research to the core research question and connects the design concerns to the choice of methods. Thus, research design plays a crucial role in bridging the gap between research questions and research methods”.

3.4 Research Design

To investigate and answer the previous research questions, it is found that mixed-method approach gives a comprehensive understanding of the characteristics and effectiveness of online feedback conducted through Nearpod. Mixed-methods research is defined as an “approach to an inquiry involving collecting both qualitative and quantitative data, integrating the two forms of data, and using distinct designs that may involve philosophical assumptions and theoretical frameworks” (Creswell 2014, p.32). Combining the elements of both quantitative and qualitative perspectives in data collection, analysis and techniques of inference strengthens and expands the study conclusions and consequently contributes to the existing literature. The first research question calls for a qualitative approach, which is observations, because the investigated area, which is about the characteristics of the online feedback through an online application, needs to be described in depth in a natural setting that naturally reveals the behavior of the participants and because of the directness of observations, data can be collected at the time of occurrence (Creswell 2009). Moving to the second research question that calls for a quantitative approach,

which is a quasi-experiment design and this approach is selected due to the need to collect data about the effectiveness of the online feedback that is delivered through Nearpod since it allows real-world interventions along with better control for confounding variables without randomization (Cook & Campbell, 1979). This increases the research validity. Lastly, the reason behind choosing the last research question approach is because interviews will qualitatively help to get the research subjects' opinions, experiences and in-depth data will be collected (McIntosh and Morse 2015).

Moreover, Cohen et al. (2005, p. 112) mentioned that mixed-method was called “methodological triangulation” and was described as “the techniques in the social sciences attempt to map out, or explain more fully, the richness and complexity of human behavior by studying it from more than one standpoint and, in so doing, by making use of both quantitative and qualitative data”. Actually, Creswell (2014) clarified the reason behind the widespread use and practice of mixed-method since using more than one method provides a remedy for prejudice as it validates the collected data unlike using only one method. Similarly, Cohen et al (2005) advocated the mixed-method by asserting that it increases the validity of data and eliminates any element of predisposition. Furthermore, using mixed-methods assists to give a qualitative deep detailed description of the phenomenon and quantitative analysis that clarifies the connection between empirical observation and mathematical processes.

3.5 Sampling

Purposive sampling is found to be the best choice that suits this study. Cohen et al. (2005, p.103) defined purposive sampling as when “researchers handpick the cases to be included in the sample

based on of their judgment of their typicality”. The main aim of the purposive sample is assumed to represent the study population focusing on their characteristics that relate to the research area of concern and interest and therefore help to answer the research questions (Lavrakas, 2008).

This research is carried out in a private school in Sharjah, UAE that teaches the American curriculum using Common Core Standards (CCSS). The population sample consists of students and teachers that belong to the same school and the same grade level, which is grade 3 and this specific grade level is chosen to be under the study lens because it is seen as a transitional stage between lower elementary and higher elementary. Students of this grade shift from acquiring and practicing basic skills into mastering them. Students of 3 classes that consist of 45 Emirati students got selected to participate in the study: several classroom observations were conducted in one class, which is 3A and it consists of 25 students, also, 20 students participated in the quasi-experiment; 10 students from 3B were chosen to be the control group and 10 students from 3C were selected to be the experimental group. The random sample of 20 ESL third graders, who will participate in the quasi-experiment, is of the same English proficiency level based on NWEA MAP Growth scale; which represents Measures of Academic Progress conducted by Northwest Evaluation Association. Furthermore, 4 English teachers will be interviewed to get their perspectives about the effectiveness of the online feedback delivered through Nearpod.

Researchers need to focus on the convenience and probability of the quantitative method sampling approach, while, in qualitative research, the focus would be on the individuals' selection and the settings to be either criterion-based selection or purposeful sampling. That is why the selected samples are chosen to be as similar as possible in order to avoid any validity issues and this will assist when measuring the independent variables and consequently will ensure

and generalize the results (Shadish et al., 2002). Also, it is important to limit the study variables; therefore, samples need to be homogenous belonging from the same demographic area and possessing similar demographic features (Bryman, 2006). As a result, the study sampling was chosen according to the students' degree of homogeneity of their English level; which means the students' level of academic achievement, English language proficiency and socioeconomic backgrounds.

School	Instrument	Class	Group	Number of Students
Private	Observation	3A	#	25 Students
School in Sharjah	Quasi-experiment	3B	Control Group	10 students
		3C	Experimental Group	10 students

Table 4: An Outline of the Study Participants

3.6 Research Instruments

This research uses a mixed methodology combining qualitative and quantitative data collection methods. The qualitative method consists of class observations and teachers' interviews, while the quantitative method is represented by a quasi-experiment.

3.6.1 Observation

The first research question, which is “What are the characteristics of online feedback conducted in a visible school through Nearpod?” will be answered qualitatively using classroom observations during 5 English writing classes occurring in grade 3. According to Creswell (2009), observation is the open-ended information gathering process of people and places in a research field. He also mentioned that classroom observation and record-keeping are very beneficial when studying unfamiliar issues that may cause trouble to any of the participants. In this study, the observational sheet used to collect data is called field notes, which is a qualitative descriptive way to record text (words) during an observation (Creswell, 2012), along with a checklist prepared according to Brooks, et.al (2019) matrix of feedback for learning to spot the feedback practices presence throughout the observed sessions (Check appendix 1). Observations are conducted during the teaching and learning time in 5 English classes to check the consistency of the feedback process given in class, which increases the validity of the data collected.

3.6.2 Quasi-experiment

A quasi-experimental design provides quantitative data using pre-tests and post-tests assigned to nonrandom participants and this eliminates the directionality problem because of the manipulation of the independent variable before the measurement of the dependent variable (Cook & Campbell, 1979). A quasi-experiment is used as a treatment evaluative tool to measure the effectiveness of the treatment or the intervention. In this study, some techniques were utilized to exclude the negative effect of irrelevant variables that might affect the study findings and lead to its unreliability (Green, 2006). Therefore, a demographic survey was done to choose the

sample recruited before commencing the experiment. Moreover, the pre-test and post-test question is an open-ended question that drives the students to use reasoning. To Hattie & Brown (2004), such kind of questions is the most appropriate way to integrate high-order thinking during assessments.

The second research question; which is “To what extent is the online feedback effective during the online sessions conducted through Nearpod?” will be answered through conducting a quasi-experiment on 2 groups in different sections (3B and 3C). Each group has 10 students, who nearly have the same English proficiency level according to NWEA MAP Growth scale. Both groups will go through a pre-test and a post-test design because the random assignment is not practical due to real-life constraints. This design will be used to compare the writing scores according to the writing rubric of students who experienced online feedback through Nearpod for several times to those who did not experience any online feedback through Nearpod.

3.6.3 Interview

The process of collecting data using interviews is an interactive practice that occurs between the researcher and participants in a period of time tackling the study purpose in order to answer questions related to the study problem (Merriam & Tisdell 2016). In addition, Vogt et al. (2014) mentioned that when the interviewee is provided with fewer direct questions, this will create a more reliable answer to the questions of the research and consequently will ensure clarification of the interview context. The semi-structured interview, which is also known as “standardized open-ended interview”, has been applied in the study. Questions of the interview are provided in appendix 2. According to McIntosh and Morse (2015), a semi-structured interview is a qualitative research method that is “designed to ascertain subjective responses from persons regarding a particular situation or phenomenon they have experienced”. It is a flexible approach that gives the

interviewees the chance to freely express their opinions without any restrictions (Marshall & Rossman 2011). In this study, 4 teachers in grade 3 section were randomly selected and they consented to take part in the interview.

Thematic analysis will be used to analyze the qualitative data gathered from the interviews. For Braun and Clark (2006), thematic analysis is considered a useful adaptable research instrument that assists the researcher to investigate the data methodically and extensively. Six basic steps will be outlined when conducting such analysis; 1) data will be collected 2) data will be familiarized with 3) codes will be extracted 4) codes will be categorized 5) themes will be conceptualized 6) findings will be contextualized and presented (Braun and Clark, 2006).

3.7 Validity and Reliability

Wiersma (2000) stated that the research instruments' validity and reliability were tested and verified to make sure that they are useful, appropriate and able to identify and evaluate the relevant data effectively. Validity is related to the study soundness (Loewen & Plonsky, 2016); which examines the accuracy degree of the study results when it comes to answering the study questions. While reliability is seen as validity prerequisite but does not necessarily ensure it. Data triangulation, which is using more than two data-based methods, makes the research findings easier to be visualized and consequently increases their credibility and accuracy (Creswell, 2014). This study deploys both qualitative and quantitative methods, and their instruments, which are observations, quasi-experiment and interviews will support the data measurements and as a result will validate the research results and emphasize the research outcomes' reliability (Best & Khan 2006). Starting with the validity and reliability of observation, the sessions were repeatedly observed using the same matrix to ensure that the collected data is precise, lacking systematic

errors and the results are repetitive. While the validity and reliability of the quasi-experiment are represented by choosing non-random samples by conducting the demographic survey excluded the negative effect of irrelevant variables and specifying the treatment for only one group increased the external validity. Lastly, the semi-structured interview validity and reliability are driven by the choice of a few questions so that participants can elaborate further and the choice of interviewees, who repeatedly went through the experience of giving online feedback through online applications.

3.8 Ethical Considerations

To protect the research participants' privacy and confidentiality, it is essential to have ethical liability measures. Hence, this study takes into consideration the ethical issues regarding enhancing integrity when it comes to participants' protection before starting any data collection (Creswell, 2014). Ethical fairness and responsibility have an effective role to increase the respect relationship between the researcher and the participants, also it helps to avoid any kind of mistakes or misinterpretations throughout the data collection process (Khan, 2016). Furthermore, having ethical liability in educational research assists to prevent plagiarism and data imitations through giving adequate information and agreements (Fendler, 2016).

The study is following the British University in Dubai (BUID) guidelines of ethical structure. An ethical form, which is presented by an approval letter from BUID, was obtained to initiate data collection from the selected site. This form helps to determine the researcher's responsibility level towards ethical obligations. Moreover, a consent letter was signed by the private school principal, where the study took place in. This approval is granted to do several class observations

and teachers' interviews in grade 3 section. Therefore, personal details of students and teachers are kept anonymous in the study.

3.9 Summary

In conclusion, this chapter focuses on the methodology used in the study. First, the participating population is 45 students from grade 3. 25 students are involved in the classroom observations and 20 students are the participants of the quasi-experiment. Second, a demographic analysis is done for the population. Third, data triangulation is implemented by using different instruments: classroom observations, pre-test and post-test and teachers' interviews. Using these instruments will provide a complete answer to the research questions about the online feedback effectiveness during the online sessions conducted through Nearpod.

Chapter 4

Findings and Discussions

4.1 Classroom Observation

4.1.1 Findings

After taking the school administration permission, classroom observations were accomplished in 3A, which is an online class, for 5 sessions; each session is 45 minutes, to check the characteristics of feedback in terms of its types and levels according to Brooks et al, (2019) feedback matrix. A checklist was used to track the instances when feedback occurred to determine its level and type in the online sessions using Nearpod.

It is worth mentioning that along with the online platform Nearpod, another web conferencing tool was utilized in the online learning context, which is Microsoft Teams that is a Learning Management System (LMS). Microsoft Teams is an online system that synchronously connects students from their homes with teachers. For additional support to the results of observations, access was given to Microsoft Teams, and screenshots of the teacher and students' interactions were captured and gathered.

Based on Brooks et al, (2019) feedback matrix, a tracking observational checklist was utilized to answer the first research question, which is “What are the characteristics of online feedback conducted in a visible school through Nearpod?”. There are 4 significant feedback levels to determine the feedback effectiveness through several sessions. These feedback levels are task, process, self-regulation, and self-level. First, feedback can be related to a product or a task, with

which the teacher can inspect students’ tasks and check if they are on or off the task and if their work matches the lesson success criteria. Second, feedback at the process level refers to the task or product completion by concentrating on students’ ideas, thinking, skills and strategies. Lastly, the third and fourth levels of feedback, which are self-regulatory and self-level, are interrelated, so they are integrated at the last part of the checklist. The last part focuses on students’ feedback or in other words, students’ self-evaluation using success criteria and rubrics.

Observation Checklist

Feedback “How am I going?”		Sessions				
		1	2	3	4	5
Task Level	Teacher checks if students are on or off track.	√	√	√	√	√
	Teacher checks the students’ drafts or rough copies.	√	√	√	√	√
	Teacher checks if students’ work matches teacher’s criteria.	√	√	√	√	√
Process Level	Teacher relates to students’ ideas.	√		√		√
	Teacher relates to students’ thinking.	√	√			√
	Teacher relates to students’ skills.	√	√		√	√
	Teacher relates to students’ strategies.	√	√	√		√
Self-regulation	Teacher allows students to discuss how they felt they are going.	√		√		

Level	Teacher allows students to discuss their work using a rubric.	√			√	
	Teacher allows students to discuss progress (successes & needs) in relation to success criteria.	√				√

Table 5: The observational Checklist

Based on the classroom observations checklist, the study’s main focus was on the online feedback characteristics or features through Nearpod on different levels, task, process, and self-regulatory levels.

4.1.2 Task Level

Through several online sessions, the task level was highly observed. The teacher had all the students’ answers to the questions and tasks displayed in front of her on her computer screen all the time. Nearpod enabled the teacher to check all students’ responses on the spot and with an additional advantage, which is revealing students’ names and giving the teacher the opportunity to address all the students according to their performances. This website permitted the teacher to spot the students, who are on and off the task, and gave participation percentages as shown in the appendix (5). Furthermore, the teacher was praising the students who completed the tasks and was kept encouraging the students who got stuck by giving them extra suggestions and resources to assist them to deliver the tasks. Also, the teacher was able to see all the students’ drafts and hard copies and she was able to give individual comments on the product submitted by students.

Therefore, this type of task feedback was individualized and prominent since it was observed in all the sessions. It helped the students to improve their performance along with the content mastery according to the lesson's success criteria.

Nearpod provided many features that boasted the feedback process. Nearpod features represented by the different activities like the draw it, matching, open-ended questions, and poll activities gave the teacher the chance to see the percentage rates of students and their responses, which caused a whole class interaction with the teacher and therefore encouraged all the students to participate even if they are giving wrong answers in order to get instant feedback for their replies. Learners were seeking and receiving instant feedback and they were focusing on the learning task at hand. Therefore, there was a sense of equity since all the students had nearly equal chances to get their answers reviewed and corrected either by the website or by the teacher. Nearpod assisted the teacher to provide immediate frequent feedback to enhance the students' learning outcomes.

Moreover, it was observed that the teacher had the privilege to share his screen, which is the Nearpod dashboard with the students. The dashboard shows all students' results and participation. This gave a task immediate feedback that led the students to compete with each other, so they got more motivated to complete their tasks.

Consequently, it was found that the most frequent level of online feedback observed through Nearpod was the task level compared to the other levels of online feedback.

4.1.3 Process Level

The second level of online feedback observed was the process level and it was less dominant in the online sessions. The process level focused on the students' accomplishments and needs. The

teacher informed the students about their progress and how to proceed. According to Hattie & Timperley (2007), the best kind of feedback is the one that informs learners about their progress.

The process level was related to the task level but it involved the students' ideas, thinking, skills and strategies to complete a task. This level of feedback concentrated on students' errors and how to correct their errors. During the English sessions, the teacher checked students' answers, and highlighted their mistakes and errors and draw students' attention to how to correct them. In fact, Nearpod had a feature that enabled students to edit their work even after submission. So, learners reply to teacher questions, the teacher gives feedback upon their answers, then students redeem their answers and they were able to fix their answers. Teacher feedback was obvious in many sessions either about students' ideas, skills or strategies; however, it was not evident in all the sessions or that might be because of lack of time, as the teacher could not give individual oral feedback to all displayed answers on Nearpod dashboard.

It was found that the teacher was not all the time able to provide process feedback to all students' prompts; however, the teacher was able to spot students' needs. When many students were not able to correctly respond to an inquiry after the teaching time, thus, the teacher could easily discover the missing and the misunderstood points because all the answers are displayed on her dashboard, so she provided more scaffolding activities with more process-level feedback to recap these missing concepts. Moreover, process feedback that provided individual personalized oral messages included information about students' progress toward the lessons' goal. Such messages proposed suggested new actions and steps that students can follow to improve their performance till they reach the expected standard. Therefore, the process level feedback closed the learning gap as much as possible between the learners' performance and the lesson objectives.

The online process level feedback that was provided through Nearpod supported the teaching and learning process because it positively affected the learning outcome of most students in the observed sessions. The students were more focused on the desired tasks especially when they received balanced, immediate, and frequent feedback that resulted in better outputs in relation to the lessons' objectives and success criteria. Moreover, it helped to point out the students' areas of improvement as the teacher used to pinpoint these areas in front of the entire class so learners would become more careful of such possible errors. Consequently, this kind of feedback did not only provide praise to student' successes but also revealed the students' needs and points of improvement, and as a result the learning output was in general enhanced.

4.1.4 Self-regulation Level

This feedback level helped to support the learners in monitoring, directing, and regulating their actions upon the learning objectives. It included the students' ability to give internal feedback to self-assess them. Self-regulation feedback did not involve task-related information as much as it involved students' self-efficacy expressions. It is considered personal feedback. It permitted students to express how they felt towards the task and how they are going and doing. In other words, students were supposed to monitor their work and reflect on their learning. Moreover, it allowed learners to discuss their work using rubrics and progress; successes and needs, using success criteria.

It was observed that self-regulation feedback was the least kind found through the online sessions. As students were sometimes asked to reflect upon their work or evaluate their outcomes to rubrics or success criteria. The teacher rarely gave the student's the chance to discuss their

outcomes in relation to a scoring rubric. The teacher indeed kept praising students by saying “Good job” and “Excellent work”, but this kind of self-level feedback is considered the weakest kind as it was uninformative about the task performance and did not increase students’ engagement.

Learner Stage	Feedback Level	Feeding Back: How am I going?
Novice	Task	<p>Feedback Prompts :</p> <ul style="list-style-type: none"> <input type="checkbox"/> You <i>have/haven't</i> met the learning intention by... <input type="checkbox"/> You <i>have/haven't</i> met the success criteria by... <input type="checkbox"/> Your answer/work is/isn't what we are looking for because... <p>Feedback Strategies</p> <ul style="list-style-type: none"> <input type="checkbox"/> Avoid over emphasis of error analysis <input type="checkbox"/> Feedback must be immediate <input type="checkbox"/> Match feedback to success criteria
	Process	<p>Feedback Prompts :</p> <ul style="list-style-type: none"> <input type="checkbox"/> Your understanding of the ideas/concepts within this task is... <input type="checkbox"/> Your thinking about this task is... <input type="checkbox"/> You demonstrated _____ skills to a ____ level. <input type="checkbox"/> You used _____ strategies to a ____ level. <p>Feedback Strategies</p> <ul style="list-style-type: none"> <input type="checkbox"/> Feedback amount can start to increase <input type="checkbox"/> Feedback complexity can increase <input type="checkbox"/> Use prompts or cues
	Self-Regulatory	<p>Feedback Prompts :</p> <ul style="list-style-type: none"> <input type="checkbox"/> Are you on track with your work? <input type="checkbox"/> How do you know? <input type="checkbox"/> To which level are you satisfying the success criteria? <input type="checkbox"/> Are you on track to achieving your goal? <input type="checkbox"/> How do you know? <p>Feedback Strategies :</p> <ul style="list-style-type: none"> <input type="checkbox"/> Delay feedback <input type="checkbox"/> May only require verification feedback

Table 6: Brooks et al, (2019) Feedback Matrix for Learning

4.1.5 Discussion

In this study, the first instrument that was used to answer the research question “What are the characteristics of online feedback conducted in a visible school through Nearpod?” was classroom observation. Therefore, 5 online classes in a private school in Sharjah that follows the visible learning principles were observed by using a checklist to track the online feedback that happened in the classroom and to discover what the characteristics of the given feedback are and which level of feedback is more dominant in the online classes.

There were many characteristics of the online feedback that were observed through the online sessions. First, the feedback was immediate since all the students’ replies were displayed on the Nearpod dashboard so the teacher could easily find the students who were on track and the students who were not. Second, the online feedback was frequent as the teacher was able to communicate with the students all the time especially when they were answering correctly and when they were not. Third, the online feedback given increased the students’ awareness of each other’s mistakes so they tried to avoid such errors. Also, it gave the students an opportunity to think critically specifically when the teacher used to prompt the students to come up with alternative strategies to solve the questions. Finally, the given feedback was balanced as the teacher had the chance to track the work and the progress of all the students through the sessions as fostering equity and establishing a sense of community.

Furthermore, through using the observational checklist designed by Brooks, et al. (2019), 3 levels of feedback were identified, which are task, process, and self-regulation. Starting with the task level of feedback, it concentrated on the tasks and work performed by the students as it drew the learners’ attention whether they met the lessons’ learning intentions and success criteria or not.

Second, the feedback process level targeted the students' ideas, concepts, thinking, skills, and strategies. On this level, the teacher used to celebrate the students who had a good outcome and prompt the students to change their strategies when they were not able to accomplish the tasks. Lastly, the self-regulatory level feedback supported learners when monitoring, directing, and regulating their actions concerning their learning as it included students' reflections towards their work along with the teacher discussion of the scoring rubric and praise of the learners' output.

After observing the classes, it was found that the task feedback was the most dominant level in the online classes due to the teacher's constant efforts to provide suggestions to the students so they can improve their performance and their content mastery. On the other hand, the feedback process level came on the second place as fewer instances of such feedback occurred through the online session because this kind of feedback takes time, and the session timings did not give the teacher the chance to give individual suggestions upon their work and general comments were given instead. While for the self-regulatory feedback was the least observed level compared to the task and process level where the teacher discussed and gave the students the chance to discuss their work in relation to the scoring rubric and gave time for students' reflections. It was found that self-regulatory feedback was infrequently used because students used to be receivers of feedback instead of being givers of feedback (Locke & Latham, 1990).

4.2 Quasi-experiment

A quasi-experiment was the second instrument utilized to quantitatively answer the second research question which is "to what extent is the online feedback effective during the online

sessions conducted through Nearpod”. A quasi-experimental design, which contains a pre-test, a post-test, and a paired t test was adopted to examine the online feedback effectiveness at two points of time. A quasi-experiment is used as a treatment evaluative tool to measure the effectiveness of the treatment or the intervention. The pre-test and the paired-samples t test were utilized to analyze the pre-test and post-test means, while the unpaired samples t test was used for analyzing the means of both the pre-test and the post-test in order to compare the score gained by the two groups (Seliger & Shohamy, 2008). Before starting the quasi-experiment, a demographic survey was done to choose the sample recruited.

4.2.1 Data Collection Procedure

The main purpose of using a quasi-experiment is to examine the effect of online feedback through Nearpod and check its impact on students’ outcomes; in other words, this instrument intends to see the extent to which oral online feedback through Nearpod can influence learners’ performance in their writing and whether it can enhance their writing skills or not. With this goal in mind, permissions were obtained from the school administration; the chosen classes were informed and acquainted 20 Emirati students with the study purpose. Besides, the study was held with the presence of all students within the official school hours. The experiment timeline took 4 weeks of 3 sessions weekly. The writing topic was chosen according to grade 3 CCSS (California Common Core Standards) and students’ writing pieces were checked before and after the experiment with the same writing rubric to examine the effect of online feedback given through Nearpod.

4.2.2 Procedure

The quasi-experiment was conducted on 2 groups in different sections (3B and 3C). Each group has 10 third grade students, who nearly have the same English proficiency level according to the NWEA MAP Growth scale. This design was used to compare the writing scores according to the writing rubric of students who experienced online feedback through Nearpod several times to those who did not experience any online feedback through Nearpod. The students were asked to write informational paragraphs in the pre-test and post-test. Moreover, the pre-test and post-test questions were open-ended questions that drove the students to use reasoning and show their writing skills and abilities. The pre-test was held in the first week of the experiment in which students had to write an informational paragraph about penguins. The same pre-test was assigned for both classes 3B and 3C and then students' paragraphs were checked and graded using the writing rubric shown below. Later, the teacher gave instructional sessions throughout 2 weeks, in which she gave oral online feedback, which was the treatment of the quasi-experiment, to 3C students only. Therefore, 3B students were considered the control group, which did not receive any kind of treatment, while students of 3C were considered the experimental group that got online feedback for 2 weeks to examine the effectiveness of such online feedback through Nearpod. Then, after one week a post-test was held. Students were asked to write another informational paragraph about penguins again. Then, the teacher checked and graded the students' paragraphs using the same writing rubric for both groups; the control and the experimental ones.

No	Week	Details
1	Week 1	Pre-test
2	Week 2&3	Treatment “Online feedback through Nearpod”
3	Week 4	Post-test

Table 7: Experimental Research Implementation

Writing rubric

The writing rubric was frequently utilized through the quasi-experiment. Students’ paragraphs were checked and graded using this rubric focusing on the writing of topic sentences, details, concluding sentences, mechanism, grammar, and spelling. The writing rubric scale is out of 10. To increase the study reliability, the students’ paragraphs were checked by both the teacher and study researcher to mark the writing errors, grade the pieces according to the writing rubric and guarantee the checking consistency.

Writing Rubric	½ Point	1 Point	2 Points	Total
Topic Sentence	Topic sentence is unclear or not well-placed.	The topic sentence is almost clear.	Topic sentence is clear and well-placed.	
Supporting Sentences/Details	One detail is included that is related back to the topic.	Two details are included. Sentences are clear, and related back to the topic.	Three details or more are included. Sentences are clear, and related back to the topic.	
Concluding Sentence	There is no concluding sentence.	The concluding sentence is not clear.	A concluding sentence is clear and well placed.	
Mechanics and Grammar	There are many mistakes in punctuation, capitalization and grammar.	There are few mistakes in punctuation, capitalization and grammar.	Punctuation, capitalization, transitional words and grammar are correct.	
Spelling	Many spelling mistakes were found.	Few spelling mistakes were found.	Spelling mistakes were not found.	
Total Score				/10

Table 8: Grade 3 Informational Writing Rubric

4.2.3 Treatment

After running the pre-test and getting the writing pieces of all the students in week 1 sessions, the teacher started to run treatment in week 2 and 3 sessions, in which she gave online oral feedback to 3C students. During these sessions writing mistakes and errors were discussed. The teacher explained the guidelines of writing a paragraph by highlighting the common grammatical, spelling, and punctuation errors. This intervention intended to make the students notice and compare the mismatches between the writing mistakes and the received feedback. The treatment or the oral online feedback is supposed to provide scaffolding that targets improving the students writing skills and reducing their writing errors and mistakes.

4.2.4 The pre-test results

The pre-test grades were used as diagnostic grades to check the students' level of writing and later used to track the students' output: The following table shows the writing grades of 3B students; the control group :

Participant No.	Control Group
3B / 1	6
3B / 2	5
3B / 3	7
3B / 4	6
3B / 5	7
3B / 6	8
3B / 7	6
3B / 8	5
3B / 9	5
3B / 10	7
Mean	6.20
Participant No.	Experimental Group
3C / 1	7
3C / 2	5
3C / 3	8
3C / 4	7

3C / 5	5
3C / 6	6
3C / 7	6
3C / 8	6
3C / 9	7
3C / 10	5
Mean	6.20

Table 9: 3B & 3C Pre-test Results

The table above reveals that both groups' performance levels were similar prior to the intervention as both the control and experimental groups' mean scores are in the same range as follows in respective (m=6.20; SD=1.03) and (m=6.20; SD=1.033). With validity issues in mind, it's clear that the researcher began the experiment by selecting samples that were as similar as possible to ensure and generalize results in order to evaluate the independent variable. Furthermore, due to the students' equal English proficiency and English language level homogeneity, the two classes were the most appropriate subjects for this research, so variables incorporated into the study were limited.

4.2.5 The post-test results

After conducting the pre-test for both control and experimental groups, treatment was given only to the experimental group; which is 3C. The treatment or the intervention given was represented

by online sessions, in which oral online feedback focused on students' errors and mistakes. The following tables show the post-test results.

Participant No.	Control Group
3B / 1	6
3B / 2	6
3B / 3	6
3B / 4	5
3B / 5	7
3B / 6	7
3B / 7	5
3B / 8	6
3B / 9	5
3B / 10	7
Mean	6.00
Participant No.	Experimental Group
3C / 1	8
3C / 2	7
3C / 3	9
3C / 4	8
3C / 5	7
3C / 6	7

3C / 7	8
3C / 8	7
3C / 9	9
3C / 10	7
Mean	7.80

Table 10: 3B & 3C Post-test Results

The difference in averages between the means of the experimental group in the pre- and post-test suggests a significant change in the students' performance after receiving the intervention, as shown in the table above. Consequently, it is noteworthy to focus on the positive correlation between the intervention, which is the online feedback in English sessions, and its remarkable impact on learners' performance in writing.

4.2.6 The Control Group's Performance in the Pre-test and Post-test

The following table focuses on the results of 3B, which belong to the control group writing grades; the group that did not receive any kind of treatment or the online feedback intervention. It shows the difference in students' pre-test and post-test grades by highlighting the gains of each student.

Participant No.	Pre-Test Data	Post-Test Data	Gains
3B / 1	6	6	+0
3B / 2	5	6	+1
3B / 3	7	6	-1

3B / 4	6	5	-1
3B / 5	7	7	+0
3B / 6	8	7	-1
3B / 7	6	5	-1
3B / 8	5	6	+1
3B / 9	5	5	+0
3B / 10	7	7	+0
Mean	6.20	6.00	-0.20
Standard deviation	1.03	0.816	0.789

Table 11: 3B Results in the Pre-test and Post-test

The table above reveals that the difference in means between the pre-test and the post-test scores of the control group is slightly minor; just 0.20. While the standard deviation calculated in the table indicates that the difference in students' scores got reduced from 1.30 in the pre-test to 0.816 in the post-test. This means that students in 4B, which is the control group, have a similar understanding of the content and similar writing abilities and since they did not receive any kind of intervention; online feedback through the platform Nearpod, their results in the post-test are similar to the pre-test.

4.2.7 The Experimental Group's Performance in the Pre-test and Post-test

The following table focuses on the results of 3C, which belong to the experimental group that received the treatment or the online feedback intervention. It shows the difference in students' pre-test and post-test grades by highlighting the gains of each student.

Participant No.	Pre-Test Data	Post-Test Data	Gains
3C/1	7	9	+2
3C/2	5	7	+2
3C/3	8	9	+1
3C/4	7	8	+1
3C/5	5	7	+2
3C/6	6	7	+1
3C/7	6	8	+2
3C/8	6	7	+1
3C/9	7	9	+2
3C/10	5	7	+2
Mean	6.20	7.80	1.60
Standard deviation	1.033	0.919	0.516

Table 12: 3C Results in the Pre-test and Post-test

The table above reveals a lot. First, there is an increment in the mean between the pre-test and the post-test by 1.60 for the students in the experimental group. The reason behind the scores' improvement is due to the treatment given to students of the experimental group or 3C. Moreover, the standard deviation indicates that the difference between students reduced from 1.033 in the pre-test to 0.919 in the post-test after getting the intervention, which means that scores of students in this group got enhanced since the means scores are as follows

($m=6.20;SD=1.033$) and ($m=7.80;SD=0.919$) respectively for both the control and experimental groups. The results ensure the intervention effect validity, as all the variables were controlled since the experimental group only received the oral online feedback through Nearpod. It is worth noting the difference in mean between the scores of the pre-test and post-test of the control group which is (-0.20), and the mean of the pre-test and post-test of the experimental group that escalates to reach (1.60).

4.2.8 Data Analysis

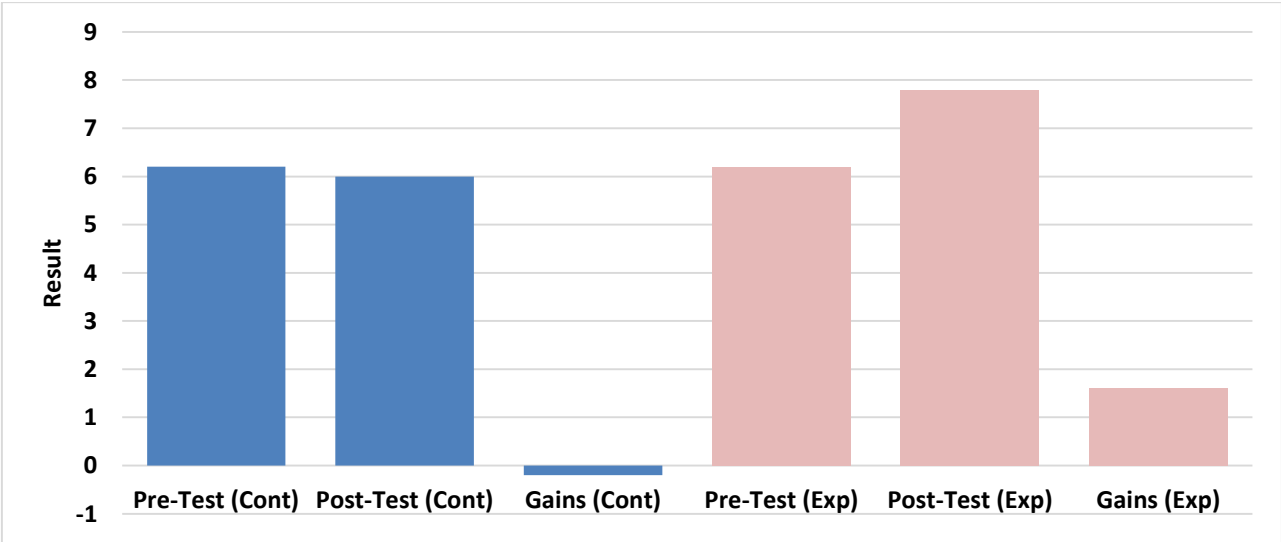


Figure 13: The Difference in Means Before and After the Intervention

From the graph above, it is clearly shown that the experimental group outperformed the control group in the post-test because of the effect of the intervention that was given to the experimental group. Besides, a paired sample *t*-test is conducted by utilizing the experimental group marks in order to test if the scores difference is significant or not.

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Pre-Test_Con - Post-Test_Con	.200	.789	.249	-.364	.764	.802	9	.443
Pair 2 Pre-Test_Exp - Post-Test_Exp	-1.600	.516	.163	-1.969	-1.231	-9.798	9	.000

Table 14: Paired Samples Test

In this table, an inferential statistical analysis is represented by 2 paired T-tests to identify if there is any significant difference in students’ performance between the control and the experimental groups. The results show that the P-value of the control group is equal to $0.443 > \text{Alpha } 0.05$. This means that there is no significant difference in the students’ performance between the pre-test to post-test. Therefore, it is concluded that treatment or intervention did not occur to this group of students. On the other hand, the P-value of the experimental group is equal to $0.000 < \text{Alpha } 0.05$. This means that there is a noteworthy difference in the students’ performance between the pre-test to post-test scores. Therefore, the increment of the experimental group scores proves the advancement that happened to the students’ performance while writing paragraphs in the post-test.

4.2.9 Discussion

Through reading the results of the quasi-experiment, it was found that the treatment applied to the experimental group positively affected the students’ outcomes. Therefore, the online feedback

applied via the online website Nearpod increased the students' ability to write better. This was evidently reached by the score increment that happened in the post-test results. Hence, it was found that the online feedback enhanced the writing quality of students and this was measured by the writing rubric. The results showed progress in the experimental group performance while writing informational paragraphs, unlike the output of the control group that did not receive any feedback. This group barely showed any progress as the students' scores remained approximately the same. Therefore, the treatment utilized; which is oral online feedback, reinforced appropriate writing efforts and corrected inappropriate ones.

The result of the quasi-experiment about online feedback is consistent with previous research about feedback that concluded that it effectively improves the writing level of accuracy e.g. Bitchener, Young & Cameron 2005; Bitchener 2008; Bitchener & Knoch 2008, 2010; van Beuningen, Jong & Kuiken 2012). Furthermore, Ferris (2004, p. 50) mentioned "If correction is important for learning, then the former students should be better writers, on the average, than the latter". This emphasized the idea that states that getting feedback corrects students' errors and enhances students' ability to write paragraphs to a big extent especially if the feedback is instantly given as in the experiment scenario. The quasi-experiment also showed the comparison between students who received online feedback and those who did not. The findings showed that online corrective feedback improved the writing skills of students. After getting the treatment or the corrective online feedback, students were more able to write proper topic, supporting and concluding sentences in the post-test avoiding the previously committed grammatical, spelling and punctuation errors. Consequently, the post-test results demonstrated significant improvement in learners' writing output. Moreover, According to Robins et al. (1997), students regard

corrective feedback as essential to a positive learning environment. The information offered to learners for encouraging right behavior and correcting improper behavior is referred to as useful feedback. Feedback is an important element of the educational process that is frequently overlooked.

4.3 Interviews

Interviews were conducted with teachers to answer the third research question, which is about the effect of online feedback during online sessions conducted through Nearpod from teachers' perspectives. This instrument was used to get in-depth information about the teachers' opinions, experiences, and behavior about the topic. Hence, semi-structured interviews were utilized and interviewees were provided with fewer direct questions that created more reliable answers to the questions of the research and consequently ensured clarification of the interview context. Therefore, 4 teachers in grade 3 section, who went through the experience of teaching online using Nearpod platform, were randomly selected and they consented (Appendix 4) to take part in the interview. Each interview lasted for approximately 20 minutes and interviewees were expected to talk freely about their experiences, with the researcher interjecting with prompting ideas to steer the topic toward the study subject. 4 questions were posed to the interviewed teachers with some probing questions like 'how come?', 'tell me more' and 'What do you mean?'

After conducting the interviews, qualitative thematic analysis was performed and teachers' responses were analyzed into themes and codes. This deductive thematic approach was used to highlight the effect of the online feedback through Nearpod in online sessions. Interviews data were coded to identify the teachers' answers similarities and differences. Due to the lack of a

standard layout for qualitative research transcription, the analysis was carried out by settling on elements and concepts that focus on potential and relevant themes to the study objectives and by excluding irrelevant answers that are not related to the topic. The following tables show the interview questions along with the extracted themes and codes.

4.3.1 Findings

Question 1	Themes	Codes
Tell me about the characteristics of online feedback through the platform Nearpod during online sessions.	Balance Equity Individualizing	Students on task Students outcome display Equal chances Students' needs

Table 15: Thematic Analysis of Interview Question 1

Examples of the first interview question responses are as follows:

Teacher 1 *Digitizing all the material has been a great idea that gives the teacher the chance to track the work of all students at the same time and then all the students will have a better chance to get either automated feedback from the platform Nearpod or oral feedback from the teacher. This option saves the time of both the teacher and students, which creates a sense of balance in the teaching and learning process.*

Teacher 2 *Nearpod gave the teachers the privilege of supervising the work of all students in order to provide them with the needed on-spot online feedback and this process used to be time-consuming before this new interactive platform that displays all students' work once submitted.*

Teacher 3 *The live teaching of the class through Nearpod has made it necessary to follow the pace of the slowest student. These often made the more advanced students complain that they had to wait for the slower students to finish. So, equal chances were offered for all types of students with the required feedback.*

Teacher 4 *At the end of the presentation, Nearpod provides great analytics with the degree of student interaction, allowing you to personalize student learning. This report can be easily exported to a spreadsheet or pdf file. In this way, the teacher in view of the results, and after their reinterpretation, can decide to review any of the concepts, in order to reinforce the contents developed in the classroom or to continue with the programming of the subject. In this case, you can personalize your teaching according to the different abilities of students.*

Question 2, Themes and Codes:

Question 2	Themes	Codes
How can you describe the effect of online feedback through Nearpod on students'	Students' outcome and engagement Students' motivation	Immediate Games Competitions

performance?		
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Figure 16: Thematic Analysis of Interview Question 2

Examples of the second interview question responses are as follows:

Teacher 1 *The teacher controls the presentation of content on Nearpod at all times, at the same time that he/she can make observations and clarify them. In this way, students, through their mobile devices or tablets, can view the presentation, follow the explanation and even interact with the instructor, thus becoming active participants in the sessions. Also, the teacher is able to give immediate feedback upon the students' engagement and output.*

Teacher 2 *What I like the most is that first, you give the explanations and then we do exercises in the form of a game that gives instant feedback on the students' acquisition. Students then have fun and learn from their mistakes at the same time.*

Teacher 3 *Students love the games offered by Nearpod and they get to benefit from the game comments or feedback. These comments show how stimulating competitiveness maintains the interest and motivation of students, especially if this healthy rivalry is carried out through a gamification methodology. In any case, it should be clear that this competition should be carried out in an honest way and never with the aim of despising those who have obtained worse results.*

Teacher 4 *The use of Nearpod has helped make the sessions very manageable, keeping the*

interest and motivation of the students at all times since they are competing to get the highest scores of Nearpod activities or the positive feedback of the teacher.

Question 3, Themes and Codes:

Question 3	Themes	Codes
Describe the effect of online feedback through Nearpod on students' behavior.	Self-efficacy	Self-confidence Positive perception and independence

Figure 17: Thematic Analysis of Interview Question 3

Examples of the third interview question responses are as follows:

Teacher 1 *Nearpod allows the display of multimedia content, in general, it shows interactive presentations directed by the teacher, at the same time as multi-response test questionnaires (with the possibility of limiting the time), open questions, surveys, exercises to fill in gaps, etc., are included that allows analyzing in a very fast and comfortable way the evolution of the students, which boosts their self-confidence while doing the activities and receiving the feedback.*

Teacher 2 *The Nearpod platform provides different reports with the result; feedback, of individual students, as well as the entire classroom as a whole. This application is quite intuitive and has a very familiar user interface, not requiring deep technical knowledge to use it.*

Teacher 3 *I noticed that using Nearpod activities makes students independent, in the sense*

that they do not need the teacher to be always in front of them saying what they have to do, but rather that the teacher-student find a way to solve their problems in the classroom and outside of it.

Teacher 4 *Conducting a lesson on Nearpod and giving feedback to students teach them by time to lead their own learning especially when sending the student-paced Nearpod lessons.*

Question 4, Themes and Codes:

Question 4	Themes	Codes
Does the online feedback through Nearpod impact the relationship between the teacher and students? How?	Teacher-student relationship	Trust Mutual respect Less fear

Figure 18: Thematic Analysis of Interview Question 4

Examples of the fourth interview question responses are as follows:

Teacher 1 *With the use of virtual educational platforms and teachers' content modifications, students are taken to the world of educational technology that improves the teaching-learning process, so students are able to obtain meaningful learning in*

their classes. The classes will be dynamic and innovative and such an atmosphere helps in building good relationships and trust between teachers and students.

Teacher 2 *As for my personal assessment of Nearpod, I would like to point out how appropriate it has been and the great help it has been when teaching online classes. It has been simple to use and very intuitive application with elements that promote student-teacher interaction.*

Teacher 3 *Since oral feedback is given in the sessions, a kind of mutual respect will be built between students and students, and teachers and students as students have to be patient to get their piece of feedback.*

Teacher 4 Nearpod virtual platform is a great tool that can be used in different ways for students to put more interest in the class, also it encourages students to participate without showing any fear especially since it has the option of staying anonymous.

4.3.2 Discussion

Interviews were carried out with 4 teachers in grade 3 section about the effect of online feedback through the platform Nearpod during the online sessions from teachers' prescriptive. The teachers' responses were recorded and then transcribed into themes and codes. Four questions were asked during the interviews. The first one was about the characteristics of online feedback through the platform Nearpod during online sessions and the derived themes for the responses were balance, equity and individualizing. While the second question was about the effect of online feedback through Nearpod on students' performance and the discovered themes were students' outcome, engagement and motivation. Moreover, the third question is about the effect of online feedback through Nearpod on students' behavior with the extracted theme; which is

self-efficacy. The interview was concluded with the last question about whether the online feedback through Nearpod impacts the relationship between the teacher and students and if so, how that would happen. The last derived theme is teacher-student relationship.

Theme 1: Balance, equity and individualizing

To know about the characteristics of online feedback through the platform Nearpod during online sessions, teachers' responses were collected and they were somehow similar. The extracted themes from the teachers' answers to the question were balance, equity, and individualizing. These themes were taken out of the codes, students on task, students outcome display, equal chances, and students' needs. Mainly, online feedback characteristics on Nearpod were viewed to be balanced because the Nearpod platform provides the option of displaying all the students' answers on the teacher's dashboard instantly after submission, the teacher can easily track the students' performance and progress and this option enables the instructor to provide immediate feedback for the students who are not engaged and the students with misconceptions. This creates a sense of balance and equity in the learning and teaching process. Thus, Nearpod allows the development and display of multimedia content, in general, they are interactive presentations directed by the teacher, at the same time as multi-response test questionnaires (with the possibility of limiting the time), open questions, surveys, exercises to fill in gaps, etc., are included that allows to analyzing in a very fast and comfortable way the evolution of the students that helps in the online feedback process. In addition, the platform provides different reports with the results of individual students, as well as the entire classroom as a whole. With the use of

virtual educational platforms, teachers modify their pedagogical classes and by that, they take the students to the world of educational technology, in order to improve the teaching-learning process. Therefore, online feedback was provided easily by the assist of Nearpod to each student in the class either automatic feedback or teacher oral feedback that monitors students' achievements in the lessons.

Theme 2: Students' outcome and engagement

The second posed question in the interview was about the effect of online feedback through Nearpod on students' performance and the discovered themes were students' outcome, engagement, and motivation, while the codes were immediate games and competitions. When using the Nearpod platform students connected their mobile devices and synced them with the teacher's device, so the teacher moves through the slides while the students interact with the content on each slide at the same time. Thus, the tool allows sending the contents and the outline of the exhibition to the table of each student. The teacher controls the presentation of content at all times, at the same time that he can make observations and clarify them. In this way, students, through their mobile devices, can view the presentation, follow the explanation and even interact with the instructor, thus becoming active participants in their education. Consequently, Nearpod provides activities, and then students can get immediate online feedback on their answers and responses. Such online feedback affects the students' outcome and engagement positively since it helps to involve all the students in the activities even the uninterested learners, it also provides the attentive students with the praise they deserve and it assists to correct any misunderstanding or misconceptions that some students might have.

Theme 3: Self-efficacy

The third question is about the effect of online feedback through Nearpod on students' behavior. The extracted theme from the 4 teachers' replies was self-efficacy, while the repeated codes were self-confidence, positive perception and independence. The teachers commented that has also been very satisfied with the results obtained by using Nearpod, which is a multi-user tool that allows the teacher to create multimedia content, manage interactive tasks and activities, and guide the presentation of concepts, etc., while students can interact by developing quick-resolution exercises and simple response questionnaires. This platform allows the development of attractive learning experiences in the educational field, as it provides online lessons, interactive content and evaluation tools in real-time, so students are usually engaged with the Nearpod lessons and with the instant online feedback that they receive from the Nearpod activities. Thus, digitizing the teaching content and the given feedback facilitates the learning process and turns the students from being receivers of knowledge to being leaders of their own learning as they can even learn independently especially if the teachers send students-paced lessons or activities. Such activities help students to get individualized online feedback that promotes their positive perception and self-efficacy towards learning.

Theme 4: Teacher-student relationship

The last question asked in the interview was about the impact of online feedback through Nearpod on the relationship between the teacher and students. The last derived theme was teacher-student relationship and the repeated codes were trust, mutual respect, and less fear. Actually, the fact of extending teaching beyond the classroom using applications, like Nearpod,

allows encouraging student participation. It also allows remote communication through forums, mail, and chat, thus favoring cooperative learning. The use of forums encourages the student to examine a subject, learn the opinion of other classmates and present their own opinion of it while the teacher can moderate and guide these discussions. Hence, students would show less fear to contribute in the lesson discussions and activities particularly because Nearpod provides the option to stay anonymous to the other students. The students' names can be additionally covered up and left as unknown so they do not feel shy, hesitated, or scared to put themselves out there unreservedly for an action. Numerous students dare to reply before others, stressing that the appropriate response could not be right and they may feel judged by other students. Utilizing the application, the learners do not need to stress over this as their names will stay hidden. From here, the teacher can measure every student's work, and elaborate further. Students may feel more propelled to become familiar with this way as they will not be blamed for the wrong answers. Furthermore, Nearpod programming offers them the opportunity to give a response or assessment as they don't need to talk before others. This way connection is set up. Students likewise have the freedom to see their classmates' posts and give their own feedback on them as the post will be on the timeline of the slide. This can make more serious thinking and conversation among members. Such kind of interaction helps to build good relationships among teachers and students, and students and students that are grounded on mutual respect and trust.

CHAPTER 5

SUMMARY AND CONCLUSION

5.1 Summary

Since feedback is one of the most important elements that support the learning process and is frequently overlooked in classroom implementations, the present study is designed to investigate the effect of online feedback that is conducted through Nearpod during online sessions in one of the private schools in Sharjah that teaches the American curriculum and follows the principles of visible learning. Thereby, this paper intends to address the gap considering the implementations of the online feedback methodology during the online classes. The following research questions guide the study.

- What are the characteristics of online feedback conducted in a visible school through Nearpod?
- To what extent is the online feedback effective during the online sessions conducted through Nearpod?
- What is the effect of online feedback during online sessions conducted through Nearpod from the teachers' perspectives?

These questions were answered using a mixed methodology; quantitative and qualitative methods in order to understand any contradictions between qualitative findings and quantitative results as the mixed methods provide a voice to the participants of the study and their experiences. Accordingly, the first research question, which is about online feedback characteristics in a visible school, was investigated qualitatively by running classroom observations in a grade 3 class as this grade level is a middle stage between the stages of learning basic skills and

mastering them. An observation checklist, designed by Brooks et al, (2019), was used during the online English classes' observations that lasted for 5 sessions and included 25 students. While, the second research question that is about the effectiveness extent of online feedback was answered quantitatively through a quasi-experiment involving 20 students from grade 3 as well: 10 of the students were considered the control group that did not receive any treatment and the other 10 students were the experimental group that received the treatment, which is the online feedback during the writing sessions. Lastly, the third research question is about the effect of online feedback during online sessions conducted through Nearpod from the teachers' perspectives. It was qualitatively answered to get the perception and experiences of 4 teachers in grade 3 section through semi-structured interviews.

Data triangulation is implemented by using different instruments: classroom observations, pre-test and post-test, and teachers' interviews. Using these instruments helped to provide a complete answer to the research questions about the online feedback effectiveness during the online sessions conducted through Nearpod.

Looking at the findings of the first qualitative instrument, which is classroom observation that was used to answer the first research question, which is "What are the characteristics of online feedback conducted in a visible school through Nearpod?". Through observing 5 online classes in a private school in Sharjah that follows the visible learning principles and using a checklist to track the online feedback that happened in the classroom, the study discovered what the characteristics of the given feedback are and which level of feedback is more dominant in the online classes. The discovered characteristics or features of online feedback were summarized as being 1) immediate 2) frequent 3) able to increase the students' awareness of each other's

mistakes 4) able to give the students the opportunity to think critically 5) balanced 6) able to foster equity and establish a sense of community 7) Online feedback has 3 levels.

Furthermore, through using the observational checklist designed by Brooks, et al. (2019), 3 levels of feedback were identified, which are task, process and self-regulatory:

1. Task level of feedback concentrated on the tasks and work performed by the students as it drew the learner' attention whether they met the lessons' learning intentions and success criteria or not.
2. Process level feedback targeted the students' ideas, concepts, thinking, skills and strategies. On this level, the teacher used to celebrate the students who had good outcomes and prompt the other students to change their strategies when they were not able to accomplish the tasks.
3. Self-regulatory level feedback supported learners when monitoring, directing and regulating their actions concerning their learning as it included students' reflections towards their work along with the teacher's discussion of the scoring rubric and praise of the learners' output.

After observing the classes, it was found that the task feedback was the most dominant level in the online classes due to the teacher's constant efforts to provide suggestions to the students so they can improve their performance and their content mastery. On the other hand, the feedback process level came in the second place as fewer instances of such feedback occurred through the online sessions because this kind of feedback takes time and the session timings did not give the teacher the chance to give individual suggestions upon their work and general comments were given instead. While for the self-regulatory feedback I was the least observed level compared to

the task and process levels, as the teacher discussed and gave the students the chance to elaborate their work in relation to the scoring rubric and gave time for students' reflections. It was found that self-regulatory feedback was infrequently used because students used to be receivers of feedback instead of being givers of feedback (Locke & Latham, 1990).

The second quantitative instrument to answer the second question about the effectiveness extent of the online feedback through Nearpod was the quasi-experiment. A quasi-experimental design, which consisted of a pre-test, a post-test and a paired t test were adopted to examine the online feedback effectiveness at two points of time. A quasi-experiment is used as a treatment evaluative tool to measure the effectiveness of the treatment or the intervention. The experiment timeline took 4 weeks of 3 sessions weekly. The writing topic was chosen according to grade 3 CCSS (California Common Core Standards) and students' writing pieces were checked before and after the experiment with the same writing rubric to examine the effect of online feedback given through Nearpod. Through reading the results of the quasi-experiment, it was observed that the treatment applied to the experimental group positively affected the students' outcome. Therefore, the online feedback sent via the online website Nearpod increased the students' ability to write better. This was evidently reached by the score increment that happened in the post-test results. Hence, it was found that the online feedback enhanced the writing quality of students and this was measured by the writing rubric. The results showed progress in the experimental group performance while writing informational paragraphs, unlike the output of the control group that did not receive any feedback. This group barely showed any progress as the students' scores remained approximately the same.

Lastly, the third qualitative instrument utilized to answer the third research question, which is about the effect of online feedback during online sessions conducted through Nearpod from the teachers' perspectives was semi-structured interviews. This instrument was used to get in-depth information about the teachers' opinions, experiences and behavior about the topic. Semi-structured interviews that consisted of 4 questions with some probing statements were carried out with 4 teachers in grade 3 section and the teachers' responses were recorded and then transcribed into themes and codes. During the semi-structured interview, teachers showed positive reflections and perceptions about online feedback through Nearpod during online sessions. These positive reflections were themed as the following: 1) balance, equity and individualizing 2) students' outcome and engagement 3) self-efficacy 4) teacher-student relationship.

5.2 Implications of the current study

The study has gone some way towards enhancing our understanding of the effect of online feedback conducted through Nearpod in a private school that teaches an American curriculum in Sharjah, UAE. Because of the key findings of this study, a few courses of action and pedagogical recommendations are proposed for academics and administrators:

- Teachers are encouraged to provide immediate, balanced, frequent and personalized online feedback that promotes students' participation, critical thinking and academic progress since high-quality feedback prompts students to own the responsibility of their learning (Fisher & Frey, 2013).
- Teachers need to host real-time feedback sessions utilizing different multimedia software.

- Teachers need to ensure the continuity of the process of giving feedback as it positively impacts and supports the students' outcomes.
- Teachers need to be updated with the recent platforms, software and multimedia tools that enhance and make the process of giving online feedback easier and more reachable for both teachers and students.
- Administrators are encouraged to give training that shows and leads the teachers about how to implement effective online feedback during online sessions showing them the levels of online feedback and how to address each level through online platforms to enhance students' performance during the online sessions.
- Administrators are encouraged to update teachers with new digital ways and platforms to send their feedback to students in the shape of blogs, audios or videos that might be more personalized and engaging (Voelkel & Mello, 2014; Henderson & Phillips, 2015).
- Administrators and teachers are encouraged to open up online channels of communication in order to get the students' self-regulatory feedback as sharing concerns helps in finding out solutions and making a difference.

5.3 Recommendations

Further investigation about online feedback using digital platforms is recommended to take this research forward involving more experiments across UAE in particular and around the world in general as the topic of research tackles how students learn, achieve and progress. Moreover, further class observations of online sessions to examine the online feedback features and levels using other observational tools need to be conducted in a bigger number of classes in different schools and regions in the country and out. Furthermore, the used online feedback matrix needs

further development, specifically; some revisions of the matrix need to be carried out considering recent learning modes to ensure the production of more accurate findings. Moreover, the scope of the quasi-experiment needs to be enlarged to include a bigger number of students, schools and even regions to get more reliable and accurate results about the impact of the online feedback. In addition, more teachers need to be interviewed to get a variety of perceptions from teachers of different grade levels and in different regions teaching diverse curriculum.

5.4 Study Limitations

- **Human limitation:** The sample size of the study is limited to 45 Emirati students from a single school as access and permissions were difficult to get due to the pandemic precautionary measures. Such limitation in the number of population makes the study findings unlikely to be generalized to a larger context.
- **Time Limitations:** Classroom observations and the quasi-experiment require more time for data collection to get a better findings validation due to the constraints of the participants and teachers' availability.
- **Locative Limitation:** the study instruments utilized are limited to observations, quasi-experiment and semi-structured interviews conducted in a private school with an American curriculum.

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APPENDICES

Appendix 1: Observation Checklist

Feedback “How am I going?”		Sessions				
		1	2	3	4	5
Task Level	Teacher checks if students are on or off track.					
	Teacher checks the students’ drafts or rough copies.					
	Teacher checks if students’ work matches teacher’s criteria.					
Process Level	Teacher relates to students’ ideas.					
	Teacher relates to students’ thinking.					
	Teacher relates to students’ skills.					
	Teacher relates to students’ strategies.					
Self-regulation Level	Teacher allows students to discuss how they felt they are going.					
	Teacher allows students to discuss their work using a rubric.					
	Teacher allows students to discuss progress (successes & needs) in relation to success criteria.					

Appendix 2: Interview Questions

Question 1	Tell me about the characteristics of online feedback through the platform Nearpod during online sessions.
Question 2	How can you describe the effect of online feedback through Nearpod on students' performance?
Question 3	Describe the effect of online feedback through Nearpod on students' behavior.
Question 4	Does the online feedback through Nearpod impact the relationship between the teacher and students? How?

Appendix 3: Paired Sample T-test

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-Test_Con	6.20	10	1.033	.327
	Post-Test_Con	6.00	10	.816	.258
Pair 2	Pre-Test_Exp	6.20	10	1.033	.327
	Post-Test_Exp	7.80	10	.919	.291

Paired Samples Correlations

			N	Correlation	Sig.
Pair 1	Pre-Test_Con & Post-Test_Con		10	.659	.038
Pair 2	Pre-Test_Exp & Post-Test_Exp		10	.866	.001

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)	
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
				Lower	Upper				
Pair 1	Pre-Test_Con - Post-Test_Con	.200	.789	.249	-.364	.764	.802	9	.443
Pair 2	Pre-Test_Exp - Post-Test_Exp	-1.600	.516	.163	-1.969	-1.231	-9.798	9	.000

Dear teacher,

You are invited to take part in a research project entitled effects of online Feedback of a bachelor degree student. This research project is a part of my master's thesis in education.

As a participant, you will participate in a volunteer interview and answering questions about the effects of online feedback through Nearpod during online sessions.

I consent to participate in the research project and the following has been explained to me:

- The research may not be of direct benefit to me.
- My participation is completely voluntary.
- My right to withdraw is preserved from the study at any time without any implications to me.
- There is no risk in participating in this research
- What I am expected and required to do.
- Whom I should contact for any complaints with the research or the conduct of the research.
- I am able to request a copy of the research findings and reports.
- My personal information is secure and confidential.

In addition, I consent to:

- audio-visual recording of any part of or all research activities (if applicable).
- publication of results from this study on the condition that my identify will not be revealed.

Participant name: _____ (please print)

Signature: _____

Date: _____

Researcher name: _____ (please print)

Signature: _____

Appendix 5: Participation Percentage in Nearpod Activity

Write an informational paragraph about penguins.

Student	Answer	PARTICIPATION 67%
Kenan	Have you ever seen a penguin? Well this paragraph will teach about them. Penguins have bl...	Share
Fatema	Penguins Penguins are birds but they can't fly because they are heavy they eat fish ,krill squi...	Share
Nada Mohammed	a penguin can it eats ? a cat is so cute I love it idk if a penguin swims	Share
Salma	Penguins Penguins are amazing seabirds that can't fly. Penguins are often called 'flippered fl...	Share

Appendix 6: Samples of Nearpod Activities

Match between the pairs.

Saja 🇲🇪 🇵🇸 🇳🇵 🇮🇵 🇯🇪	4/4	9
Matar	4/4	14
Mohammed N1	4/4	6
Hathboor	4/4	7
Yaman	4/4	8
Mariam	4/4	9
Rashid Nehad 🇲🇪 🇵🇸 🇳🇵 🇮🇵 🇯🇪	4/4	8
theybAEEAEAEAEAEAEAE	4/4	12
HESSA 🇲🇪	4/4	23
Salemsaeed	2/4	8
Fatema T Z	4/4	6
Mohammadj	4/4	5
Nada Mohammed	4/4	5
Kenan	4/4	4
Fayrouz	4/4	6
Haya Nasaif	4/4	4

Yaman
Penguins is eat fish
2

swimmers
2

Fayrouz

1

for krill, squid, and crabs underwater
2

Hessa
Penguins. are. birds. but they. can. t. fly
1

Nala
The African penguin (Spheniscus demersus) population has declined by over 95% since the 1900s and by nearly 65% over the past 30 years
0

Haya Nasailf
penguins are not mammals.
0

Matar
penguins can't fly, their stiff flippers
0

Humaid khalifa
penguins can't fly, their stiff flippers, webbed feet, and sleek shape make them expert
0

Hamdan Nazeer

0

Mohammed N1
Penguins are only found in the Southern Hemisphere. The greatest concentrations are on Antarctic coasts and sub-Antarctic islands. There are 18 species of penguins, 5 of which live in Antarctica. Another 4 species live on sub-Antarctic islands.
0

Fayrouz
Penguins eat shrimps and small fish
0

Nala
In the early 1900s, there were an estimated 1.5 million to 3 million African penguins inhabiting islands off the coast of southern Africa. By last year, this had fallen to about 17,900 breeding pairs or 35,800 breeding individuals
0

Mariam
If a penguin loses one of its baby's they kidnap other baby's
0

Fayrouz
Penguins are not mammals
0

Nala
Penguins are also sensitive to ecosystem changes such as reduction of available prey, pollution and climate change.
0

Hathboor
Pingwan live in ice they
0



LET'S LOOK FOR INFORMATIONS ABOUT PENGUINS!

Try to google for answers to these questions: How does it look like?/ Where does it live?/ What does it eat?/ What can it do?

< Share

This card was deleted

Fayrouz
Penguins are birds, but they can't fly.

Salma
Penguins live in arctic

Nada Mohammed



Emperor Penguin

Emperor penguins are the largest species of penguin. They are found in the Antarctic region. They are known for their long, wavy feathers and their ability to survive in the harshest conditions. They are also known for their monogamous relationships and their ability to fast for long periods of time.



Mohammed N1
Penguins eat krill, squids, and fishes. Their diet varies slightly on the species of penguins, which have slightly different food preferences. This reduces competition among species. The smaller penguin species of the Antarctic



Matar
Penguins are flightless seabirds

Omer
Penguin are birds but they can fly

Mariam
Penguins eat fishes squids and krill



Kenan
Penguins are well designed for obtaining food and water, swimming and keeping warm in the sea.

Fayrouz
Penguins swim very good

Humaid khalifa
Penguins are flightless seabirds that live almost exclusively below the

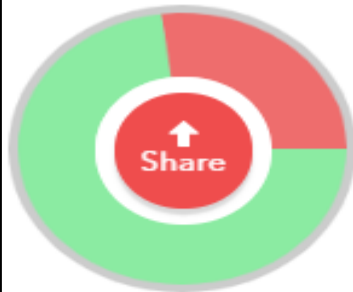
Mohammed N1
While penguins can't fly, their stiff flippers, webbed feet, and sleek shape make them expert

Humaid khalifa

Share thoughts and/or images here 250 Post



Warm up / Do Now



73 CORRECT

27 INCORRECT

0 NO ANSWER

Student	Score	1	2	3
Mohammadj 🐸	3/3	C	B	B
Salma	3/3	C	B	B
Hamdan Nasser	3/3	C	B	B
Badria	3/3	C	B	B
Humaid khalifa	0/3	B	A	C
Omar	1/3	A	B	C
Nala	3/3	C	B	B
Saja 🌴🌻🌺🌟	0/3	B	A	A
Matar	3/3	C	B	B
Mohammed N1	2/3	A	B	B
Hathboor	0/3	B	C	A
Yaman	3/3	C	B	B
Mariam	1/3	B	A	B
Rashid Nehad 🍓...	3/3	C	B	B
		C	B	B



Let's brainstorm about penguins.



Draw it background image



Kenan: Submitted



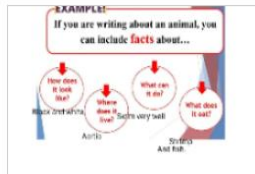
Fatema: Submitted



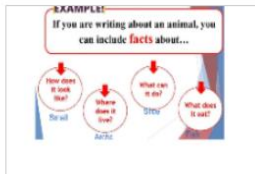
Nada Mohammed: Submitted



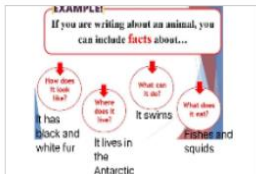
Salma: Submitted



Fayrouz: Submitted



Haya Nasaif: Submitted



Mariam: Submitted