

Graduate Students' Perceptions and Practices on the Use of ICT for Promoting Learning Autonomy

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Abstract

Some previous studies have proven that the use of ICT for learning gives some benefits as well as challenges for promoting learning autonomy. Thus, this research is aimed at investigating graduate students' perceptions and practices on the use of ICT for promoting learning autonomy during the Covid-19 pandemic as well as the opportunities and challenges. This research employed a case study of qualitative research design involving ten graduate students of a state university in Surabaya. The data of this research is collected through an online questionnaire. This research revealed that all graduate students involved in this research have been familiar with the term 'ICT' and 'learning autonomy' in general. Furthermore, they have positive perceptions on the use of ICT for promoting learning autonomy during the Covid-19 pandemic. In addition, the technologies and applications that they utilize during the Covid-19 pandemic are Google apps, LMS (Learning Management System), Reference Management Software (RMS), electronic devices, etc. Then, they also experience some opportunities which are getting to know applications, websites, and tools to support their learning, providing up to date materials, articles, information, and resources or references for their learning, and helping them to communicate or interact with their teachers and classmates. Finally, the challenges that they experience are internet connection problem, unnecessary or unclear information & irrelevant contents that make them unfocused or distracted, and problem in operating the applications or devices.

Keywords: *graduate students, ICT, learning autonomy, perceptions, practices.*

INTRODUCTION

It cannot be denied that the Covid-19 pandemic has affected many aspects of human life, including education (Nurani & Widiati, 2021). In the Indonesian context, due to the Covid-19 pandemic, the government established distance learning. In other words, the teaching and learning process during the Covid-19 pandemic has transformed from the conventional one

where both teachers and students come to the schools into distance learning (Pahrudin et al., 2021). Then, this is in line with the objectives of national education stating that distance learning is education that involves various online learning sources through communication technology (Roslina et al., 2021). As a result, the distance learning makes both the teachers and students conduct online learning or e-learning involving the use of Information and Communication Technology (ICT).

Some previous research agreed that the use of Information and Communication Technology (ICT) has a significant role in the field of English as a foreign language (EFL) teaching and learning (ÇAKICI, 2016). ICT itself stands for information and communication technology and has been used in schools and universities in place of 'IT' to indicate the part played by a wide range of technology, not only to process information but also significantly for education and communication (Rank et al., 2011). In other words, ICT refers to any forms of technology used to deliver, transmit, create, display, share, process, store, or exchange information by electronic means (Alkamel & Chouthaiwale, 2018). For English language teaching and learning, Alkamel & Chouthaiwale (2018) argued that the effective use of ICT can benefit students and various aspects of the learning process, such as increasing learners' motivation as well as enhancing personal commitment and engagement, developing independent learning and learners' collaboration, and improving learners' attainment and outcomes (Alkamel & Chouthaiwale, 2018). Consequently, some previous studies regarding the use of ICT in EFL classroom during the Covid-19 pandemic have been conducted by some researchers.

The first previous research was conducted by Amnan (2020) who investigated the use of ICT in English teaching at vocational high school in Ngawi during the Covid-19 pandemic. This research employed a qualitative research design, while the data were collected through an online questionnaire, Google Form, spread to the organization of English teachers of vocational high school called MGMP (Musyawarah Guru Mata Pelajaran) in Ngawi, East Java. In this research, it is stated that actually the minister of education, culture, research, and technology has provided free online class as the partnership such as Rumah Belajar, Microsoft Office 365, Google G Suites for Education, Zenius, Kelas Pintar, Quipper School, Sekolah Online Ruang Guru, and Sekolahmu. However, the result of this research shows that no teachers employed the online class recommended by the minister of education and culture (Amnan, 2020). Besides, the English teachers of vocational high school in Ngawi mostly used WhatsApp (WA) in conducting the online class during the Covid-19 pandemic. The result of this research also shows that the students face some difficulties, such as the cost for buying the internet data, the mobile phone, and the reachable and stable internet connection (Amnan, 2020).

The next previous research was conducted by Fitri & Putro (2021) who investigated EFL teachers' perspectives toward the effectiveness of the integration of ICT in their teaching during the COVID-19 pandemic as well as the factors discouraging them to integrate ICT. This research used a descriptive quantitative research design, while the data were obtained through an online questionnaire, Google form, given to 126 EFL teachers in both primary and secondary schools; 22 EFL primary school teachers, 31 EFL junior high school teachers, 35 EFL senior high school teachers, and 38 EFL vocational high school teachers. The result of this research shows that EFL teachers perceived ICT-ELT integration during this COVID-19 pandemic positively as they got many impacts, benefits, and the effectiveness of integrating ICT for their teaching during this COVID-19 pandemic (Fitri & Putro, 2021).

The other previous research was conducted by Al-Ansi et al., (2021) who investigated the opportunities, challenges, and advantages of using ICT in learning during the Covid-19 outbreak. In this research, the researchers employed direct interviews to students, lecturers, administrative staff, and ICT specialist in Islamic schools in Malang, Indonesia. Based on the result, the advantages of using ICT in learning during the Covid-19 outbreak included the internet use, social media, and teleconferencing applications as the communication and learning tool. Furthermore, the opportunities of using ICT in learning during the Covid-19 outbreak included the availability for remote learning, the use of new technology, and the new experiences during online learning. Finally, the challenges of using ICT in learning during the Covid-19 outbreak were found in the form of the connection problems, the low speed of the internet, and the lack of expertise in using technology (Al-Ansi et al., 2021).

Based on the result of those three previous studies, it can be seen that the use of ICT can support the success of the students' learning process as well as learning experience during the Covid-19 pandemic because the students could get many advantages and opportunities even though they faced some difficulties and challenges too. In other words, the use of ICT can make the students become more responsible and take control of their learning progress by being able to get access to many sources or references, tools, and any supporting applications for the success of their learning during the Covid-19 pandemic. This is, then, linked to the student' learning autonomy or the students who could be responsible for their learning and could manifest their responsibility in the form of action aimed at meeting their learning goals (Murray & Lamb, 2018). In other words, it can be seen that the use of ICT can support or promote the students' learning autonomy because the students can take responsibility in the decision-making process, while the teachers are responsible to prepare the contents based on the students' needs for the learning process during the Covid-19 pandemic (Khulaifayah et al., 2021). In addition, the technology can potentially be used to increase the students' motivation in learning English as it gives more chances for the students to be autonomous learners (Kamilah, 2017). It is also in line with Melvina et al. (2020) who stated that the use of new technologies for learning English can encourage the emergence of autonomous language learning. Regarding the connection between the use of ICT for learning and the students' learning autonomy, some previous studies on the use of ICT and the students' learning autonomy have been conducted by some researchers.

The first previous study was conducted by (Kamilah, 2017) who investigated EFL teachers' beliefs and attitude on the use of technology in the class and whether it can promote the students' learning autonomy. This study employed a case study of qualitative research design involving three EFL teachers of a university in Jember, while the data were obtained by interviewing the teachers and observing their teaching practices. The result of this research shows that the teachers perceived positive attitudes toward the use of technology for learning because the students can get access to many references and relevant sources to help them in completing their tasks. However, the result also shows that there were limitations on the use of technology for learning which were cheating and plagiarism among the students that can inhibit the students' learning autonomy (Kamilah, 2017). Therefore, for promoting the students' learning autonomy, this research revealed that the use of technology for learning has benefits as well as limitations according to the EFL teachers' perceptions.

The next previous study was conducted by Warni et al. (2018) who investigated the students' experiences in utilizing technology for learning English and its relation to learning autonomy. This study employed quantitative and qualitative research design involving 42 students of a class

in a private senior high school in South Tangerang. The quantitative data were obtained through questionnaires, while the qualitative data were obtained through semi structured interviews. Regarding their experiences in utilizing technology for learning English, the findings of this study show that the students can get access to the internet through their mobile phone and computer. Then, they are also able to learn English by accessing online English materials and exercises on the internet. Besides, regarding the relation between the technology and the students' learning autonomy, the result of this study shows that the use of technology for learning English can support or promote the development of the students' learning autonomy that includes the components of learning motivation, metacognitive awareness, self-confidence and social skills (Warni et al., 2018).

The other previous study was conducted by Melvina et al. (2020) who investigated EFL teachers' perception regarding the use of technology for promoting learning autonomy in EFL classroom. This study involved five EFL teachers, while the data of this study were collected through an online discussion forum and analyzed through data reduction, data display for categorization, and conclusion. The result of this study shows that EFL teachers perceived positive perceptions regarding the use of technology for promoting learning autonomy in teaching English. The result of this study also shows that the teachers have utilized technology for their teaching such as the internet and various applications like Quizlet, Padlet, Grammarly, English Central, and Mentimeter that are very useful for promoting learning autonomy (Melvina et al., 2020). However, the teachers also face some challenges in utilizing technology for their teaching such as when the students do not have smartphones and when the students get some internet connection problems. Therefore, the result of this study shows that EFL teachers are aware of the use of technology for promoting learning autonomy in teaching English (Melvina et al., 2020).

Based on the result of those three previous studies, it can be seen that the use of technology or ICT for learning gives some benefits as well as challenges for promoting learning autonomy. The first and the third previous study investigated EFL teachers' perceptions on the use of technology in promoting learning autonomy, while the second previous study investigated senior high school students' experiences in utilizing technology for learning English and its relation to learning autonomy. Among those three previous studies, however, a research aimed at investigating graduate students' perceptions and practices on the use of ICT for promoting learning autonomy during the Covid-19 pandemic has not been conducted yet. In addition, it is also necessary to reveal any opportunities and challenges that they experience regarding the use of ICT for promoting learning autonomy during the Covid-19 pandemic. Therefore, this research is intended to investigate the graduate students' perceptions and practices on the use of ICT for promoting learning autonomy during the Covid-19 pandemic as well as the opportunities and challenges that they experience.

METHOD

This research employed a case study of qualitative research design aimed at investigating, exploring, and revealing graduate students' perceptions and practices on the use of ICT for promoting learning autonomy during the Covid-19 pandemic. The subjects of this research are ten graduate students majoring English Language and Literature Education of the Postgraduate school in a state university in Surabaya. These ten graduate students are currently in their third semester of their study when this research is conducted. Furthermore, they have experienced

distance learning since the first semester of their study due to the Covid-19 pandemic. Then, these ten graduate students involved in this research are identified by the researchers as S1, S2, S3, S4, S5, S6, S7, S8, S9, and S10. Besides, the instrument used in this research is an online questionnaire, Google Form, given to these ten graduate students. The questionnaire consists of two parts which are the graduate students' perceptions on the use of ICT for promoting learning autonomy during the Covid-19 pandemic and the graduate students' practices on the use of ICT for promoting learning autonomy during the Covid-19 pandemic. For the first part of the questionnaire, the questions are about the understanding of the term 'ICT (Information and Communication Technology)' and 'learning autonomy' in general and followed by questions about the perceptions on the use of ICT for promoting learning autonomy during the Covid-19 pandemic which are adapted and modified from Fitri & Putro (2021). Then, for the second part of the questionnaire, the questions are about the graduate students' practices on the use of ICT for promoting learning autonomy during the Covid-19 pandemic containing questions about any technologies or applications that the graduate students use as well as the opportunities and challenges that they experience. The link of the online questionnaire for the purpose of data collection for this research was spread to the subjects from November 20, 2021 to November 24, 2021 through personal chat (WhatsApp) and then analyzed. Therefore, this research is expected to deeply investigate, explore, and reveal the graduate students' perceptions and practices on the use of ICT for promoting learning autonomy during the Covid-19 pandemic as well as the opportunities and challenges that they experience.

FINDINGS AND DISCUSSIONS

Findings of the graduate students' perceptions on the use of ICT for promoting learning autonomy during the Covid-19 pandemic

The first research question is related to the graduate students' perceptions on the use of ICT for promoting learning autonomy during the Covid-19 pandemic. The researchers ask some questions related to the perceptions on the use of ICT for promoting learning autonomy during the Covid-19 pandemic to the ten graduate students involved in this research. First, an open-ended question about the graduate students' understanding of the term 'ICT (Information and Communication Technology)' in general was asked. Below are their answers.

S1: "It is the technology used to support instructional design"

S2: "Everything which to ease the people in gathering the information and also to connect people in different areas"

S3: "Technology Digital"

S4: "It is a tool or components that can support modern networking in order to handle communication process"

S5: "I guess ICT is about the use of how we use or develop communication media or device to communicate or sharing information"

S6: "It is about the technology that we can use to get the information"

S7: "It is one of the media or infrastructures resulting from the significant enhancement of sophisticated technology which massively used in nowadays condition"

S8: "ICT means technologies that provide access to information through telecommunications such as internet, cell phones, wireless networks, and other communication mediums"

S9: *“I know it as a practical one that we usually use to help our online learning or our stuff that related to tools of the technology, like our phone or computer/PC that we use to require our learning”*

S10: *“ICT is closely related to the use of technology for particular purposes”*

Based on the answers above, it can be seen that the ten graduate students involved in this research have been familiar with the term 'ICT'. Most of them define ICT as any technologies that support or help people to get access to information as well as to communicate or connect with others. The definition of ICT explained by the graduate students involved in this research is in harmony with Alkamel & Chouthaiwale (2018) who defined ICT as any forms of technology used to deliver information by electronic means (Alkamel & Chouthaiwale, 2018). Some of the graduate students involved in this research also give examples of ICT which are internet, cell phones, computers or PC, and wireless networks. Therefore, it can be concluded that all the graduate students involved in this research have been familiar with the term ICT, while some of them also give examples of the ICT.

As the previous question is about the graduate students' understanding of the term 'ICT (Information and Communication Technology' in general, the next question as part of the first research question in this research is about the graduate students' understanding of the term 'learning autonomy' in general. Below are their answers.

S1: *“Learning autonomy is the skill of someone to keep exploring and learning independently”*

S2: *“A kind of learning model that emphasize on the students' responsibility to enhance their learning proficiency”*

S3: *“Monitoring own-self to achieve a goal”*

S4: *“It refers to someone's fully control responsibility for his or her decision in order to achieve his learning goals”*

S5: *“I think learning autonomy means the learners are learning by themselves”*

S6: *“Learning autonomy means when we as a learner take control and responsibility for our own learning”*

S7: *“It has a strong correlation with the terms independent which means that the learners can take control of their own learning.”*

S8: *“Learning autonomy happens when learners take control and responsibility for their own learning.”*

S9: *“Learning autonomy is just like an independent learning for me since we take a responsibility of our own learning whether in the class or out of class”*

S10: *“For me, learner autonomy refers to the students who are responsible for their own learning, both in terms of what they learn and how they learn it.”*

Referring to the answers above, it can be seen that the ten graduate students involved in this research have been familiar with the term 'learning autonomy'. They define learning autonomy variously, which are learning independently, self-monitoring, taking control of the learning, and being responsible for the learning. These definitions perceived by the graduate students involved in this research are in line with the findings from a previous research conducted by Khulaifiyah et al., (2021) who found that EFL students perceived autonomous learning as studying by themselves or learning independently as well as a learning activity focusing on people's learning awareness in order to be motivated and more responsible during the learning process (Khulaifiyah et al., 2021). As a result, it can be concluded that all the graduate students involved

in this research have been familiar with the term learning autonomy in general as they can explain it well.

As the two previous questions are about the graduate students' understanding of the terms 'ICT' (Information and Communication Technology) and 'learning autonomy' in general, the next question is about the graduate students' perceptions on the use of ICT for promoting their learning autonomy during the Covid-19 pandemic. In this part of the questionnaire, the researchers present seventeen statements with 4 point likert scale about the use of ICT for promoting their learning autonomy during the Covid-19 pandemic. In other words, the ten graduate students were asked to choose whether they strongly disagree, disagree, agree, or strongly agree with the seventeen statements presented. The results of their answers are presented in the table below.

Table 1. The Graduate Students' Perceptions on the Use of ICT for Promoting Learning Autonomy during the Covid-19 Pandemic

No.	Statements	Frequency (%)			
		Strongly Disagree	Disagree	Agree	Strongly Agree
1.	The use of ICT during the Covid-19 pandemic is important for promoting my learning autonomy.	-	-	-	100%
2.	The use of ICT during the Covid-19 pandemic can promote my learning autonomy because it makes learning more enjoyable.	-	-	20%	80%
3.	The use of ICT during the Covid-19 pandemic can promote my learning autonomy because it makes learning processes more effective and easier.	-	-	40%	60%
4.	The use of ICT during the Covid-19 pandemic can promote my learning autonomy because it improves my learning with more updated materials.	-	-	40%	60%
5.	The use of ICT during the Covid-19 pandemic can promote my learning autonomy because it improves my learning quality and performance.	-	-	40%	60%
6.	The use of ICT during the Covid-19 pandemic can promote my learning autonomy because it helps me to create various learning activities.	-	-	30%	70%
7.	The use of ICT during the Covid-19 pandemic can promote my learning autonomy because it helps me to expand various learning resources.	-	-	10%	90%
8.	The use of ICT during the Covid-19 pandemic can promote my learning autonomy because it helps me to prepare the learning materials easily.	-	-	20%	80%
9.	The use of ICT during the Covid-19 pandemic can promote my learning	10%	10%	40%	40%

	autonomy because it helps me to understand the materials in more effective ways.				
10.	The use of ICT during the Covid-19 pandemic can promote my learning autonomy because it encourages me to be more active and involves my engagement.	-	20%	40%	40%
11.	The use of ICT during the Covid-19 pandemic can promote my learning autonomy because it provides convenience in assessing my progress.	-	30%	20%	50%
12.	The use of ICT during the Covid-19 pandemic can promote my learning autonomy because it provides convenience in monitoring my progress.	-	20%	30%	50%
13.	The use of ICT during the Covid-19 pandemic can promote my learning autonomy because it increases my interest and motivation toward learning English.	-	-	50%	50%
14.	The use of ICT during the Covid-19 pandemic can promote my learning autonomy because it facilitates me to find information, knowledge, and other learning resources.	-	-	10%	90%
15.	The use of ICT during the Covid-19 pandemic can promote my learning autonomy because it enhances collaborative learning among me and my teachers.	-	30%	10%	60%
16.	The use of ICT during the Covid-19 pandemic can promote my learning autonomy because it enables me to interact effectively with my teachers.	-	30%	20%	50%
17.	The use of ICT during the Covid-19 pandemic can promote my learning autonomy because it makes me more productive.	-	10%	40%	50%

Based on the result of the table above, it can be seen that most of the graduate students perceived positively on the use of ICT for promoting learning autonomy during the Covid-19 pandemic. This positive perception can be seen from the first to eighth statement as well as the thirteenth and fourteenth statement. Besides, for the ninth and tenth statement, which are the use of ICT during the Covid-19 pandemic can promote learning autonomy because it helps to understand the materials in more effective ways and encourages to be more active and involves engagement, 80% of the graduate students perceived positively, while 20% of them perceived negatively. Furthermore, for the eleventh statement, which is the use of ICT during the Covid-19 pandemic can promote learning autonomy because it provides convenience in assessing

progress, 70% of the graduate students perceived positively, while 30% of them perceived negatively. In addition, for the twelfth statement, which is the use of ICT during the Covid-19 pandemic can promote learning autonomy because it provides convenience in monitoring progress, 80% of the graduate students perceived positively, while 20% of them perceived negatively. Furthermore, for the fifteenth and sixteenth statement, which are the use of ICT during the Covid-19 pandemic can promote learning autonomy because it enhances collaborative learning and enables to interact effectively with teachers, 70% of the graduate students perceived positively, while 30% of them perceived negatively. Then, for the last statement, which is the use of ICT during the Covid-19 pandemic can promote their learning autonomy because it makes them more productive, 90% of the graduate students perceived positively, while 10% of them perceived negatively. Based on these results, it can be inferred that the graduate students perceived more positive responses than the negative ones regarding their perceptions on the use of ICT for promoting learning autonomy during the Covid-19. Therefore, this positive perception is in line with the result of a previous research conducted by Fitri & Putro (2021) who investigated EFL teachers' perception on ICT-ELT integration during the COVID-19 pandemic.

Findings of the graduate students' practices on the use of ICT for promoting learning autonomy during the Covid-19 pandemic

The second research question is related to the graduate students' practices on the use of ICT for promoting learning autonomy during the Covid-19 pandemic. The researchers ask some questions related to the practices on the use of ICT for promoting learning autonomy during the Covid-19 pandemic to the ten graduate students involved in this research. First, an open-ended question related to technologies and applications that the graduate students use for promoting their learning autonomy during the Covid-19 pandemic were asked. Below are their answers.

S1: "Virtual meeting applications, browser, electronic devices"

S2: "Internet browser"

S3: "Youtube"

S4: "Mostly web that provides a lot of learning resources, phone app such as WhatsApp for communication (having discussion with friends), reference managers that can help me to arrange the articles. These are actually the apps that I have been using before the pandemic so that pandemic actually doesn't really affect the use of ICT of mine"

S5: "I use my laptop and mostly my cellphone to browse some articles, books, to join some online courses and to access the latest news"

S6: "Google and Google Classroom"

S7: "It varies, such as Google spreadsheets, Google Docs, Edmodo, etc. However, I prefer to use MALL in my daily use"

S8: "Zoom, Google Meet, Vinesa, Ms. Teams, Google Classroom"

S9: "Of course there are phone and laptop. And for the most used applications I usually bear with are Zoom, Google Meet, Ms Team, WhatsApp, and many more"

S10: "Grammarly Application, Zoom meetings, Google Meet, and another LMS (Learning Management System)"

Based on the answers above, it can be inferred that the ten graduate students involved in this research use various technologies and applications for promoting their learning autonomy during the Covid-19 pandemic. Then, these various technologies and applications can be

classified as follow: Google apps, LMS (Learning Management System), electronic devices, and other applications. For Google apps, the graduate students use Google Search, Google Classroom, Google Spreadsheets, Google Docs, and Google Meet. Then, for the LMS (Learning Management System), the graduate students use Edmodo, Vinesa, and Ms. Teams. Besides, for the electronic devices, the graduate students use laptop and phone. Then, the graduate students also use other applications such as Youtube, WhatsApp, Reference Management Software (RMS), Grammarly, and Zoom. This finding reveal more various result than the finding of a previous research conducted by Roslina et al. (2021) who stated that students can use various applications such as Zoom, WhatsApp, Google Classroom, and other applications to support their study during the Covid-19 pandemic (Roslina et al., 2021).

The next question as part of the second research question in this research is about the opportunities that the graduate students experience regarding the use of technologies and applications for promoting their learning autonomy during the Covid-19 pandemic. Below are their answers.

S1: *“I can know some new applications and websites to support me learning independently”*

S2: *“The up to date materials and the latest articles”*

S3: *“Youtube: I can get various video of learning which related to my course”*

S4: *“Since there’s a limit for direct interaction, those apps especially the communication app is really helpful to enable easier way of communication in order to discuss something related to learning with friends or teachers”*

S5: *“Internet and technology help me a lot for self-learning. I can browse any information that I need for my learning”*

S6: *“I can learn everything by using those technologies and help me to find the learning resources related to my study”*

S7: *“It gives me a large opportunity in helping my works, enriching my references of knowledge, and enlarging my insight of using a relatively new approach in learning circumstances”*

S8: *“It's easy to interact with my teacher and classmates.”*

S9: *“Of course in improving my skill in every aspect that makes it really essential stuffs”*

S10: *“ICT provides a virtual teaching platform, as a tool that allows me to learn without the need to travel long distances”*

Referring to the answers above, it can be seen that the use of technologies and applications for promoting learning autonomy during the Covid-19 pandemic gives various opportunities for the ten graduate students. Then, their answers can be classified as follow: getting to know applications, websites, and tools to support their learning, providing up to date materials, articles, information, and references or resources for their learning, and helping them to communicate or interact with their teachers and classmates. This result is in line with the finding from a previous research conducted by Melvina et al. (2020) who found that the use of technologies can be useful to promote autonomous learning for the students (Melvina et al., 2020). Therefore, it can be concluded that the use of ICT can improve the graduate students’ learning autonomy because the technologies and applications that they use are really helpful in completing their tasks during the Covid-19 pandemic.

As the two previous questions are about the technologies and applications as well as the opportunities that the graduate students experience regarding the use of the technologies and applications for promoting their learning autonomy during the Covid-19 pandemic, the last

question as part of the second research question in this research is about the challenges that the graduate students experience regarding the use of those technologies and applications for promoting their learning autonomy during the Covid-19 pandemic. Below are their answers.

- S1: *“Connection issue and less knowledge of operating certain apps and devices.”*
- S2: *“I still need to discuss with other friends to share and gather any ideas because somehow the information or the learning materials is not clear yet.”*
- S3: *“When I have to choose the appropriate and relevant video because not all videos' material/content on Youtube are suitable for my course that I'm looking for.”*
- S4: *“Mainly the internet connection because those apps need an internet connection, even if it is not in the pandemic. Back then before the pandemic, it is not really matters since we can still have the opportunity to access the learning resources in the library, and to communicate face to face. But because of the existence of pandemic, the internet connection really matters since the only way to have the communication and to have the access to learning resources is through those tools.”*
- S5: *“I think too many information that I can access from internet makes me unfocused.”*
- S6: *“Because of too many information there, sometimes I have to be more careful in choosing the correct information related to my study.”*
- S7: *“Lack of direction focused on learning goals and unstable connection so that the information obtained is not completely grasped.”*
- S8: *“Mostly, internet connection is the challenge I face during the use of those technologies and applications.”*
- S9: *“The one and only obstacles is my bad network in accessing such app.”*
- S10: *“I got some technical problems such as internet connection, boredom, and less focus.”*

Based on the answers above, it can be inferred that the ten graduate students involved in this research experience some challenges regarding the use of the technologies and applications for promoting their learning autonomy during the Covid-19 pandemic. Their answers can be classified into: internet connection problem, unnecessary or unclear information as well as irrelevant contents that make them unfocused or distracted, and problem in operating the applications or devices. For the challenges related to the internet connection problem, this finding is in harmony with the finding from a previous research conducted by Melvina et al. (2020) who found that students faced internet connection problems when they utilized technology for learning English (Melvina et al., 2020).

Discussion

The result of this research shows that the graduate students involved in this research have been familiar with the term ICT, while some of them also give examples of the ICT. Furthermore, it is also in line with the result of the previous study conducted by Alkamel & Chouthaiwale (2018). Then, this research also shows that all the graduate students involved in this research have been familiar with the term learning autonomy in general as they can explain it well. In addition, it is also in line with the result of the previous study conducted by Khulafiyah et al., (2021). Finally, the graduate students involved in this research have positive perception regarding the use of ICT for promoting learning autonomy during the Covid-19 that it is also in harmony with the result of a previous research conducted by Fitri & Putro (2021). However, since the number of the graduate students involved in this research is ten, this research might have a different result if the number of the subjects involved in this research is larger. Therefore,

the next researchers who want to conduct a research that is similar with this field of research need to involve more subjects of research so that the result can have more various results.

The result of this research also shows that the graduate students involved in this research utilize various technologies and applications for promoting their learning autonomy during the Covid-19 pandemic, which are; Google Apps (Google Search, Google Classroom, Google Spreadsheets, Google Docs, and Google Meet), Learning Management System (Edmodo, Vinesa, and Ms. Teams), electronic devices (laptop and phone), and other applications (Youtube, WhatsApp, Reference Management Software (RMS), Grammarly, and Zoom). This findings reveal more various results than the findings of the previous study conducted by Roslina et al., (2021) regarding technologies and applications to support students' study during the Covid-19 pandemic. In addition, this research also shows that the use of ICT can improve the graduate students' learning autonomy because the technologies and applications are really helpful in completing their tasks during the Covid-19 pandemic that it is in line with the finding from a previous research conducted by Melvina et al. (2020). Furthermore, the graduate students involved in this research also experience some challenges which are internet connection problem, unnecessary or unclear information as well as irrelevant contents that make them unfocused or distracted, and problem in operating the applications or devices that it is in harmony with the finding from a previous research conducted by Melvina et al. (2020). Finally, the researchers recommend the next researchers who want to conduct a research that is similar with this field of research to involve more various subjects of research, such as undergraduate students, graduate students, and postgraduate students, so that the results can possibly have more various results.

CONCLUSION

This research is aimed at investigating the graduate students' perceptions and practices on the use of ICT for promoting learning autonomy during the Covid-19 pandemic as well as the opportunities and challenges that they experience. Based on the findings of this research, the researchers state several reflective points. The graduate students involved in this research have been familiar with the term 'ICT'; most of them define it as any technologies that support or help people to get access to information as well as to communicate or connect with others. Furthermore, the graduate students have been familiar with the term 'learning autonomy' as they define it variously; learning independently, self-monitoring, taking control of the learning, and being responsible for the learning. In addition, the graduate students have positive perceptions on the use of ICT for promoting learning autonomy during the Covid-19 pandemic. Besides, for the graduate students' practices on the use of ICT for promoting learning autonomy during the Covid-19 pandemic, this research revealed that the graduate students utilize various technologies and applications that can be classified as follow: Google apps, LMS (Learning Management System), electronic devices, and other applications. For Google apps, the graduate students use Google Search, Google Classroom, Google Spreadsheets, Google Docs, and Google Meet. Then, for the LMS (Learning Management System), the graduate students use Edmodo, Vinesa, and Ms. Teams. Besides, for the electronic devices, the graduate students use laptop and phone. Then, the graduate students also use other applications such as Youtube, WhatsApp, Reference Management Software (RMS), Grammarly, and Zoom. Furthermore, the use of those technologies and applications for promoting learning autonomy during the Covid-19 pandemic gives various opportunities for the graduate students, which are getting to know applications,

websites, and tools to support their learning, providing up to date materials, articles, information, and references or resources for their learning, and helping them to communicate or interact with their teachers and classmates. However, the graduate students also experience some challenges regarding the use of the technologies and applications for promoting their learning autonomy during the Covid-19 pandemic, which are internet connection problem, unnecessary or unclear information as well as irrelevant contents that make them unfocused or distracted, and problem in operating the applications or devices. Finally, as the subjects involved in this research are ten graduate students, future researchers who want to conduct a similar research related to this field of study are highly recommended to involve a larger number of subjects as well as more various subjects of research so that the research can reveal more various results.

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