II International Student Conference
Shaping the Science
August 13, 2020

International Journal of Engineering Applied Sciences and Technology, 2020
Special Issue on International Student Conference, ISSN No. 2455-2143
Published Online August 2020 in IJEAST (http://www.ijeast.com)

LANGUAGE TEACHING IN A DIGITAL AGE: INTEGRATING THE TECHNOLOGY INTO THE CLASSROOM

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***Abstract*— The paper aims to investigate the ways technology can be integrated into both traditional and online language classrooms. The research analyses which part of the lesson teachers can apply technological tools to, based on previous studies conducted on the categories of technology in educational context and the events of instruction during a class. Moreover, it suggests a number of software applications that can modify or even transform language learning experience both inside and outside the classroom. The results serve to help language teachers be able to easily select technological tools, and to point out the need for teachers to use these tools in order to deliver more effective lessons.**

Keywords—**Technological tools, technology-classroom integration, online learning, language teaching**

I. INTRODUCTION

There is no field technology has left unaffected. It has drastically changed the ways people interact with one another and the ways people think of the world. It has also changed the way people are educated. Especially, after the global pandemic that marched in early 2020, the world has come to realise that technology can break distance barriers in education and create opportunities for learners regardless of their location. Schools and colleges around the world have all started to use technology to some extent: to turn their courses online, to provide blended learning, or to simply communicate with students.

However, were teachers and school administration ready for this transition? Did they have the right and enough equipment to provide online courses? Did students have access to technology and internet to visit online lessons? Most importantly, did teachers have enough knowledge of technology to lead as effective lessons as they would in a traditional classroom?

The answer to above asked questions is, in most cases, no, especially in regions where technology illiteracy is low. In their research (Vogels and Anderson, n.d.), Vogels and Anderson suggest that more than half of the Americans, yet a developed country, do not have satisfactory digital literacy skills. If this is the case in one of the world's most developed countries, ("Demographics of Mobile Device Ownership and Adoption in the United States | Pew Research Center," n.d.) where more than 80% of the population own at least one smartphone, then reasonably this situation is much worse in world's underdeveloped countries, meaning that they were simply not ready for changes brought by the novel virus.

But this is not the only problem faced by educators who want to use software in both traditional and online classrooms. In fact, many teachers simply do not have available equipment and hardware to do it. In one research (Initiative, n.d.) it is stated that the world's middle- and low-income families have significantly less access to computers and high-speed internet. This is one of the major barriers that prevents both students and teachers to use software tools during the lesson (Soliev, 2020).

Another, yet more important, problem when it comes to integrating technology into classroom is the abundance of software applications. This is what stops the teachers who have digital literacy skills and who have the equipment from using technology in their lessons. According to one study ("Why So Many LMS Vendors? - Talented Learning," n.d.), there were more than 800 Learning Management Systems, the most popular software tool used by educators. Nevertheless, each of them has their own unique functions and can be integrated into different parts of the lesson. In other words, to get the most out of each technological tool, teachers should consider how and what part of their lesson that tool can modify and transform (Saliev and Soliev, 2015). These are the problems teachers face when it comes to applying technology to the classroom.

While the first two problems can be resolved through video tutorials on how to use technology and through acquiring hardware or necessary equipment for classroom, such as projector, the third problem needs a deeper look and a different solution. Teachers need skills to distinguish and sort out the software tools to meet their lesson or course objectives, which seem out of reach for many teachers. For this reason, this research paper aims to guide teachers on how to select the right technology tools and best fit them into lessons. The paper will also suggest some of the best software tools to be used in the classroom in 2020.

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II. METHODOLOGY

To achieve the goals, we have completed the following 3 steps:

1. We have looked at how language lessons are designed in order to allow us to find the suitable technology for different parts of the lesson.
2. We have looked at different categories of technology that can be used in educational contexts.
3. We have combined the findings of the previous two steps and formed a Technology Evaluation form which can be used to evaluate and select different types of technology for each event of the lesson.

A. Lesson Design and Events

Almost every lesson in language learning classrooms follow a similar pattern. They usually start with warm-up or lead-in activities and finish with assignments. According to Robert Gagne (Gagné, 1965), the instruction-based lesson should be consisted of 6 main steps. The following chart describes those 6 events of the lesson:

Figure 1. Six Events of the Instruction (Gagné, 1965).

Step 1: Background Knowledge – the main purpose of this event is to motivate students and bring their attention to the lesson, by helping them remember what they already know about the topic, in a direct or indirect way. This activity is often known as "ice-breaker" activity, especially among TESL teachers. This is the first and important step in lesson, as without it lesson might go unsuccessful and learners unengaged with it.

Step 2: Organise and Manage Information – this activity includes explaining the objectives for the lesson as well as showing the overview of the information that the students will acquire by the end of the lesson. Marzano (Marzano, 2001) stated that setting specific objectives in each lesson showed a significant improvement in academic achievement, an increase of 34 percentile points from the point when goals are not used.

Step 3: Giving Instructions – this is when a teacher presents new content and gives instructions on how to do something new. Usually, teachers use 'scaffolding' approach to explain new materials – that is they explain a new topic by small chunks and sequencing.

Step 4: Practice and Collaboration – after giving instructions, educators usually show examples and encourage learners to imitate that example. This stage can be called "Guided Practice" in other words. Because at first students cannot perform a newly acquired skill without the guidance of the teacher. For that reason, teachers should collaborate with students and show, for example, how to talk about hometown, how to write a argument-supporting sentence, etc.

Step 5: Produce and Demonstrate Proficiency – now learners should demonstrate what they have acquired during the lesson. This can be done through projects, open-ended questions and presentations. But multiple choice questions should not be used at this stage, as it does not let the learner show his real knowledge.

Step 6: Assessment and Feedback – formal assessment tests and feedback are important. Assessment lets learner know what he has acquired and if he completed the objectives set for the lesson. Feedback helps learners observe their mistakes and strengths, and act on it.

B. Nine Categories of Technology

There are countless number of software tools available to use in educational contexts at the moment. But in general, most of them have similar functions and may be categorized together. According to Pitler and Hubbell (Pitler et al., 2012), software applications that can be used in teaching and learning can be grouped into 9 different categories. The table below represents these nine categories and give definition to them:

Category	Definition	Examples
Word Processing Applications	Software that allows users to type and edit text.	Microsoft Word, Google Docs
Organising and Brainstroming Software	Software that helps users to organize, connect and categorise ideas.	Webspiration, Inspiration, SmartTools
Data Collection and Analysis Tools	Tools that allow users to gather and analyse data.	SurveyMonkey, Microsoft Excel, PollEverywhere
Communication and Collaboration Software	Software that replaces traditional forms of learning with video, audio, text, that allows users to join discussion boards, and that lets users work together	Moodle, Skype, Facebook

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Instructional Media	Technologies that provide or facilitate the creation of videos or recordings that are intended for use in learning	Discovery Education Streaming, Khan Academy
Multimedia Creation	Technologies that allow users to combine audio, video, music, pictures, drawings, or any combination into a final product	PowerPoint, Keynote, iPhoto
Instructional Interactives	Technologies that are controlled by the learner to enhance understanding of a concept: games and manipulatives	MathBoard, Star Chart
Database and Reference Resources	Resources that provide users with information and data	Wikipedia, RubiStar, GapMinder
Kinesthetic Technology	Technologies that interact with the user's geographical or physical location and movements.	Xbox, GPD devices

Figure 2. Nine Categories of Technology for the use in education (Pitler et al., 2012).

C. Technology Evaluation

Finally, in order for teachers to be able to select technological tools according to their needs and deliver effective lessons, our research combined 6 events of the instruction and 9 categories of technology in order to better search and select software tools. By doing so, teachers will be able to better understand the technology and the ways it can enhance their lesson.

III. FINDINGS

The research showed that technological tools can be evaluated using the Technology Assessment Form before being integrated into the classroom. The table below presents the Assessment Form for the software tools used in education. The columns represent nine categories of technology and the rows represent six events of the instruction. The table also gives examples of some of the tools that can be integrated into lessons to make the learning experience more engaging and enjoyable. The example tools in the chart are chosen with a careful selection through rankings and recommendations given by fellow teachers and linguist experts.

	1. Word Processing Applications	**2. Organising and Brainstorming Software**	**3. Data Collection and Analysis**	**4. Communication and Collaboration Software**
Stimulate Background Knowledge			Poll Everywhere	
Organise and Manage Information		Coggle		Moodle
Giving Instructions				Zoom
Practice and Collaboration				Zoom
Produce and Demonstrate Proficiency				Learnclick / PowerPoint / iMovie
Assessment and Feedback	Google Docs			Write and Improve

5. Instructional Media	**6. Multimedia Creation Tools**	**7. Instructional Interactives**	**8. Database and Reference Resources**	**9. Kinesthetic Technology**
Ted Talks				NASA Earth Now
	PowerPoint			
		English		

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		Central		
			Duolingo	

IV. DISCUSSION

The findings show that specific tools enhance only specific event of the instruction. This can be a very useful reference for the teachers who are not 'techy'. Because technology brings new activities and transforms learning experience, giving students a sense of modern-day classroom. Technology is a game-changer in education and there are reasons teachers should not avoid using technology in their classes.

A number of linguists in their paper confirm that technology has indeed enhanced language learning experience and made the process more effective in many ways. For one, it has made education available for everyone, regardless of where they are ("A Developmental Perspective on Technology in Language Education - WARSCHAUER - 2002 - TESOL Quarterly - Wiley Online Library," n.d.). Learners from across the world gained access to world-class courses and even degrees, provided by prestigious universities such as Harvard, MIT, Duke, Stanford, Imperial College London, and many more. Colleges like Arizona State University, UCLA provide English language learning and teaching courses. Except from formal courses, there are millions of bloggers, amateur teachers and native English speakers who record video lessons, teaching English, and upload them to platforms like Youtube, Udemy that can be accessed by everyone.

Technology has also created opportunities for better and far more effective communication and collaboration. Technology has allowed students to work on authentic assignments and discussion tasks synchronously (Veerman et al., 2000). For instance, students can enter or edit text simultaneously on Google Docs and exchange their opinions. The distance between students is no longer a barrier. Software tools allow students to work together online wherever they are.

The roles of learners and teachers have been influenced by technology, as well. In the past, teachers were the only source of information, as there was no internet ("How Has Technology Changed Education | Purdue Online," n.d.). After the advent of internet, however, teachers are no longer the encyclopedia; rather they are simply guides or instructors who direct and show the pathway to students, as students have access to information through online resources such as Wikipedia, Youtube, Facebook forums. As a result, teachers have adapted their lesson plans accordingly and included reference materials for students to independently research and learn information available on the net.

Technology has a transformative power and should not be avoided by teachers. Instead, teachers should seek for ways they can enhance their lessons using software applications. Even though there are a lot of tools available, teachers can still sort them out and integrate into only specific parts of the lesson.

This paper has aimed to help teachers be able to select tools and apply them in different parts of their lesson. The resulting Technology Assessment Form can be used by any teachers to analyse and evaluate a particular software application. By using this form, teachers are also able to understand the different types of technology and the changes it may bring to the classroom experience.

V. CONCLUSION

Technology has transformed all the industries, and education is no exception. Technology is modifying and even transforming the way teachers teach and learners learn. The beneficial effects of technology on education have been very obvious, in particular, after the global pandemic marched in early 2020. Although for language learners the pandemic was rather detrimental, as they were unable to improve their communication skills in a foreign language as effectively as they would in a traditional classroom, technological tools, such as Zoom, Facebook Messenger, still enabled learners to learn languages online.

This study leads us to several conclusions:

- There is no single universal software application that can complete all the functions of the most common tools. Teachers need to apply at least 2-3 tools into their lessons for their lessons to be technologically enriched. For example, to explain the objectives of the lesson, teachers should use organisation software, like Coggle, to give instructions in online classes, teachers should use Zoom, and then to let students demonstrate their proficiency, they should integrate assessment tools like Learclick, Write&Improve, or LMS.
- Teachers should be able to select technology according to their objectives in their lessons. For instance, it is not reasonable to use a kinesthetic technology when they want to teach how to write in a foreign language. Similarly, it is hard to integrate skill-focused software such as Write&Improve in speaking classes.
- Teachers should never avoid technology because it can transform the learner experience. It makes education accessible, improves collaboration and communication, and makes lessons more productive and effective.

Technology will continue to transform the education. There are new trends in technological development: Artificial Intelligence, Virtual/Augmented Reality (VR), which are going to be implemented in teaching, especially language teaching. Because VR, for example, enables learners to go to virtual tours and to feel themselves as if they are in a real environment. In 5-10 years, language learners will wear their VR devices and set the environment to be in a foreign country, like UK, China, of which they are learning languages, while the teacher will be giving instructions on the tour sites.

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For this reason, in the future researches, the applications or integration of Artificial Intelligence or Virtual Reality should be studied and analysed. Changes they may bring and their effects also require studying. Virtual Reality can completely transform online learning, or even traditional learning, experience. It creates a virtual world and lets users not only see materials but also use, touch and interact with it. Rather than reading about life in London, VR lets students be transported to London virtually. If it is applied in online language classrooms, it can produce even more effective results than the campus-based learning.

Technology is the way out and it is there to change the basic concept of teaching or learning. In a digital age, technology must be used in every class.

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