The Effects of Using Education Technology Tools on Learning Grammar for Students in Secondary School

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ABSTRACT

Technology has become an indispensable part of modern life, and this is also true in education, especially during today's Covid-19 pandemic when students have to study online and offline. Educational technology and especially technology tools are used in teaching and learning English to promote teachers' teaching process to be more active, proactive, and creative, and also to help students have a more active and effective way of learning. In addition, technology helps teachers design their lessons more lively and attractive and provide extra lessons outside of regular school hours to help students understand the content of the lectures deeply, complete their assignments and expand their knowledge, especially grammar. This study focuses on the effects of using technology and technology tools in cultivating grammar for students, remarkably in supporting students in online learning. In this article, researchers have given definitions of technology tools, grammar, and types of tools commonly used in the process of teaching and learning grammar; thereby, teachers have the right choice for each type of technology tool for their lesson. At the same time, it also significantly improves the teaching and learning process when technology is applied.

Keywords:
Educational technology tools, effect, cultivate, grammar

Introduction

Today, the explosion of information technology has contributed to promoting the development of various fields, including education. In education, education technology tools (called EdTech) used in teaching grammar to lower secondary students have also brought many benefits to both teachers and students. And the online training model has developed into an inevitable trend of the times thanks to the burst of information technology. As Son (2018) said that the way we learn and teach is being changed thanks to technology. Ramya and Poondogy (2014) also claimed that the most influential things that can innovate and modify education are ICT tools. Therefore, the online teaching and learning model increasingly requires flexible methods and skills to bring about practical results. Son (2018) also claimed that using educational technologies effectively is the main topic in language teaching and an important emphasis in language learning that computers have assisted. The quality of education is improved...
remarkably when teachers use technological tools in teaching. Technological tools help students' learning and teachers' teaching conceptualize the accomplishment and assessment of the education system. Besides, after a long time, students haven't gone to school because of the rapid spread of the Covid-19 pandemic, most of schools have been obliged to choose ways to keep students learning to go on, and online teaching and technology tools are popular methods to help to teach and study better. Dastjerdi (2016) reported that the student-centered approach has virtually replaced the teacher-centered approach by using educational technology in teaching and learning that gives education get many benefits and chances to develop new education using E-learning. The methods and technology tools used in teaching it has brought many benefits to the quality of education for both teachers and students, such as innovation, acceleration, student enrichment, and depth skills (Tamang and Rinchen (2021a)). With benefits both teachers and students can get through using technology and technology tools in teaching, Shahid et al. (2019) claimed that in the teaching and learning process, teachers use technology to make progress in efficiency and efficiency of current drill activities and to make pedagogically beneficial changes to the career of education. For grammar, technology tools are useful ways for students to master and complete grammatical exercises. Bikoswki (2018) said that using technology to teach grammar presents not only challenges but also opportunities for both learners and teachers.

Literature review

Although there are many types of technology tools for both teachers and students to use in their teaching and studying, such as google classroom, google meet, Shub, and so on, it's difficult for them to choose suitable and good ones. Warnock (2009) said that technology is largely used in teaching. However, a question made for this situation is the way teachers use technology in their teaching. And Son (2018) claimed that teachers should be trained on how to use technology more and given more chances to practice technology integration in the language class. That will help them to get successful in their teaching both in primary school and secondary school. It was with that realization that I decided to choose this topic.

Today, no one can deny the popularity of technology in daily activities in society. And technology and technology tools promote its effectiveness much more when the covid-19 pandemic occurs, especially in the field of education. So what are educational technology (EdTech) and technology tools and grammar?

The definition of educational technology and technology tools, and grammar

Technology, including the knowledge, equipment, methods, and systems used in the creation of goods and the provision of services, is the invention, change, use, and knowledge of tools, machines, techniques, skills, systems, and organizational methods, in order to solve a problem, improve an existing solution, achieve a goal, or perform a specific function requires high levels of gray matter. In simple terms, technology is the application of scientific discoveries to practical and specific goals or products for human life, especially in the industrial or commercial field. Technology is the application of scientific knowledge to bring practical value, such as the design, manufacture, and operation of structures, machines, processes, and systems in the most efficient and economical way. In the field of education, the application of technology
in the teaching process is the use of computers, the Internet, and teaching software such as PowerPoint, SMAS, and so on, to help with teaching, learning, and managing lighter, simpler, and more effective. According to Samantha (2021), educational technology, or EdTech, is a general term that refers to a variety of digital tools and methods that can develop learning. Teachers use EdTech to plan lessons, create attractive ways to help students learn better, follow students' learning data, give a reflection and make decisions on students' learning results.

Tools in the field of technology are understood as tools that help us work faster, better, and be much more productive. Shehid et al. (2019) reported that in the teaching and learning process, thanks to using of technological tools, the interaction between teachers and students is increased. Technology tools used in education can be understood things which can help not only teachers but students as well get more effective results in teaching and learning. In the digital age, there is a variety of choices of technology tools for everyone, so depending on the lesson contents and students' level, teachers have a choice of suitable technology tools for teaching. Shehid et al. (2019) also said that in order to integrate technology into the teaching process, educators and teachers must execute the right technology tools to create the exact innovative environment for students.

Technology tools are one of the most useful ways for both teachers and students. However, which technology tools are a suitable choice for them is always given to educators. Bikowski (2018) claimed that educators are now searching for technology that can solve many of the challenges associated with teaching grammar in a way that develops communicative and meaning-based skills and efficiently teaches the English language.

Grammar plays an important role in forming a sentence, making communication, helping listeners understand speakers' situations more clearly, avoid haziness in communication. As some researchers stated, Brinton (2000) stated that grammar is the way to join each unit of language by a set of rules or principles of the working of a language, its system, or structure to make a meaningful utterance. Besides that, using formal English can help students succeed in expressing their ideas. As Cowan (2008) said, we can shift the tone from highly informal conversational English to more formal registers using alternative grammatical forms and lexical items. Cowan (2008) also claimed that speakers who make progress in grammatical competence would be able to succeed in internalizing the rule of the language and their constraints and create grammatical sentences correctly thanks to obtaining and using the rules of the language automatically. From this point of view, Cowan implies that teaching grammar is crucial at all stages of learning to make sure that students understand the language, use it correctly, and pronounce English clearly and coherently.

Scrivener (2013) claimed that grammar could help speakers express their opinion clearly, and correctly, so teaching grammar is necessary at school. However, it is a thing which Al Seyabe and Tuzlukova (2014) claimed that grammar is a problem for students because they just focus on the development and coherence of ideas. And the other thing is that they think grammar is unnecessary in speaking since they often use spoken English to talk together and to foreigners, so they often ignore learning grammar. In grammar lessons, the atmosphere in the class is so boring and depressing. Because of those reasons, it is difficult to teach grammar successfully because there is not enough time for not only teachers to explain the lessons but also for students.
to understand them and practice them in the exercises. However, classrooms and the results of students’ learning will be better thanks to the use of the EdTech and technology tools sensibly and accurately.

The influence of EdTech and technology tools on the grammar teaching process

Nowadays, teaching and learning are no longer teacher-centered way, but the student is the center and is also a determining factor in the teacher's teaching method instead. That requires teachers to prepare the contents of the lesson not only to be vivid and concise but also to attract the attention and focus of students as well. EdTech and technology tools can assist teachers in teaching and students with studying.

The application of technology in teaching, especially teaching grammar, plays a role in promoting open education, making educational activities more effective. Besides the knowledge provided by teachers in the classroom, students can reinforce the content that has been learned and research and deepen knowledge effectively thanks to multi-dimensional information access, shortening the distance, narrowing all spaces, and saving optimally in time. Besides open education, there are open learning resources (datastores - online libraries), which help teachers and students have a closer connection. Open learning resources are an inevitable development trend of modern education.

Open resources and open education also make it easy for both teachers and students to collect, synthesize, and store rich, diverse, and regularly updated knowledge. In modern education, teachers are only the transmitters of basic and core knowledge to students and guide them on how to find and exploit lessons related to the content, which are from an abundant and diverse data warehouse on the Internet. From the core knowledge learned in class, students can easily access online search systems such as 123.com.vn and K12-online and easily save the lessons. And at the same time, they can find other lessons or exercises related to the content to practice or broaden the learned grammar points. Therefore, students' learning becomes more active. They have more opportunities to practice, in order to maximize their creativity, especially in learning English. As Alsied and Pathan (2013) said, engineers, designers, and other people from other fields might find other technology tools to help to teach and learning of foreign languages like English to be more modern, self-motivated, collaborative, and stimulating.

Using EdTech and technology tools is to bring convenience because of flexibility in space and time of the study and the promotion of personal capacity development: with online lessons, students can easily participate in online lessons or self-study at any time, anywhere, or can save the lessons easily and quickly. The application of technology also creates opportunities for students to choose content that is not still understood or needs to be expanded to self-improve. Besides, with appropriate and attractive EdTech and technology tools, it is easier to have a good relationship between teachers and students. Using technology in the classroom helps students have a positive attitude towards learning, thereby improving the quality of teaching and learning. According to Sharid et al. (2019), technology tools can bring closer interaction between teachers and students.
Research Questions

EdTech helps not only teachers prepare their lessons more interestingly, attractively, and successfully, but also students be more self-confident in their studying. Therefore, teachers should understand the importance of Edtech and technology tools in teaching grammar. Teaching grammar is one of the most difficult factors in teaching language; therefore, teachers have to apply many different ways to pick out suitable ones for their teaching, and EdTech and technology tools bring a lot of benefits to teachers and students as well. Although using technology tools to teach grammar is a good choice, there are some drawbacks to teaching and learning that teachers have to do heart-searching. Depending on the previous research and the purpose of this research, the research questions of the present study are given as follows:

1. What are the effects of using technology tools on teaching grammar?
2. What are the attitudes of students on using technology tools to learn grammar?

Methods

This research implements action research to ascertain the usage and experiences of technology tools to teach grammar by the teachers. To get authentic results, the survey and questionnaire were given to some secondary English teachers to collect data. The purpose of this research is to make sure of the importance of using EdTech and technology tools to teach grammar to students in secondary schools.

Pedagogical Setting & Participants

Azar (2007) stated that thanks to grammar, students can ascertain the nature of the language and listen and realize what they read or write comprehensibly instead of individual words or sounds, pictures, and body language. To his statement, mastering grammar is very indispensable to students reading and writing more skillfully and assertively. Although grammar is crucial for reading and writing correctly and perfectly, teaching grammar is always a big problem for teachers. Azar (2007) also claimed that it is the most difficult for teachers to attempt to help a student who has no perception of the position of a period or the way to conjugate a verb in a sentence. Therefore, choosing a good way to help students understand grammar is always a priority for teachers. The length of a period is limited, but the content of each lesson has too many things for teachers to convey the lesson and correct the exercises. The fact is that it is extremely tricky for teachers to have enough time to explain grammar and let students do exercises about that grammar in each period. And EdTech and technology tools are a suitable choice to help teachers complete their teaching perfectly.

In general, using EdTech and technology tools when teaching grammar to students can not only help teachers save time in explaining the lessons and correct students' exercises but also help students have more time for their self-study and other advantages. Despite many advantages, the use of EdTech and technology tools brings a few challenges to students to be honest and self-study and for teachers to manage students' attendance and learning.
Research setting and participants

The current study initiated the assessment for two departments for measuring the awareness and usage of EdTech and technology tools for teaching grammar to students. This research was executed at Đông Hồ lower secondary school for students and English teachers in Hà Tiên city and learners taking this course. The students who are in grade 9 have taken six online tests and online classes since the beginning of the school year. The students spent Saturday afternoons completing the tests or participating in extra classes to consolidate the knowledge they had learned at school. At the same time, they could do exercises to remember the lessons clearly and deeply.

The research was carried out for sixty-eight students in grade 9 at Đông Hồ lower secondary school. They expressed their opinions about technology tools in learning. Besides students, twenty-six English teachers in Hà Tiên city and learners taking part in this course also finished this research to show their views on using EdTech and technology tools to teach grammar.

Along with the questionnaire, surveys in which, one in early November and the other in late February, were also conducted to collect students' opinions about using EdTech in learning.

Design of the Study

The mixed methods design, which includes both qualitative and quantitative research approaches, will be employed in the present study. This mixed-methods research is chosen because the benefit of this technique is that researchers are better able to collect and evaluate much more and a wider variety of data than they would be able only to use one technique. In combined studies, one strategy may be emphasized more than another or each method may be given equal weight (Fraenkel et al., 2012). Therefore, including qualitative and quantitative data in the research process may systematically provide the results with feasibility and accuracy.

To light on the two research questions, this research will integrate both quantitative and qualitative approaches, including the use of a questionnaire, individual interviews, tests including pre-tests, while-test, and post-test, and classroom observations (Anderson and Arsenault, 2005). These approaches are combined to evaluate the advantages and disadvantages of instructors implementing active learning strategies in the classroom.

Data collection & analysis

The data collection will be conducted for 15 weeks. Three instruments, namely questionnaires, observations, and interviews, will be carried out, respectively. Qualitative data was assembled and dissected to reply to the two research questions of the current study. Sixty-eight students in grade nine at Đông Hồ lower secondary school and twenty-six English teachers joined the survey to show their opinions after a long time of using EdTech and technology tools in learning and teaching. Questionnaires were carried out on google form by teachers and students so that it is quite straightforward for the researcher to synthesize the results of the survey.

Questionnaire

Questionnaires are lists of questions given to get students' opinions on the content related to the issue they are interested in. In this study, there will be four types of questionnaires about students' attitudes to technology tools, their experience of using them, the purpose they use
them, and keeping up with their learning with 41 questions. Questionnaires will be used to clarify what students think about using technology tools, their experience and purposes, and whether they will use these tools or not.

**Classroom observations**

Classroom observations aim to explore students' attitudes toward using education technology tools to learn grammar in secondary schools in Hà Tiên. The researcher will be helped or assisted by the teachers in the classes they take the research in observing the students during their teaching-learning process of learning grammar and taking the tests. After that, students' improvement achievement will be measured through the results of the tests. The researcher will attend six lessons with observation sheets and checklists; also record the lessons to code them later. The researcher will be a participant to obtain insider information and subjective data (Creswell and Poth, 2016).

**Semi-structured interviews**

An interview is viewed as a social engagement, and knowledge is created in the dialogue between the researcher and the participant (Creswell and Poth, 2016). Semi-structured interviews will be conducted with six participants who have been observed from the sample. This research instrument aims to discover insights into the effects of using education technology tools on learning grammar; therefore, this will be conducted in a classroom after school (not to be interrupted by anyone) about five to seven weeks after starting the research. Therefore, the researcher will ask questions about their feelings after using technology tools to learn grammar and results for this method in the interview. Each interview may last about five to ten minutes.

**Results/ Findings and discussion**

In order to clarify the problems and the research questions in this research, the methodology of using technology tools to cultivate students' grammar, estimation, and the response from the stakeholders are analyzed. Table 1 displays the summary of the teachers' questionnaire.

**Table 1. The summary of teachers’ questionnaire**

<table>
<thead>
<tr>
<th>Technology tools</th>
<th>The most popular tools</th>
<th>Easier and more effective tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>K12-online</td>
<td>9 – 34.6%</td>
<td>12 – 46.2%</td>
</tr>
<tr>
<td>Google form</td>
<td>9 – 34.6%</td>
<td>4 – 15.4%</td>
</tr>
<tr>
<td>Zoom</td>
<td>5 – 19.3%</td>
<td>5 – 19.2%</td>
</tr>
<tr>
<td>Azota</td>
<td>2 – 7.7%</td>
<td>4 – 15.4%</td>
</tr>
<tr>
<td>Google docs</td>
<td>1 – 3.8%</td>
<td>1 – 3.8%</td>
</tr>
</tbody>
</table>

Among various types of EdTech and technology tools, K12-online (used by 9 English teachers, accounting for 34.6 percent) and google form (also used by 9 English teachers, occupy 34.6 percent) are the most popular tools that teachers have used to help students learn grammar more
easily and effectively. Zoom, Azota, and google docs are also used by eight teachers (30.8%). K12 software has full functions to support teachers and students in teaching and learning; classroom features and abundant data warehouse are convenient, flexible, and effective in monitoring, sharing, and using, especially distance learning (online learning). Thanks to those elements of K12-online, teachers can teach more effectively, save a lot of time assisting students in mastering the lessons, especially grammar, and promote students' self-studying and investigating, providing access to numerous resources instantly. Teachers can create online classes on K12-online to answer questions, grammar structures, or exercises that students had not understood when they were in class. And then, after grasping the lessons, google form, used by nine teachers, is used to test students' knowledge because of its convenience and quickness.

Besides, K12-online classes allow students to work at their own comfortable pace and provide students with easy-to-access information and fun opportunities to practice what they learn. Google form can help teachers give students many exercises to finish to catch the lessons and grammar more perfectly. Teaching English by using technology tools also allows teachers to create an exciting way to educate students and encourage the development of new teaching methods. At the same time, students are able to be more self-confident and less stressed in learning. Thanks to these benefits, K12-online, Google Forms, and other technology tools are popular and efficient tools in teaching. Tamang and Rinchen (2021a) claimed that 86 percent of teachers around the world had used educational technology tools to teach effectively by motivating and attending the lessons. In addition, thanks to educational technology tools, students' learning becomes more innovative and motivated (Stockwell).

Technology tools, especially K12-online and google forms, are very popular with teachers by their efficiency. According to 12 teachers (46.2%), K12-online is a tool that is easy and effective to teach. They can set up the tests whenever they finish the lessons, and their students can take the test faster and better without any stress. Through these tests, teachers can summarize the results quickly and correctly. Students can find out their mistakes and ask teachers to explain theirs clearly. After each test, students can master the grammar clearly and correctly. Google form and azota are also used by eight teachers, while five teachers set up tests on zoom. Each technology tool has its own benefit. Shahid et al. (2019) stated that technology is a means to open wide doors of learning for everyone. Technology tools implemented in teaching promote students' learning, increase social interaction, assure results, and enhance students' engagement and learning.
In addition, students express their feeling when using technology tools in learning through the survey. There are 60 students (88.2%) who like to use K12-online, and eight students (11.8%) prefer to take google form tests because this tool helps them to release stress and be comfortable and easy when learning. More than 73.5 percent of students (50 students) like taking the online test, while 18 students (26.5%) dislike that because of some reasons. Most students think that taking online tests through K12-online or google form is easier, faster, get better grades than in class and, more convenient to finish when they have free time, less awkward than speaking in person. They have more time and more quietness for thinking of the answers without being disturbed by other friends. Besides that, it is easy for them to discuss the answers with their friends. Tamang and Rinchen (2021a) said that educational technology tools help learners innovate in learning, speeding up, widening, and deepening trained skills. David and Tearle (2004) have shown that educational technology tools have helped to reinforce the teaching and learning process.

**Discussion**

Regarding the findings that using EdTech in teaching and learning grammar is a perfect choice for not only teachers but also students. Using EdTech can assist students in having more chances for self-learning and self-training. And more time for students to do exercises or take online
tests will be given by teachers. Besides that, teachers can explore more interesting lessons and tasks to help students practice more. In summary, lessons and tests will be more attractive and effective when using EdTech.

Although using technology tools to teach grammar gets a lot of good results, there are some drawbacks that teachers must be careful about when using them. Sometimes when using these tools, some errors occur that both teachers and students have to know how to install. Teachers can disconnect students from face-to-face relationships. It can make it easier to cheat. Taking online tests is unequal to students if they are cheating while taking the tests. It is one of the reasons why some students do not like taking online tests. The good students feel bored with the easy lessons or exercises while the others have difficulties solving them or using technology. It is more difficult for students to complete essays due to time for the tests.

**Conclusion**

In conclusion, when the teachers have suitable methods for teaching English, especially grammar, they can help their students improve their English more. Only by having a thorough grasp of the importance of grammar can students discover the best ways for themselves to learn English better. As Cowan (2008) claimed that “The grammar of a language changes over time. The changes, which often stretch over hundreds of years, are rarely noticed by anyone except linguists.” Although there have been a lot of changes in teaching grammar at school in recent years, grammar is an important part of learning English in forming formal English in both writing and speaking that are requisite skills for any learners, particularly people who need English for their future jobs. Grasping grammar firmly helps learners be easier to share their ideas and understand other speakers' sayings, exactly as Mart (2013, p. 2) stated that when learners seize the essence of structures, they can make their conversation coherently. These structures help them convey their sentences much more easily and inclusively. Hence, teachers have to master these structures and find out the best ways to help their students understand them well. Teaching English grammar will be more successful and get better results if both teachers and students recognize the importance of grammar and choose the best teaching and learning methods. And the results of the teaching and learning process are better if teachers can choose suitable methods to teach, especially technology tools. These tools can not only help teachers prepare the lessons better, more effectively, and more attractive, but also students have more chances to master the lessons learned at school, widen their knowledge, and take the tests better. Tamang and Rinchen (2021b) claimed that using educational technology tools correctly could change the environment of learning into a learner-centered method. Educational technology tools not only have a powerful impact on student learning but also help them find independent self-study methods and the most appropriate way to learn. Educational technology tools provide opportunities for learners to self-assess and make learning more accessible (Meyer et al., 2008).

The researcher expects that students will recognize the importance of learning, especially learning grammar in English, through using technology tools. The researcher also expected that students' motivation was positively more than negative when native speakers taught them.

Besides the strengths of educational technology tools used in the teaching and learning process, there are still a few limitations that the following studies should seek to overcome, such as:
“teaching methods for online courses, course design for online teaching and learning” (Pham, 2022), internet connection or power supply (Uong et al., 2022), students attention.

References


**Biodata**

*Tu Thi Hong Phuong has been working as an English teacher for more than 20 years in a secondary school, in Kiên Giang, Vietnam. During this period, she has faced many problems in teaching and drawing a lot of good experiences, especially in assisting students to train grammar.*