

Exploring the influences of online assessments on teaching practice at a language school in Vietnam

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Abstract

Online assessment is not new to teachers, students and educators worldwide as internet and personal computers have dominated the globe in late 20th and early 21st. centuries. Nonetheless, it was during COVID-19 pandemic that accelerated the development of online assessment as an alternative method to the traditional assessment. This study aims at investigating the forms of assessments as well as the effect(s) of online assessments on teaching practice amongst Vietnamese university teachers. Qualitative methodology is being used in this study. To collect the data, a sample of 10 teachers were chosen to get involved in the semi-structured interviews. The findings show that four main forms of assessments used by university teachers were formative, summative, self, and peer assessment. In addition, online assessments brought about both positive and negative effects for the teachers. While efficiency and time issue, technological issue, technological advancement, and teaching enhancement are the positive influences, teaching, classroom management and teacher-related issues are the negative ones. It is hoped that these results will make a contribution to the field of assessments in general.

Keywords Online assessments · Forms of assessment · Effects of online assessments · Teaching practice

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1 Introduction

The growth in online learning development over the past decades has brought not only opportunities but also challenges for stakeholders in the educational area. With reference to benefits of online learning, the pursuit of recognised degree without travelling to classroom, convenience and flexibility, huge available reference sources, low cost, collaboration in group discussions are main strong points that have been highlighted by most of students (Gilbert, 2015; Turan et al., 2022). In contrast, a wide range of limitations when studying online is also listed such as copyright, lack of controlling quality, poor network connection, distractions, cheating, and technical problems (Hasan & Khan, 2020; Hiranrithikorn, 2019; Janke et al., 2021).

Correspondingly, the application of online exams is rising in most of the educational institutions ranging from primary to higher education level due to the replacement of paper – based tests. There is no doubt that assessment is partly beneficial in improving the quality of education as well as students' learning outcomes. Alongside the appearance and development of computer and internet, online assessments have been widely implemented to meet the requirement of educational institutions who organised distance learning courses. However, the tasks of online teaching, learning and examination were only popular more than ever since the beginning of 2020, when the COVID-19 pandemic dominated the globe.

Conducting research on the effects of online assessment in Vietnam in general and at School of Foreign Languages, Thai Nguyen University in particular is essential due to several reasons. Firstly, Vietnam is a rapidly developing country that has been investing heavily in education, with a focus on modernizing the sector. As a result, many educational institutions are increasingly adopting online assessment tools and methods to evaluate student learning outcomes (Tang et al., 2022). Therefore, it is important to investigate the effects of these online assessment methods on teaching and learning practices in the Vietnamese context. Secondly, the COVID-19 pandemic has accelerated the need for remote learning and online assessment worldwide. Vietnam, like many other countries, has had to rapidly shift to online teaching and assessment to ensure continuity of education during the pandemic (Ngo & Phan, 2023). This has resulted in a growing demand for online assessment solutions, which makes it an opportune time to study the challenges and opportunities associated with online assessment in Vietnam (Tran & Pho, 2022). Thirdly, research about online assessment in Vietnam can contribute to the development of best practices and guidelines for implementing online assessment tools and methods in the Vietnamese context. This can help educational institutions in Vietnam improve their assessment practices, enhance the quality of education, and promote equitable access to education (Le & Nguyen, 2021).

The main purpose of the present study is to provide an insight into how online assessment affects university teachers teaching and learning practices at a language school in Vietnam. Qualitative research was conducted to explore more information and opinions on such influences.



2 Literature review

2.1 Online assessment

Online assessment refers to a method of conducting assessment through the internet or intranet which was previously known as computer-based assessment or e-assessment (Ayo et al., 2007). Proficiency in online exams requires students to be acquainted with computers, the internet, and the test format (Uke, 2018). Different types of online assessment such as formative assessment, summative assessment, self – assessment, and peer assessment have been identified by various scholars (Aggrey et al., 2017; Al-obaydi & Tawafak, 2023; Bouzidi & Jaillet, 2009; Hughes, 2003; Jordan, 2013; Khairil & Mokshein, 2018; Perera-Diltz & Moe, 2014; Ridgway et al., 2007; Trang & Chi, 2022; Zhang et al., 2021). Surprisingly, there is little research linked to the impact of online assessment on teaching practice.

2.2 Types of online assessment

Online formative assessment refers to an evaluating method allowing students to employ digital platforms to test themselves (Astiandani & Anam, 2021). This process is applied to evaluate students' progress towards the intended and unintended learning outcomes as well as the prior achievements (Baleni, 2015). In formative online assessment, it is recommended that students should be given the opportunity to share information with their peers in discussion forums, and that assessment activities be accompanied by opportunities for ongoing and timely feedback that is useful for their learning process. Online formative assessments can be a valuable tool for personalised learning (Gikandi et al., 2011), particularly when students are allowed multiple attempts and their scores are averaged, increasing the potential for greater achievement.

One way to evaluate students' performance is through a type of assessment called online summative assessment. This term is defined as a process occurring at the end of a unit, chapter, or a course to measure how much knowledge students have obtained through a learning machine system platform (Faulconer et al., 2021). In online summative assessment, to ensure that students can answer the questions in the assessment platform, it is necessary to have a robust system for controlling access and security measures (Apampa et al., 2010). User security in online summative assessment is also significantly important as it guarantees the legitimation for students to accomplish the summative tests without being worried about the intervention from any organisations (Apampa et al., 2010). This assessment method is administered and scored electronically by the Learning Management System (LMS) without human support (Elmehdi & Ibrahem, 2019). In addition, online summative assessment should also be of reliability to guarantee validity and accuracy.

Online peer assessment is defined as a process that students are required to evaluate their peers' work before giving feedback (Bouzidi & Jaillet, 2009; Zhang et al., 2021). Hence, it is obligatory for teachers to model and train students carefully before applying this type of assessment. In addition, a set of criteria should be discussed carefully to ensure consistency amongst students. Peer assessment is believed to be a



kind of formative assessment (Topping, 1998) since students get feedback from peer during the learning process. Nevertheless, Lindblom-Ylänne et al. (2006) asserts that peer assessment is can be either summative or formative as students have to give and receive feedback to enhance the required skills on achieving the learning outcomes. Feedback from peer assessment is said to be honest with multiple (Tinapple et al., 2013). Additionally, assessing partners' work helps students explore new insight, solutions, and strategies in dealing with assigned tasks since different people would possess different thoughts (Tinapple et al., 2013). Not only peer assessment possibly boost students' engagement and maturity but also reduce teachers' workload (Boud, 2013).

Online self-assessment is another consideration that teachers can employ in the classroom. Students' own evaluation of tasks during learning is understood as self – assessment Lindblom-Ylänne et al. (2006). Students' self – assessments bring about numerous benefits known as conciseness, straightforward analysis, and enhancement in the learning process (Rachman - Moore & Ron S, 2006). Besides, Larsen (1998) suggests that students' retention of feedback during self – assessments assists them in achieving professional careers. In their work of examining students' self – assessment, Dungan and Gronich Mundhenk (2006) identify four main advantages. First, self – assessment allows students to observe how effective the learning process is. This is because students must be critical and honest when evaluating the accomplishment of the task. Next, students are motivated when being empowered to experience the role of teachers in assessing their own performance. Third, self – assessment is an opportunity for students to be aware of responsibility in the learning process which is of great importance on the way to success. Fourth, students are able to improve self – reflection – an essential skill for all areas of life.

2.3 Teaching practice

Teaching refers to the task where a teacher provides content of lesson to students (Fenstermacher, 1986). Accordingly, the three parties involved in teaching are teachers, students, and content of knowledge. This definition does not discuss the specific content of knowledge since the task of teaching can be applied in various aspects such as economics, politics, education, culture and so on. Obviously, this view is closely related to Teacher Centred Teaching model written by Shah Campus (2021). Following this model, while teachers play the main role in the classroom by delivering the lesson contents, students remain silent and take notes. In contrast, Biesta (2023) argues that teaching happens when teachers elicit students to release responses to questions to build knowledge. This definition roots from Student Centred Teaching model Shah and Campus (2021) in which students are encouraged to be active to unpack knowledge. In a different approach, Hirst (2017) considers teaching as a contract between a student and a teacher with a set of rules. The teacher and students' agreement in these rules ensures the flow of teaching so as the lessons' objectives are achieved. In addition, Hirst (2017) also emphasises the flexible roles of a teacher in teaching practice. Typically, teachers' task is to transfer information to students; however, in other contexts, students are required to gather information to release information and present it to teachers. Despite these opposite ideas on the concept



of teaching, it is undeniable that the objective of teaching is to equip students with knowledge regardless of the teachers or students constructing such knowledge.

Teaching consists of various features which contribute to its own effectiveness and students' learning outcome. First, pedagogical knowledge is believed to be a primary principle of teaching. Proposed by Shulman (1987), pedagogical knowledge refers to techniques that teachers use to deliver information to students in an effective way. These techniques include the strategies of instruction, assessment methods, and classroom management techniques. Those whose pedagogical knowledge is professional would be able to create a supportive and productive learning environment (Darling-Hammond, 2006). Second, teacher – student relationship is another feature of teaching practice. Once the relationship between teacher and students is positive, the academic success will be improved (Roorda et al., 2011). Additionally, teachers who are willing to support with sympathy, students will be more motivated to achieve the learning outcomes (Wubbels & Brekelmans, 2005). The third feature of teaching practice is related to differentiation and personalisation. This means that teaching practice should be flexible in applying different and personalised methods, curriculum, and assessment types from classroom to classroom to meet students' preferences (Tomlinson, 2011). Since each student is interested in a certain learning style, it would be ideal when teacher incorporates various teaching strategies to explore students' strengths (Hattie, 2012).

Conducting research on the effects of online assessments on teaching practice is essential due to two reasons. First, understanding how online assessments influence teaching would help teachers modify teaching methodologies to suit with the online teaching environment (Aina & Ogegbo, 2021). While different theories of teaching known as cognitivism (Vygotsky, 1978), constructivism (Piaget, 1971), behaviorism (Thorndike, 1920), are considered in face – to – face classrooms, the theory of connectivism (Downes, 2012; Siemens, 2005) is the most priority in the remote environment. Second, the advancement of technology has led to the incorporation of online teaching and assessment in all Vietnamese higher education institutions (Vietnam Ministry of Education and Training, 2020). Once the effects of online assessments are acknowledged, educators would come up with strategies to assist students achieve academic success in digital educational settings.

2.4 Theoretical framework

This study utilises connectivism theory as the main pillar since digital technology and networks are key components of connectivism (Downes, 2012) and online assessments rely on these to be administered and completed (Siemens, 2005). In connectivism, teaching practice as well as assessments occurs via the internet connection. Hence, teachers' employment of online assessment types and the effects of online assessments on teaching would be feasible within such a network.

Connectivism theory suggests that learners can use digital technology and networks to access information and connect with other learners and experts in their field, which can enhance their learning (Duke et al., 2013; Siemens, 2005). Siemens (2005) has conducted narrative qualitative research to propose a new theory called connectivism which is a learning theory for digital age. He lists the limitations of



behaviorism, cognitivism, and constructivism such as students' personal perspective on learning, inability to acknowledge the learning happening through technology and within organizations, and the failure to actively participate in making informed judgements in knowledge-intensive environments. In this theory, a network consists of connections between various entities, such as individuals, groups, systems, fields, ideas, resources, or communities. Besides, Siemens (2005) also outlines a comprehensive research agenda that focuses on sharing cognitive tasks between people and technology, adapting to the rapid changes in the information environment, and exploring the influences of network theories, complexity, and chaos (Figs. 1, 2).

This study aims at investigating the effect(s) of online assessments on teaching and learning practice amongst Vietnamese university teachers which focuses on two following research questions.

- (1) What types of online assessments are used by university teachers?
- (1) How do online assessments affect university teachers' teaching practice?

3 Methodology

Qualitative research is employed in this study since this allows the researcher to explore the experiences of the university teachers regarding the use of online assessments in education. This is essential since the researcher would gain an understanding of how online assessments affect teaching and learning practices.

A semi-structured interview was employed based on the qualitative findings and in line with the research questions. The justification for this choice is that the researcher would like to gather information from typical teachers with experi-

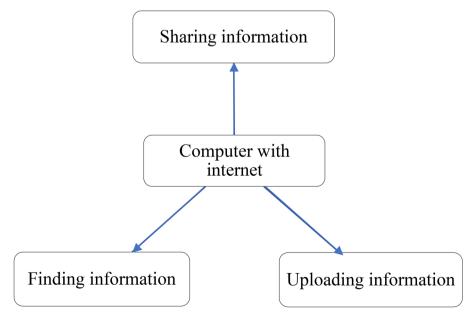


Fig. 1 Connectivism theory by Siemens (2005)



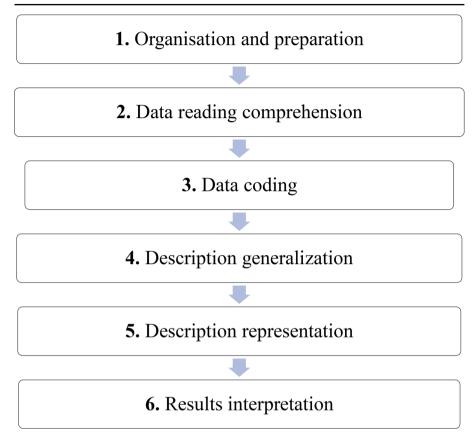


Fig. 2 Steps for conducting data analysis

ence, attitudes as well as perception on online assessment. Besides, it is believed that semi-structure interviews are beneficial once the researcher wants to explore participants thought, feelings and beliefs about a certain topic and gain deep understanding about a sensitive issue (DeJonckheere & Vaughn, 2019). Moreover, the flexibility of semi-structured interview allows researcher to pursue various less structured questioning and the spontaneous issues would be investigated (Ryan et al., 2009). The questions used in this interview would help in providing qualitative results. The researcher intends to use semi – structured interview because semi -structured interviews provides a balance between structure and flexibility which ensures a natural and conversational flow and the unexpected themes can be explored during the interviews (Pallant, 2007).

The interview script was developed based on the purposes of this study. As discussed in the literature, the aims of the current study were to explore the various types of online assessment and the effects of online assessment on teaching. As a result, the two interview questions were generated to clarify such aims. Then, the researcher asked the experts in education aspect to validate these interview questions. All the interview questions and scripts were in Vietnamese since all



the participants preferred Vietnamese for full expressions. After these questions and scripts were translated into English, codes were produced manually by using Microsoft excel before being grouped into themes for analysis.

A sample of 10 teachers with more than 10 years' experience of teaching were chosen for the interviews. The ages of these participants ranged from 32 to 37 and all of them were female. These teachers were from different faculties and departments namely English, Chinese, Basic Science, Russian – French, Eastern Language and Culture. Simultaneously, these university teachers must have experience with online assessment to join in this research. The table below illustrates the demographic of the research participants (Table 1).

The roles of the researcher in the current study were both researcher and colleague to the participants. However, the trustworthiness was still guaranteed since no interview questions were provided beforehand. Instead, the researcher scheduled appointments and conducted interviews in a natural setting, where participants felt at ease, facilitating conversational exchanges akin to everyday discourse.

Data analysis refers to the systematic examination and organization of interview transcripts and recordings collected by the researcher. This analysis aims to enhance the comprehension of the phenomenon being studied (Wong, 2008). The data analysis was conducted by the researcher following the steps mentioned by Flick (2014) and Tracy (2013).

Triangulation is an aspect of trustworthiness with the involvement of various methods such as observation, interviews and the wide range of participants (Shenton, 2004). With reference to this phenomenology research, trustworthiness refers to member check, credibility, and confirmability (Guba et al., 2007). Member check involves an ongoing and informal process of verifying information by seeking feedback from participants on the researchers' interpretation of what they have shared or discovered. It also involves obtaining feedback from other participants or sources. Additionally, there is a formal and conclusive step that involves testing the final case report with a representative sample of stakeholders. Member check will be taken into consideration for this study due to its important role in ensuring credibility (Shenton, 2004). The credibility in this study is guaranteed since the employment of semistructure interviews play role as a rigorous method in collecting the data (Guba et al., 2007). The researcher has done member check by asking the interviewees to either read the transcripts or the recordings of the interview. The teachers, therefore, confirmed the information or change the viewpoints if necessary. Confirmability in qualitative research refers to ensuring that the information gathered accurately represents the perspectives of the participants, without any personal biases or subjec-

Table 1 Target population of university teachers

Faculty/ Department	Quantity
English Faculty	2
Chinese Faculty	2
Basic Science Faculty	2
Russian – French Department	3
Eastern Language and Culture Department	1

Source Data from department of personnel and administration, SFL, TNU



tive opinions from the researcher influencing the reporting of the students' results. Achieving confirmability entails the researcher objectively evaluating what they have observed and heard throughout the research process, setting aside any preconceived notions, biases, or stereotypes that could potentially distort their interpretation (Guba et al., 2007). As a result, the trustworthiness of this study is ensured.

3.1 Ethical considerations

In the current study, the researcher informed the participants about the study and provided the consent before data collection. The information to be informed included the phenomenological qualitative method, how the data was collected, analysed and reported. In terms of confidentiality and privacy, the researcher would not publish or report the participants' identities and use appropriate measures to store and protect the data. Potential harm was an issue that the researcher was concerned about although this might not be necessary. This was done to ensure that participants were not under stress, pressure or physical discomfort when participating in either face-to-face or online interviews. Since the sampling techniques in this study were purposeful and convenient, fairness and justice for this research was guaranteed. This means participants in the research were not discriminated against in any form for not only avoiding bias but also showing respect to the participants. Finally, the researcher was transparent in terms of the methods and findings as well as accountable for further actions. These were depicted in detailed descriptions of the methods and finding part, and criticism along with feedback from various stakeholders would be welcomed.

Before engaging with potential participants, the researcher obtained approval from the university. Each participant was provided with a signed letter of support. Nevertheless, ethical considerations, such as issues related to research participant interviews, participant anonymity, data privacy, and confidentiality, were consistently taken into account. Specifically, a participant information statement and consent form detailing the study's title, researchers, purpose, and method of collecting data were sent to all potential participants. As these documents were originally in English, the researcher carefully translated into Vietnamese and verbally explained to the interviewees. Participants signed consent forms prior to participating in the interviews and these forms adhered to the template and guidelines.

4 Results and discussion

4.1 Type of online assessments

4.1.1 Online formative assessments, peer assessment, and self-assessment

Most interviewees agreed that online formative assessments were the most popular during and after the period that COVID-19 dominated the world. The teachers in this study had named some forms of formative assessments being used in the classroom. For example, one interviewee said:



I have been using some online platforms such as Quizzi and Testmoz to assess the students. I use these platforms to create questions related to the lesson and ask the students to do the quiz during my lectures. (Mai)

Another form of formative assessment called observation was also used in all lessons since this assisted the teacher in gaining a clear picture of the students. One teacher shared:

The class size in our department is quite large. It can be as many as 60 or even 90 students in a single class. I have to divide the class into separate small groups in breakout rooms for discussion. They are able to unmute and discuss my question in the breakout rooms without disturbing the whole class. Thus, it is easier for me to jump into each group and track thei work. (Lan)

Unsurprisingly, regular questions and answers were also done by the teachers in this study when delivering the lesson. This technique not only helped the teachers to check the students' understanding of the content of the lessons but also played a role as a reminder to draw the students back to the lessons. The extract below is a typical example of this:

Since online assessments can be less objective when the students potentially copy the answers from peers, I might ask follow-up questions to check their comprehension. (Vy)

In addition, self-assessment is a familiar type utilised by several teachers in certain subjects related to language skills. One teacher stated:

I'm responsible for teaching translation subject. Every week, the students must translate the texts from Vietnamese into English and vice versa. Then I provide them with a self-check list and ask them to read their translation and tick on the self-check list. The students also write down what they have done well, what they have not done well, and what they expect from the teacher. (Hoa)

It is interesting to find out that peer assessment is practiced by teachers who participated in the current study. This teacher happily shared:

I don't use peer correction for all the subjects I teach. I just apply for Basic English Grammar for the two formative tests. This is because there are often 40 to 50 students in one class and Iam afraid of grading a huge workload. So I consider this assessment to reduce the burden and create opportunity for the students to revise the knowledge since they will debate after getting the scores from their peers. (Thy)

Undoubtedly, the various types of online formative assessments in the current study are closely related to the connectivism theory. First, these types of assessment are conducted via virtual platforms which mean the availability of internet connection



is a must (Siemens, 2005). Although it is hard for the teachers in the current study to observe every student at once, it is possible to get the necessary information quickly. This is because the students can be divided into breakout rooms for group discussions, and it is easy for the teachers to join these rooms for observation. Second, questioning strategies in online formative assessment allow the teachers to receive needed information and discover new information shared by the students. There is no chance for the students to find new information, connect to information or upload new information since the answers must be produced in a short time lapse. Next, it seems that the group discussion through cyber platform would cover all the elements in the framework. For instance, when being assigned a task in a group, the students need to research to find the relevant information before sharing it with their partners. With the flexibility of zoom cloud meeting, the participants in the groups can share the documents as well as screen which makes their work more productive. Self-assessment allows the students to share information related to their own work either in a written or oral way via online platforms. The students in the current study are not going to find information, make new discoveries, or upload new information; instead, critical information of their own work should be shared with the teachers and peers. Perhaps, portfolio is the only form in formative assessment that covers all the study's framework. To create a record or portfolio, the students must find the essential information before dwelling into the process of reading. Then, research information needs to be connected to produce reflection. Next, the students are asked to share their portfolio by uploading on an online platform required by the teachers. By using homework check as a way of formative assessment, the teachers are encouraging the students to find information that can fulfill the tasks, connect the information together to compose a new discovery and share their piece of work to the teachers via the virtual platforms.

Online formative assessment via platforms like Quizzi and Testmoz seems to be the best choice for the teachers in the current study to guarantee the progress of teaching and learning. As stated in the literature, online formative assessment could not be carried out without the presence of ICT (Baleni, 2015). The participants in this study expressed that such online websites could replace the traditional paper; the only difference is that it has shifted to virtual version and the students' mission is to click on the link and do the quiz. Forms of online formative assessment found from the current study are similar to the discussion of Dixson and Worrell (2016) with observation, questioning strategies, self-assessment and student record keeping.

4.2 Online summative assessments

During COVID-19, summative assessments have still been implemented via online platforms to ensure that the students' study progress would not be delayed. Diverse types of online summative assessments are conducted based on the level of difficulty, subjects, and the teachers' perspectives. The extract below is a vivid sharing from one teacher:

During the COVID period, at first, the school couldn't hold online exams due to the lack of infrastructure and I thought we couldn't ensure the objectivity



and fairness of the final exams, I have discussed with my colleague, and we shifted to assignments. The students had to write a substantial piece of work, as it counts for 50% of the course's score. The assignment could be either a video or a writing piece depending on the course. (Mai)

However, one teacher in the current study believed that multiple-choice exams and the combination of multiple-choice and essay questions are still the popular choices for her. She noted:

We often employ multiple-choice exams more frequently because, during the pandemic, online multi-choice assessment becomes a popular choice. There is another type, which is a combination of multiple – choice and essay questions for certain specialised subjects. The third form of assessment involves the students working on small group or individual essays as part of their final exam. (Trinh)

Given the fact that multiple-choice exams via online platforms lead to cheating, some teachers insisted on the benefit of essay writing. For instance:

I used essays for summative assessment. I did not use multiple-choice questions; instead, I asked the students to write essays, and this would reduce the chance of cheating. However, I also discussed with my colleagues because we must be consistent in evaluating the students. (Hoa)

The findings of the current study are consistent with the theoretical framework in the literature review. Discussion below would explore an insight into the consistency of online summative assessment's types with the available framework. Essay assignment and video recording obviously show all the features of connectivism theory. To compose an essay of thousands of words or create an oral video recording, the students must seek relevant materials from the internet which provide them with an understanding of the topic that they are going to write. Subsequently, the information must be connected to construct the students' own creative piece of work. The task of sharing information is quite convenient since the teachers often require the students to upload their written assignments on certain online platforms such as google classroom or google drive. Online multiple – choice questions are the most popular in almost all subjects such as Listening, Reading, Ho Chi Minh Ideology, and even Physical Education. In comparison with the framework in this current study, it is surprising that this type of assessment does not have much relationship except the feature of computer/internet/world wide web. Two main platforms for the students to take an online multiple – choice – question exam listed in this research are testmoz, google form. These allow the students to complete the exam in a fixed time and their work would not be lost due to the force of submission. However, the students do not have to find, connect, share and upload information because this is an individualised exam. The students are permitted to share their answers with the teacher after submission. As mentioned by the teachers in the study, the combination of multiple - choice questions with essay writing are a solution for cheating reduction. This form



of summative assessment is in line with the framework of connectivism theory with limitation. To get the content of the test or exam, the students must log into an online required platform and a new piece of writing would be connected and built without browsing the internet. The students must apply both memorising high – order thinking skills when sitting in this online test. A special proctoring system would be used to investigate the students' cheating during the exam. Hence, utilising the internet to find and share information is not allowed in such tests or exam.

Unlike online formative assessment, online summative assessment is considered as a channel to measure how effective the teaching and learning process is. The types of this online assessment provided by interviewers share the similarities with Bhat (2019) in terms of instructor – created exams and final essays. Besides, the extracts from the interviews also reveal that final exam is the common selection for the teachers which is somehow similar to Perera-Diltz and Moe (2014).

4.3 Effects of online assessments on teaching practice

4.3.1 Positive effects of online assessments on teaching practice

4.3.1.1 Efficiency and time issue A quarter of the teachers in this study agreed that online assessments at any forms were efficient and time – saving. For example, one teacher stated:

Well, in terms of positive impacts, I think there are examples such as teaching online pushes educators to find methods that save time in grading, ensure the engagement of the lesson. Normally, when assessment is done on paper alone, it may not be as interesting as using computer-based tools. (Hoa).

Another teacher stressed the convenience and time - saving in creating the review tasks which could be re-used for different classes at the same level. She said:

When I assign an online exercise and provide an open link, it saves me time, and I don't have to create new exercises. The students can redo the exercise multiple times. In an ideal situation, the students doing the exercise repeatedly is a good thing, isn't it? (Mai)

Interviews in the current study pointed out that the teachers' workload in grading and announcing the students' scores had been reduced much due to the application of online assessments.

Yes, I just emphasised that it reduces the workload for the teachers, both in terms of grading and, secondly, the process of announcing grades is very transparent and can be done right in front of the class. It's also impossible to make any changes afterward because it's all on the software, so I think it's a very positive aspect for informing the students. (Trinh)



The positive effect of efficiency and time issue is obviously linked to the connectivism framework. Alongside the development of online teaching platforms is the appearance of specialised websites allowing the teachers to create professional tests. With the assistance of the internet, the teachers are able to connect to a diversity of suitable resources such as websites or social networks and seek a large amount of reliable information to build the test's content. Such constructed tests or exam files will be uploaded on preferrable websites before sharing to the students on a certain test date. The task of sharing information is also beneficial to avoid overlap between the exam papers as there are several teachers responsible for teaching the same subject. In addition, the integration of auto grading function on these platforms can only operate well with internet connection. Once the students submit the test, grading would be done immediately. Overall, there is no doubt that the application of connectivism theory also brings back advantages for the teachers in approaching the sea of knowledge as well as reducing workload to grade the students in the current study.

It is evident from the data that online assessments are efficient for the teachers which is quite similar to the work of Sanga (2017) in terms of identifying how effective the teaching process is. Feedback and results from the different types of assessments partly contribute to the educational institutions' evaluation when it comes to teaching and learning process. For instance, teachers in Sanga (2017) study are flexible in employing various teaching methodologies either individually or in combination within the lessons, and they can grasp the efficiency of such teaching approaches through observation or different forms of assessment (Tigelaar & Sins, 2021). In this current study, the suitability of materials and the teachers' flexibility in adapting activities to match the students' levels are also reflected in the process of assessment. Accordingly, students are classified and put into classes with fixed coursebooks based on the age similarity (The National Assembly of The Social Republic of Vietnam, 2014). However, since the students' level of cognition is diverse, the teachers must be adaptable in varying the activities to engage the students in the lesson. For example, some students might be faster in retaining new knowledge while others have to waste more time to understand such issues.

4.3.1.2 Technological advancement ICT improvement was the initial benefit that all participants mentioned when being asked to list the pros of online assessments on teaching practice. The reason for this was, according to the teachers, the reality of the situation at that time as well as the regular practice. Below is a general view. One teacher described her improvement of ICT by making a comparison between her tendency of using ICT before and after COVID-19 pandemic. She said, "I became more conscious of using information technology in my teaching. In the past, I was quite hesitant. However, after realizing the benefits of online assessment, I think it should be applied in my teaching process." (Mai).

Another comparison was also made by one teacher; nevertheless, this teacher believed that she was flexible in utilising the variety of softwares. Extract below illustrated her statement:



In the classroom we can use drawings, images, and so on, but now with online learning, we naturally have to use a lot of software. That's the reason why after 2 years of COVID-19 education, not only specialised computer science teachers but also most teachers from various departments, from basic sciences to English and Chinese teachers, have now become familiar with many software tools and teaching methods that make their lessons more engaging. (Lan)

To demonstrate the progress in the use of ICT, a participant gave examples to compare the past and current experience and the ability to exploit various software tools. She asserted:

My ICT skills have improved significantly. When teaching in person, I mainly used the whiteboard, textbooks, and occasionally PowerPoint presentations. However, with online teaching, I had to learn and apply various software tools. I explored these tools, experimented with them, and found the ones that worked best. Then, I shared these tools with my students. (Minh)

Meanwhile, an individual thought the progress in ICT use was due to the pandemic period in providing opportunity for the teachers to explore more about the ICT field. For example:

During the recent COVID-19 pandemic, I think one of the positive aspects of online learning along with online assessment is that it provides an opportunity for the teachers to explore and learn more about using information technology in teaching. (Vy)

This emerging result is in parallel with the theoretical framework of connectivism. First, online assessments provide an opportunity for the teachers to maximise the use of ICT more than ever. Thus, the teachers in this study must be professional in not only exploiting the online teaching platforms but also the various tools for developing and presenting the lessons by connecting to the world wide web. Apart from designing lessons through powerpoint slides on the laptop, the teachers start to consider the online websites for building and presenting the slideshow such as canvas or prezi which involve more outstanding features. Searching and discovering necessary information would be faster than ever due to the availability and integration of social networks like facebook, telegram, whatsapp, twitter where users can join in the groups of interests. Once the teachers have established the routine of using ICT regularly, they would continue to use it in every lesson.

Almost all the teachers in the current study expressed that the repeated practice of online assessments during and after COVID-19 improved their ICT skills. This finding is close to Torales et al., (2022) in a sense that certain skills related to ICT such as digital content producer and management of digital tools are enhanced. Basically, these skills would be better due to the types of assessments the teachers employ in the classroom. For example, online platforms such as quizzi or quizlet requires the teachers to create a comprehensive and eye-catching quiz to motivate and promote the students to engage in. The participants asserted that before exploiting an online



platform to assess the students, an initial training would be conducted by the university. However, the teachers were encouraged to apply others as long as things went smoothly. Google form was the most popular online tool being used to design the summative exam for the students due to its convenience and reliability. Other teachers mentioned the implementation of testmoz – a reasonably purchased website which had the function of forcing the students to submit automatically after the time allowance had elapsed.

4.3.1.3 Teaching enhancements The first teaching enhancement that online assessments bring back to the teachers is motivation. These assessments not only aid the teachers to manage and evaluate the students' performance effectively, but also tailor teaching methodologies.

One interviewee highly appreciated the application of questions and answers in increasing the teachers' motivation. She said:

I believe this [questions and answers] is a significant motivating factor for instructors because the interaction between the instructor and the students makes our lectures more engaging, and the motivation of the teacher when coming to class also increases significantly. (Lan)

Another teacher demonstrated how online assessments motivated her enthusiasm for teaching. She quoted:

In terms of motivation, I feel more passionate about online teaching. I even don't know why, but when I teach online, my enthusiasm is significantly higher. However, once I start teaching online, I have to transmit much more energy to my students, sometimes even double compared to traditional classroom. This is because, when I speak, I have to speak louder, and I always have to be ready to listen in a very quiet space to hear what my students are saying. (Loan)

The second teaching enhancement provided by online assessments is connected to the flexibility in teaching methods. Not all the teachers experienced the feeling of being flexible after using online assessments in the classroom. One interviewee described:

I am much more flexible in choosing or combining teaching methods. I have to anticipate different situations and consider how to handle them, as I mentioned, we have to deal with situations that arise during our classes. This makes our teaching more dynamic. (Lan)

Online assessments enhance teaching practice in terms of motivating teachers to invest more time in preparing the lessons and quiz which is closely in line with the framework proposed by Siemens (2005). The internet is a network that aids teachers to get access to millions of nodes containing essential information. Teachers would be more motivated to diversify their lessons to reduce the students' boredom by



employing such huge amounts of information. However, teachers must be selective and evaluative because of the chaos of information booming.

One individual believed that such online assessment platforms increased motivation in teaching. This is quite interesting since teachers' motivation to teach often derives from students' learning and behavior (Katz & Shahar, 2015). The more the students are interested in learning with good behavior, the more inspiration teachers attain. In this current study, the teachers are encouraged to exploit various kinds of online assessments to support students in achieving knowledge. Accordingly, students are evaluated in a flexible way with no pressure. For example, the combination of questions and anwers, online quiz and observation during class time are regularly practiced which reduce the students' boredom in learning. The assessment is, therefore, focused more on the students' process of learning rather than the score; hence, both the teachers and the students are required to change their mindsets.

4.3.2 Negative effects of online assessments on teaching practice

4.3.2.1 Challenges in teaching One teacher admitted that it was limited for the teachers to get access to resources to prepare for the content of the test or exam. Extract below illustrates her opinion:

Online teaching and assessment can limit access to resources meaning we have to buy copyright materials to use for designing the test or exam. If we use the free and available materials, the students can easily find the answer keys. (Hoa)

One challenge mentioned by several teachers in the current study was related to the lack of physical activities when it comes to evaluating the students in the classroom. For instance, one teacher shared:

I used to be able to add a few physical activities in the classroom for the students to do, like stretching exercises and physical activities, but now, with online teaching, I can't do that. I can only send links to online activities and interactive exercises to the students, and I can't monitor if all the students are participating or not. (Hoa)

Regarding the relevance of connectivism theory to the challenges in teaching practice caused by online assessments, it is obvious that the internet plays a vital role in deciding the success of an online formative or summative test. As stated above, the teachers in the current study blamed the virtual assessments for creating pressure for them in finding the essential information within limited time. The selection of suitable and internet free resources seems to be a big struggle for the teachers. Hence, the teachers' need to forage information either through internet or hard copy books must be done before the end of the semester. The remaining tasks such as connecting, uploading, and sharing information could only be done once the teachers have come up with satisfied tests. Meanwhile, the lack of physical movements during the lessons is partly matched with the framework. The teachers in the current study mobilised



the students to employ several physical movements such as deep inhale and exhale before the tests in front of the screen; of course, internet connection must be visible. However, the gap here is that the role of internet is to broadcast the students' practice of physical activity before participating in the tests while the usage of the framework is to find, discover, share, and upload the information on the required storage platforms.

Online assessments obviously create challenges for the teachers in the process of teaching and evaluating the students, especially the formative and summative tests. This experience was depicted in the study of Gehringer (2010) when several students found all the answers for the online final exam on a Web search with the exact questions. He discovered that he had re-used the exam that was delivered 10 years ago without noticing that it had not been removed yet. Teachers, therefore, had to be really concerned about the exploitation of copyright and latest materials from the reputed publishers. However, this was a big problem for the teachers in this study as well as there was no budget for this issue and the teachers were not able to afford such costly materials.

4.3.2.2 Challenge in classroom management Classroom management is not only a challenge for novice teachers but also the experienced ones. The teachers in this current study believed that this negative effect was getting tougher when dealing with online assessment. One participant shared:

When we're supervising in person, we can directly observe what learners are doing in the test room. However, in online assessments, it's very difficult to monitor how they are using various technologies, and some sophisticated devices are hard to detect. So, I also find the online proctoring process quite stressful. (Trinh)

One teacher even experienced the failure to manage the students when conducting the online teaching and assessment through the laptop's screen. She insisted:

Since it is online teaching, I can't manage all the students. So, there are instances where I'm calling on a student to answer, but I can't see them anywhere. In such cases, I may remind them or implement small assessment activities during the teaching process to encourage their participation. If they don't respond to the questions or engage in the discussion, it's considered as if they didn't participate in the assessment, and they receive a score of zero, for example. (Huong)

Large class size was one factor that badly influenced the teachers' classroom management in online assessments. The following statements explained this point of view:

When we assess online, the teachers cannot monitor a class of around 25 to 30 students comprehensively. It's challenging to ensure the integrity of the students during the assessment process because it's difficult for the teacher to oversee everything on the screen. (Minh)



Compared to the framework of connectivism, it is obvious that classroom management in an online classroom environment can only be done with the availability of world wide web. However, instead of using the internet for finding, connecting, sharing and uploading information, the teachers will use the internet for broadcasting online meeting platforms such as zoom meeting, google meet or MsTeam with the aim of monitoring the students during the formative and summative tests. Therefore, it could be concluded that this framework is partly true for classroom management when being used for assessment purposes.

These results were aligned with Fitriyah and Jannah (2021) research when she explored the possibility of online assessments on classroom management. Data from the interview proved that the teachers found it hard to control the students via the screen during the online exams. The doubt of the students' cheating was possible because of the rich number of available online tools or devices which are hard to detect.

4.3.2.3 Teacher – related challenges One of the teacher-related challenges mentioned by the teachers was pressure in preparing the progress tests and final exams. Following the subjects' syllabus, the teachers had to prepare these tests to measure whether the students had achieved the basic knowledge. However, this has put a burden on the teachers due to the students' cheating. One participant stated:

The negative impact, as I mentioned earlier, is that sometimes this online assessment process can create pressure on the teachers. Because when it comes to designing assessment questions, we have to consider how learners may use the internet and other technologies to seek assistance during the test. (Trinh)

One interviewee was even more doubtful about the students' honesty in terms of tests and final exams based on the students' score. She shared:

Well, the negative aspect is that sometimes when the scores are too high, I may have some doubts about whether the quality is accurate or not. (Thy)

Apart from the pressure and limitation of applying different teaching methods, emotion was an interesting finding that online assessment resulted in teaching practice. Several teachers have reported various experiences connected to the feeling in preparing the lesson and the enthusiasm in teaching. One teacher shared:

But in an online class, if the students respond too little, I feel that it's not going as planned, which can affect my enthusiasm. In the next session, if I feel responsible, I'll still prepare thoroughly as usual. (Mai)

Connectivism theory allows the teachers in the current study to exploit materials linked to not only the lessons but also the formative tests and exams. It can be said that, with millions of nodes of network in connectivism theory, the teachers are able to find, connect, upload, and share the relevant lessons or tests' content to the fellow



teachers and the students. However, the pressure in adapting the test and exam papers derives from the worry of the students' cheating since not all the subjects are following the open – book – open – web format. The irrelevance of connectivism and the teachers' pressure in tests' preparation is the limited emphasis on individual knowledge. According to connectivism, collective and networked dimensions of learning are robustly highlighted which possibly neglects the significance of individual knowledge and understanding. Hence, it is a burden for the teachers to concentrate completely on collaborative teaching and learning, disregarding the requirements of the students who prefer individualised approaches. Regarding the relevance of connectivism and limitation of flexible teaching methodologies in online assessment, it is obvious that the teachers are encouraged to find and integrate technology to make the lessons more efficient. In addition, connectivism also allows the teachers to connect to a specialised community to share and upload the beneficial teaching strategies in virtual classrooms. However, as stated above, the teachers would not be able to use preferrable methods of teaching in virtual settings when compared to the traditional ones. The teachers' negative emotion and low enthusiasm could be improved with the assistance of connectivism theory in the way that engaging the students into an online assessment platform such as online quiz or educational games. To involve the students in such virtual websites, the teachers must make use of the internet to create the quiz with a set of certain questions, upload the quiz on familiar platforms like quizzi and quizlet before sharing the link to the students. By doing this, the students would engage more in the lessons and the teachers' emotions would be better.

The teachers' pressure of preparing the online formative and summative tests for the students is understandable during the virtual teaching and online environment due to the high possibility of cheating. Besides, the teachers' pressure in preparing the formative tests can also stem from the accountability system due to the belief in the classroom practice's improvement (Schildkamp et al., 2020). The teachers in the current study stressed that even if the students did prepare the required devices, they were still skeptical of the students' dishonesty while performing the exams. To prove her point of view, the participant reported that the students' online formative tests' results were higher than the traditional ones. Perhaps, the open access to various sources of information on the internet is the biggest barrier for the teachers to prepare the formative and summative tests for the students. This also leads to extra pressure for the teachers because the test score is amongst the factors to be used to evaluate the teachers at the institution.

5 Conclusion

In summary, this study has discussed the experiences of the teachers on the employment of various online assessments in virtual classrooms. While the most popular forms in conducting formative assessments involve online quiz, observation, questions and answers, group discussion, self-assessment, and peer-assessment, summative assessment methods consist of only multiple-choice and essay writing. Besides, both positive and negative effects of online assessments on teaching practice are found in this study. Despite the fact that the efficiency and time issue, teaching advancement



and teaching enhancement are believed to be the benefits, online assessments have also caused challenges in teaching, classroom management and the teacher – related issues.

These findings hold implications for researchers to delve into the field of educational assessment. First, it is undeniable that virtual environments provide more opportunities for the teachers to make use of available resources to build effective lessons and exams at a fast speed. However, this also leads to the issue of cheating amongst the students on the way to achieving the best results. Although several solutions have been employed such as switching all the multiple – choice questions into open – website exams or essay writing, these are not possible to be used for all subjects.

In terms of teaching practice, the results of the current study have shown both strengths and weaknesses encountered by teachers while employing various techniques of online teaching. The results also explored the combination of different teaching strategies employed by the university teachers in the virtual environment.

Apart from the above contributions, the current study consists of several limitations. First, the scope of this study is limited to a language university in Vietnam. Therefore, the applicability of the study's findings to broader contexts may be limited. Second, the methodology in this research is a qualitative approach with semi – structured interviews as the main data collection which might have biasness in the participants' responses and the researcher interpretation of the data collected. In future study, classroom observation can be done as part of the triangulation method to ensure trustworthiness of the data.

Currently, the practice of online assessment in the context of a language school in Vietnam is still being incorporated into the lessons due to the requirement of e-learning in the curriculum. Hence, this plays a vital role in enhancing the forms of assessment as well as evolving modern education. To better achieve the success of online assessments, training, and workshops at both the domestic and international levels should be organised to equip the teachers with relevant insights for the adaptation of the new era.

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Declarations

Ethical approval We hereby declare that this manuscript is original, has not been published before and not currently being considered for publication elsewhere. We confirm that the manuscript has been read and approved by all named authors and that there are no other people who satisfied the criteria for authorship but are not listed. We further confirm that the order of authors listed in the manuscript has been approved by all of us. We understand that the Corresponding Author is the sole contact for the Editorial process. She is responsible for communicating with the other authors about progress, submissions and revisions and final approval of proofs.

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References

- Aggrey, E., Kuo, R., Chang, M., & Kinshuk (2017). Online test system to reduce teachers' workload for item and test preparation. *Lecture Notes in Educational Technology*, 9789811024184, 215–219. https://doi.org/10.1007/978-981-10-2419-1 29.
- Aina, A. Y., & Ogegbo, A. A. (2021). Teaching and Assessment through Online platforms during the COVID-19 pandemic: Benefits and challenges. *Journal of Education and E-Learning Research*, 8(4), 408–415. https://doi.org/10.20448/JOURNAL.509.2021.84.408.415.
- Al-obaydi, L. H., & Tawafak, R. M. (2023). Online Assessment in Language Teaching Environment through essays, oral discussion, and multiple-choice questions. Computer-Assisted Language Learning Electronic Journal, 24(2), 24.
- Apampa, K. M., Wills, G., & Argles, D. (2010). User security issues in Summative E-Assessment Security. *International Journal for Digital Society*, 1(2), 135–147. https://doi.org/10.20533/ijds.2040.2570.2010.0018.
- Astiandani, F. R., & Anam, S. (2021). EFL teachers' perceptions towards the implementation of online formative assessment amidst the COVID-19 pandemic. *ELT Worldwide: Journal of English Language Teaching*, 8(2), 269–277. https://doi.org/10.26858/eltww.v8i2.21326.
- Ayo, C. K., Akinyemi, I. O., Adebiyi, A. A., & Ekong, U. O. (2007). The prospects of E-examination implementation in Nigeria. *Turkish Online Journal of Distance Education*, 8(4), 125–134.
- Baleni, G. (2015). Online formative assessment in higher education: Its pros and cons. *Electronic Journal of E-Learning*, 13(4), 228–236.
- Bhat, B. A. (2019). Formative and Summative Evaluation Techniques for Improvement of Learning Process. *European Journal of Business and Social Sciences*, 7(5), 776–785.https://ejbss.org/.
- Biesta, G. (2023). Outline of a Theory of Teaching: What Teaching Is, What It Is For, How It Works, and Why It Requires Artistry. In *Theorizing Teaching: Current Status and Open Issues* (pp. 253–280). https://doi.org/10.1007/978-3-031-25613-4 9.
- Boud, D. (2013). Enhancing Learning Through Self-assessment. Enhancing Learning Through Self-Assessment, January 1995. https://doi.org/10.4324/9781315041520.
- Bouzidi, L., & Jaillet, A. (2009). Can online peer assessment be trusted? *Educational Technology and Society*, 12(4), 257–268.
- Darling-Hammond, L. (2006). Constructing 21st-century teacher education. *Journal of Teacher Education*, 57(3), 300–314. https://doi.org/10.1177/0022487105285962.
- DeJonckheere, M., & Vaughn, L. M. (2019). Semistructured interviewing in primary care research: A balance of relationship and rigour. Family Medicine and Community Health, 7(2), 1–8. https://doi. org/10.1136/fmch-2018-000057.
- Dixson, D. D., & Worrell, F. C. (2016). Formative and Summative Assessment in the Classroom. *Theory into Practice*, 55(2), 153–159. https://doi.org/10.1080/00405841.2016.1148989.
- Downes, S. (2012). Connectivism and Connective Knowledge: essays on meaning and learning networks. In *National Research Council Canada*. http://www.downes.ca/files/books/Connective_Knowledge-19May2012.pdf
- Duke, B., Harper, G., & Johnston, M. (2013). Connectivism as a Digital Age Learning Theory. *The International HETL Review, Special*, 4–13. https://doi.org/10.1016/0007-6813(92)90075-K.
- Dungan, A. T., & Gronich Mundhenk, L. (2006). Student Self-Assessment: A Tool for Engaging Management students in their learning. *Organization Management Journal*, 3(1), 54–73. https://doi.org/10.1057/omj.2006.7.
- Elmehdi, H. M., & Ibrahem, A. M. (2019). Online Summative Assessment and its impact on students' academic performance, perception and attitude towards Online exams: University of Sharjah Study Case. Advances in Science Technology and Innovation, 211–218. https://doi.org/10.1007/978-3-030-01662-3 24.
- Faulconer, E., Griffith, J. C., & Frank, H. (2021). If at first you do not succeed: Student behavior when provided feedforward with multiple trials for online summative assessments. *Teaching in Higher Education*, 26(4), 586–601. https://doi.org/10.1080/13562517.2019.1664454.
- Fenstermacher, G. D. (1986). Philosophy of research on teaching: Three aspects. *Handbook of Research on Teaching*, 3(4), 12.
- Fitriyah, I., & Jannah, M. (2021). Online Assessment Effect in EFL Classroom: An investigation on students and teachers' perceptions. *IJELTAL (Indonesian Journal of English Language Teaching and Applied Linguistics*), 5(2), 265. https://doi.org/10.21093/ijeltal.v5i2.709.



- Flick, U. (2014). The SAGE Handbook of Qualitative Data Analysis. SAGE Publications Ltd. In *The SAGE Handbook of Qualitative Data Analysis*. https://doi.org/10.4135/9781446282243.
- Gehringer, E. (2010). Online vs. on-paper exams. ASEE Annual Conference and Exposition Conference Proceedings. https://doi.org/10.18260/1-2--16349.
- Gikandi, J. W., Morrow, D., & Davis, N. E. (2011). Online formative assessment in higher education: A review of the literature. *Computers and Education*, 57(4), 2333–2351. https://doi.org/10.1016/j.compedu.2011.06.004.
- Gilbert, B. (2015). Online learning revealing the benefits and challenges. *Fisher Digital Publications Education*, 1–32. https://fisherpub.sjfc.edu/education_ETD_masters/303/%0Ahttp://libguides.sjfc.edu/citations.%0Ahttps://fisherpub.sjfc.edu/education_ETD_masters/303.
- Guba, E. G., Lincoln, Y. S., & Schwandt, T. A. (2007). But is it rigorous? trustworthiness and authenticity in naturalistic evaluation. In *New Directions for Evaluation* (Issue 114).
- Hasan, N., & Khan, N. H. (2020). Online Teaching-Learning During Covid-19 Pandemic: Students '. δ(October), 202–213.
- Hattie, J. (2012). Visible Learning for Teachers Maximizing Impact on Learning. The Main Idea.
- Hiranrithikorn, P. (2019). View of advantages and disadvantages of online learninghttp://icbtsproceeding.sru.ac.th/index.php/ICBTSBERLIN2019/article/view/628/614.
- Hirst, P. H. (2017). What is teaching? *The Ethics of Teaching*, 43–56. https://doi.org/10.4324/9781351233156-5.
- Hughes, A. (2003). Testing for language teachers. *English Australia Journal* (2nd ed., Vol. 37). Cambridge University Press. https://doi.org/10.2307/327632.
- Janke, S., Rudert, S. C., Petersen, Ä., Fritz, T. M., & Daumiller, M. (2021). Cheating in the wake of COVID-19: How dangerous is ad-hoc online testing for academic integrity? *Computers and Education Open*, 2(September), 100055. https://doi.org/10.1016/j.caeo.2021.100055.
- Jordan, S. (2013). E-assessment: Past, present and future. New Directions, 9(1), 87–106. https://doi.org/10.11120/ndir.2013.00009.
- Katz, I., & Shahar, B. H. (2015). What makes a motivating teacher? Teachers' motivation and beliefs as predictors of their autonomy-supportive style. School Psychology International, 36(6), 575–588. https://doi.org/10.1177/0143034315609969.
- Khairil, L. F., & Mokshein, S. E. (2018). 21st Century Assessment: Online Assessment. *International Journal of Academic Research in Business and Social Sciences*, 8(1), 659–672. https://doi.org/10.6007/ijarbss/v8-i1/3838.
- Larsen, E. (1998). Feedback: Multiple purposes for management classrooms. *Journal of Management Education*, 22(1).
- Le, T. H., & Nguyen, T. H. (2021). Xu thế kiểm tra, đánh giá năng lực người học trên nền tảng công nghệ. *Tap Chí Khoa Học Giáo Dục Việt Nam*, 42, 1–6. http://vjes.vnies.edu.vn/vi/xu-kiem-tra-danh-gia-nang-luc-nguoi-hoc-tren-nen-tang-cong-nghe.
- Lindblom-Ylänne, S., Pihlajamäki, H., & Kotkas, T. (2006). Self-, peer- and teacher-assessment of student essays. *Active Learning in Higher Education*, 7(1), 51–62. https://doi.org/10.1177/1469787406061148.
- Ngo, H. N., & Phan, A. N. Q. (2023). COVID-19 and higher education in Vietnam: Systematically rethinking the quality assurance system and practices towards the 'new normal' in post-crisis era. *Policy Futures in Education*, 21(4), 355–371. https://doi.org/10.1177/14782103221095924.
- Pallant, J. (2007). SPSS survival manual, 3rd. Edition McGrath Hill, 283. www.allenandunwin.com/spss. htm.
- Perera-Diltz, D. M., & Moe, J. L. (2014). Formative and Summative Assessment in Educational Enterprise. *Journal of Education and Practice*, 5(20), 111–118.
- Piaget, J. (1971). The Childs' conception of the World. Routlege & Kegan Paul LTD.
- Rachman Moore, D., & Ron, S. (2006). K. The use of simulation to improve the effectiveness of training in performance management. *Journal of Management Education*, 30(3).
- Ridgway, J., Mccusker, S., Pead, D., Ridgway, J., Mccusker, S., Pead, D., Review, L., & Nesta, E. A. (2007). Literature Review of E-assessment Literature Review of E-assessment. In *Bristol* (Vol. 44, Issue February). http://www.worldclassarena.net/doc/file14.pdf.
- Roorda, D. L., Koomen, H. M. Y., Spilt, J. L., & Oort, F. J. (2011). The influence of affective teacher-student relationships on students' school engagement and achievement: A meta-analytic approach. *Review of Educational Research*, 81(4), 493–529. https://doi.org/10.3102/0034654311421793.
- Ryan, F., Coughlan, M., & Cronin, P. (2009). Interviewing in qualitative research: The one-to-one interview. *International Journal of Therapy and Rehabilitation*, 16(6), 309–314. https://doi.org/10.12968/ijtr.2009.16.6.42433.



- Sanga, P. L. (2017). Implications of teacher educators' practices in assessment for student learning in Tanzania. *Makerere Journal of Higher Education*, 8(1), 3. https://doi.org/10.4314/majohe.v8i1.1.
- Schildkamp, K., van der Kleij, F. M., Heitink, M. C., Kippers, W. B., & Veldkamp, B. P. (2020). Formative assessment: A systematic review of critical teacher prerequisites for classroom practice. *International Journal of Educational Research*, 103(April), 101602. https://doi.org/10.1016/j.ijer.2020.101602.
- Shah, R. K., & Campus, S. (2021). Conceptualizing and defining Pedagogy Etymological meaning of Pedagogy and Pedagogue. *Issue 1 Ser II*, 11(1), 6–29. https://doi.org/10.9790/7388-1101020629.
- Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, 22(2), 63–75. https://doi.org/10.3233/EFI-2004-22201.
- Shulman, L. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1), 23.
- Siemens, G. (2005). Connectivism: A learning theory for the Digital Age. *Journal of Instructional Technology and Distance Learning*, 2(1), 1–5. http://elearning.surf.nl/e-learning/english/3793.
- Tang, T. T., Nguyen, T. N., & Tran, H. T. T. (2022). Vietnamese teachers' Acceptance to Use E-Assessment Tools in Teaching: An empirical study using PLS-SEM. Contemporary Educational Technology, 14(3). https://doi.org/10.30935/cedtech/12106.
- The National Assembly of The Social Republic of Vietnam (2014). Education Law (p. 47).
- Thorndike, E. L. (1920). The principles of teaching based on psychology A G Seiler. https://doi.org/10.1037/11487-000.
- Tigelaar, D., & Sins, P. (2021). Effects of formative assessment programmes on teachers' knowledge about supporting students' reflection. *Journal of Vocational Education and Training*, 73(3), 413–435. https://doi.org/10.1080/13636820.2020.1726992.
- Tinapple, D., Olson, L., & Sadauskas, J. (2013). CritViz: Web-based software supporting peer critique in large creative classrooms. *Bulletin of the Technical Committee on Learning Technology*, *15*(1), 29–35.
- Tomlinson, C. A. (2011). Differentiate instruction in mixed-ability classrooms. https://dlwqtxts1xzle7.cloudfront.net/44098361/_Carol_Ann_Tomlinson__How_to_Differentiate_InstrucBookSee.org-with-cover-page-v2.pdf?Expires=1631251576&Signature=YZi5pSld610pLx2~tuG4isXixDt0Sg9yLDjEz0yeUm1X~y576UCjpIIUsfAzAEMlyH2OtfXM~95owzfu8j8R6kQCZ3v6IE
- Topping, K. (1998). Peer assessment between students in colleges and universities. *Review of Educational Research*, 68(3), 249–276. https://doi.org/10.3102/00346543068003249.
- Torales, J., Torres-Romero, A. D., Di Giuseppe, M. F., Rolón-Méndez, E. R., Martínez-López, P. L., Heinichen-Mansfeld, K. V., Barrios, I., O'Higgins, M., Almirón-Santacruz, J., Melgarejo, O., Ruiz Díaz, N., Castaldelli-Maia, J. M. & Ventriglio, A. (2022). Technostress, anxiety, and depression among university students: A report from Paraguay. *International Journal of Social Psychiatry*, 68(5), 1063–1070. https://doi.org/10.1177/00207640221099416.
- Tracy, S. J. (2013). Qualitative research methods: Collecting evidence, crafting analysis, communicating impact. Wiley Blackwell. https://doi.org/10.5613/rzs.43.1.6.
- Tran, T. M. P., & Pho, P. D. (2022). Kiểm tra đánh giá trong hoạt động giảng dạy tiếng Anh trực tuyến ở các trường đại học Việt Nam. 6(3), 1647–1657.
- Trang, N. H., & Chi, N. P. (2022). EFL Students' attitudes towards the English online assessments. *International Journal of English Language Teaching*, 10(5), 50–60. https://doi.org/10.37745/ijelt.13/vol10n55060.
- Turan, Z., Kucuk, S., & Cilligol Karabey, S. (2022). The university students' self-regulated effort, flexibility and satisfaction in distance education. *International Journal of Educational Technology in Higher Education*, 19(1). https://doi.org/10.1186/s41239-022-00342-w.
- Uke, W. A. S. (2018). Computer-Based Test or Paper-Based Test. Mediterranean Journal of Social Sciences, 8(4–1), 139–143. https://doi.org/10.2478/mjss-2018-0083. Students' Perception Towards National Examination 2017.
- Vietnam Ministry of Education and Training (2020). Thông tư 26/2020/BGDDT Sửa đổi, bổ sung một số điều của Quy chế đánh giá, xếp loại học sinh trung học cơ sở và học sinh trung học phố thông ban hành kèm theo Thông tư số 58/2011/TT-BGDĐT ngày 12 tháng 12 năm 2011 của Bộ trưởng Bộ Giáo dục và Đào tạo (p. 6).
- Vygotsky, L. (1978). Portrait of L. S. Vygotsky at age.35.
- Wong, L. P. (2008). Data analysis in qualitative research: A brief guide to using NVIVO. Malaysian Family Physician, 3(1), 14–20.



Wubbels, T., & Brekelmans, M. (2005). Two decades of research on teacher-student relationships in class. *International Journal of Educational Research*, 43(1–2), 6–24. https://doi.org/10.1016/j.ijer.2006.03.003.

Zhang, Y., Pi, Z., Chen, L., Zhang, X., & Yang, J. (2021). Online peer assessment improves learners' creativity:Not only learners' roles as an assessor or assessee, but also their behavioral sequence matter. *Thinking Skills and Creativity*, 42(June), 100950. https://doi.org/10.1016/j.tsc.2021.100950.

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