UNIVERSITI MALAYSIA PAHANG

EDITORIAL

Information and Communication Technology Literacy in Language Teaching and Learning

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ABSTRACT – This paper highlights the importance of Information and Communication Technology (ICT) in language teaching and learning. In the rapidly developing world, information sharing and communication have become quite easy via web applications. However, learners still face some difficulties as they do not know how they can benefit from technology for learning a language, or they are not given the opportunity and guidance they need for effective use of ICT. In this paper, first some background information is given about the development of ICT and its place and role in language teaching, and then, effective language learning through ICT is discussed considering the advantages and disadvantages of integrating this technology into language classes. It is also pointed out that various technological devices should be used in classroom language teaching to familiarise learners with ICT and motivate them to learn on their own with the technological tools and sources available for their use. It should be kept in mind that learners need guidance, particularly in the initial part of their formal education, about the sources they can use as the number of tools such as softwares, applications and websites is increasing day by day. They cannot cope with the devices and sources without help of the teachers.

INTRODUCTION

Education is a process starting from early ages and lasting till the end of life. Simmons and Hawkins (2009, p.5) define it as "a holistic approach to the development of an individual" and add that "it should develop their knowledge and understanding of the world around them and provide them with the skills to function in society." Education is something beyond the issues of teaching and its applications. They point out that education should endow learners with the skills for communicating with other people, contributing to the society, increasing their self-awareness, self confidence and helping them function in the world. Education has an important role in forming 'a love of learning' and developing a questioning mind to learn something more (Simmons & Hawkins, 2009, p.5).

To ensure a sustainable, peaceful and productive life in the future, individuals should be raised with the skills helping them cope with the problems they are going to face. Since the 21st century is the age of "technology" and digital learning, learners need to carry out learning activities in the classroom and independently through technology. This is because technology has become an important platform of knowledge transfer, and this changed the traditional way of teaching and learning. Technology gives learners the opportunity to learn meaningfully through various activities (Cennamo, Ross & Ertmer, 2010). Technology integration to teaching is not an option but a must as it changes the way people work and live. It also has an influence on how people think and act (Grabe & Grabe, 2007).

In addition, the world is rapidly changing as a result of technological developments. In fact, Plato (428 BC - 348 BC, cited in Mullamaa, 2010, p. 44) has foreseen the possibility of these developments and said that "someday, in the distant future, our grandchildren's grandchildren will develop a new equivalent of our classrooms. They will spend many hours in front of boxes with fires glowing within. May they have the wisdow to know the difference between light and knowledge." The entrance of personal computers into houses, offices and schools in the second half of the 20th century altered education given in schools. This situation has also affected the role played by teachers and learners. The traditional teacher-centered classes have left their places to student-centered ones. Instead of learning by means of instructions, facts, pattern drills, and exercises provided by teachers as in traditional classes, due to ICT technology, learners are exposed to projects, problems solving activities, discovery and invention oriented inquiries, and creativity, which have become more popular.

The term ICT, which stands for 'information and communication technology' (Cambridge Dictionary, 2021), entails a set of technologies having various purposes and scopes in learning and teaching. This term has a group of conceptual understandings which are associated with a notion of ability, literacy or how to integrate information using technology into learning and teaching context. However, Loveless and Ellis (2001) draw attention to the wide range of understanding the term gives way and indicate that it creates problems. For that reason researchers have used some other expressions such as 'IT', 'digital technologies', 'technology' to express their views about this topic (Loveless & Ellis, 2001, p.4).

ICT which is constantly changing shows an interactive and dynamic nature, and hence it needs to be kept up-to-date when integrated into teaching. This may cause anxiety to teachers, but it may inspire as well. It is a fact that many

technologies used in schools are replaced with new and improved ones. Heppell (2001:xvi) explains this situation in his book The History of the World published in 1955 as follows: "When your Daddy was a boy there was no television. What will your children have tomorrow, that you have never dreamed of today? That depends on you." The devices and technology can change or new ones can appear yet the main concepts and rationale connected with ICT will be the same. For that reason, the aim of teaching should be to inform pupils about choosing the right ICT tool they can use for a given task, the way of using a systems model and the principles underlying human-computer interface (Simmons & Hawkins, 2009).

THE ROLE OF ICT IN TEACHING AND LEARNING

The role and prominence of ICT cannot be denied in the teaching and learning of any subject in the 21st century. It is an essential component of formal as well as informal education which gives opportunity for increasing quality and level of knowledge acquisition. Then, what should be considered is the technologies involved in ICT. Here are some examples (Ammani & Aparanjani, 2016):

Computer and the Internet

In the second half of the 20th century, computer became a device many people afford buying owing to the advances made in technology, and eventually its usage spreaded around every field ranging from statistics, arts, design, economy to education. Furthermore, softwares, CD-ROMs, Office softwares, webpages that can be accessed through Internet have formed the fundamental interactive tools pupils can use to learn and expand their knowledge.

E-books

An electronic version of a print book is called as e-book, and it can be read in the computer, mobile phones or e-Book readers such as iPods and Kindle. They can be used in the classroom to highlight important aspects of texts, to show graphics, posters, video and images.

Audio Books

These books are sources produced through loud reading of the content of a book on a CD or a digital file. Considering the fact that oral language appears earlier than written language, the use of audio books can help learners improve their pronunciations, learn new vocabulary and understand their meanings, realize the grammatical rules in sentences, and figure out the right usage of sentences in context.

Webinar

In ICT, webinar is an example of communications technology. It gives opportunity for online learning through interactive seminars which are usually carried out live on the world wide web.

Interactive White Board

Interactive White Board (IWB) is a tool connected with the computer and data projector, and used to produce video clips, pictures and illustrations through access to various websites. Considering the fact that most of the learning comes from visual aids rather than just hearing or reading, the importance of this device can be understood easily.

Mobile Apps

Technological mobile devices such as smart phones, laptops, iPads, and tablets have enabled learners to reach information sources rapidly and easily. This gives way for them to improve their knowledge with the use of applications such as dictionaries, quizzes, games, tests, blogs, and podcasts.

Tape-recorder / Gramophone

These tools are used to present the authentic examples of the language forms such as stress, intonation, tone and pitch. Nowadays these devices are not in common use as they have been replaced with the tools connected with the internet.

Television

As it appeals both to hearing and seeing abilities, television is able to help pupils learn efficiently. Programmes recorded on CD, cassettes or USBs can be shown to pupils to learn topics in an entertaining way.

Web applications

Web applications allow learners to share their materials, experiences and ideas with each other. They can benefit from these applications by socialising with people living in different parts of the world and improve their communication abilities.

These devices enable learners to access resources they can use to improve and increase their learning. Studies have provided evidences that integrating ICT into lessons have positive impacts on learners' academic performance and learners enjoy using it in their lessons (Bueno-Alastuey & López Pérez, 2015, Dzakpasu & Adom, 2017; Ghavifekr & Rosdy, 2015; Sun & Yang, 2013).

Most of these sources correspond to the sources mentioned in the cone developed by Edward Dale (1969) to emphasise the importance of experience in learning. While preparing his cone, he was under the influence of the ideas expressed by Pestalozzi giving weight to learning through activity, and John Dewey stressing the necessity of extending the learning experiences from educational institutions to the real world through meaningful learning. His main purpose was to draw attention to the relationships among various types of media and their use in educational context. For him, the "Cone of Experience" was a "visual analogy" illustrating the development of learning experiences from the concrete to abstract (Dale, 1969, p. 10). As one of the early pioneers of ICT technology, Dale has given weight to the use of technological devices such as television, radio, motion pictures and laid the ground for the integrations of these devices into teaching process.

Subsequently, the progress made from the machines used to teach in the 1960s to the multimedia-based PC has transformed the function of the computer from tutor to tool. Early educational software which consisted of drill-and-practice programmes and offered just programmed learning has evolved to multimedia authoring. This has triggered a competition between operating systems and increased the level of ICT use in education (Abbott, 2001). The revolutionary technology such as computer, Internet and mobile phone created in the second half of the 20th century has made personal and cultural relationship between individuals easily accessible, and this has both positive and negative effects on education.

In his review of the technological developments from the invention of printing to the period of ICT, Kenning (2007, p.107) argues that before printing there were three organizational models: 1) 'learning through one-to-one modelling' in which observation and imitation played the vital role for learning; 2) 'going away to an expert' which involved imitation and hands-on-experience beside the use of listening and remembering; and 3) 'knowledge spreading through writing' which was connected with the presence of secondary experts who can read and interpret the words produced by experts. However, the invention of printing changed the picture dramatically and education was given to more people in schools. Then, technological devices such as telephone, radio, television appeared, and they were used as teaching aids rather than items changing paradigms.

In the 1970s, according to Kenning, computer has begun to be used for educational purposes, and this opened the way going from formal education given in schools to learner autonomy relying on individualization and learner control. In other words, learners have had more opportunities for carrying out individual education. Lemke (1998, p.295) points out this fact as follows: "New information technologies will make it possible for students to learn what they want, when they want, and how they want, without schools".

The expected paradigm shift since early periods came with the development of the world wide web which was named as 'interconnectiveness' by Collis (1996, p. 582). It enabled people to be connected with other people, and diminished the borders existing between geographical areas. This has given way to the following four novel approaches in education (Kenning, 2007, p. 109):

1) providing access to things or processes used for formal learning
2) setting up skill exchanges enabling people to list and demonstrate their skills for credits or money, i.e. act as skill models,
3) establishing a peer-matching network allowing people to find others interested in a particular topic,
4) setting up reference services to educational administrators, pedagogical counsellors and intellectual leaders.

EFFECTS OF ICT ON LEARNING AND TEACHING

The revolutionary technology such as computer, Internet and mobile phone created in the second half of the 20th century has made personal and cultural relationship between individuals accessible, and it comes with consequences. One of the effects of ICT is its ability to change communities as it creates new groupings within the social networks. As a result of this development, new metaphors such as Webrings and Netrings emerge. Young people start having multiple identities, usually in online fictional world. Being far away from each other is not a problem because physical space, that is others 'geographical separation' loses its importance and sharing same ideology becomes the connecting philosophy for forming virtual communities. Publishing books, journals, magazines is much more easier than the old times, and people inform each other about new sources through these platforms set up virtually, and thus they offer educational possibilities for members of the group. Social interaction among learners enables them to exchange ideas, sources and share information with each other, and this indirectly contributes to the development of IT skills (Abbott, 2001).

Another effect of ICT on education is changing the purpose of school. According to the traditional view, school is the place where education is taken. However, innovative educational technology gives learners the chance of taking their education at home. Relying on the effective use of IT as a school subject, the movement from rule-based classroom learning to open and flexible learning labelled as 'home-schooling' has appeared (Abbott, 2001, p.2).

In fact, the suggestion of home-based education has first come from Hills (1980). In 1980, he remarked that it is possible to have a home-based educational system instead of formal education given in schools where teachers inform students about the subject they teach. However, many people were showing strong reaction towards the idea of a world in which schools do not exist any more (Abbott, 2001). Although there has been resistance and some negative reactions for having home-schooling, this became a reality with the COVID-19 pandemic. In addition, COVID-19 also demonstrated that learning through distance education, where learning is conducted via the Internet using platforms such as Zoom and Google Meet, was necessary. Such systems also indicate some pros and cons. For example, educators have realized that certain topics are more convenient to teach through distance education, but some others requiring practice such as medicine, engineering and dentistry are not.

In addition, it has been understood that computers would not take over the place and role of teachers in schools, as assumed in the early years of Computer Assisted Language Learning (CALL), to much relief of the teachers (Padurean & Margan, 2009). Nevertheless, there still exists the problem of integrating technology into education. As emphasised by Stephen Heppell (2001, p. xvi, cited in Loveless & Ellis, 2001, p.xvi), technology does not have the power of changing education systems on its own, but it finds a position to itself in the systems after a trial period. He then adds that in this period of accommodation, participants become the key players. He describes these participants as ones (Heppell, 2001, p.1):

who are well informed, reflective, imaginative, collaborative, creative, democratic and critically aware of issues of access, equity and social justice. Participants, that is, who have been actively involved in an education system which fosters this approach to change in society—a society which can be described as the 'Information Society'

However, learners have their own personality traits affecting their learning and depending on these traits, they can prefer to learn through hands-on experiences instead of simply learning through instructions. In addition, it is usually expressed by learners being a part of distance learning that they are anxious about their learning, and they need more collaboration (Simmons & Hawkins, 2009). Furthermore, learning can take place unconsciously through observation while watching television, talking to friends or reading books, journals, newspapers or consciously to have knowledge about school subjects. Taking this point into account, Simmons and Hawkins (2009, p. 7) suggest that "as teachers we need to exploit pupils' natural desire to learn, to utilize their learning outside school and encourage them to actively engage in the learning process and to become self-regulated, motivated, lifelong learners."

THE ADVANTAGES AND DISADVANTAGES OF ICT TECHNOLOGY

ICT technology whose availability has increased day by day is changing both society and education by bringing new facilities and practices to people. Nevertheless, it should be kept in mind that even though there are many advantages connected with the use of ICT in language teaching and learning, there are some disadvantages.

Using ICT, teachers can explicate abstract concepts, create activities attracting learners' attention and increase learners' interest. ICT based activities can motivate learners to learn more about the subject they study. ICT mediated teaching can help learners to develop their creativity by presenting new ideas to them. Approaching the issue from learners' collaboration with each other, Pena (2011) makes a similar remark about creativity. In flexible time and space, learners can be engaged in communication and exchange ideas. This can provide a positive learning environment and increase productivity. Learners' participation to the class can go up through ICT use. Furthermore, the use of ICT can have a positive influence on cognitive abilities as it may act as a stimuli for learning (Emzir, İsmail, İsmail, Sari, 2019). Learners can have access to the materials they need at the convenient time and study them at their own pace. They can choose subjects matching to their interest areas (Narbutas, 2010).

As an active participant of education, teachers play a key role in raising the new generation and preparing them to the future. However, the question that should be answered is whether they have the qualities, competencies, characteristics and skills a good teacher should have to cope with the requirements of the evolving world. On the contrary to the earlier times in which teacher literacy was based on the word or text, today's literacy is associated with the knowledge and skills of using information and communication technology such as media, Internet, e-tools, mobile phone applications, and computer programming. Familiarity with multimedia involving words, sounds, pictures and moving images, data interpretation and analysis has become a necessity rather than an option (Abbott, 2001; Cennamo, Ross, & Ertmer, 2010; Wagner, 2008). The role performed by the teacher can change; however, teacher will always have its part to play. Having ICT as a tool in the classroom means there is the need for someone with the familiarity, expertise, knowledge and competencies to assist learners. Collis (1996, p. 583, cited in Kenning, 2007, p. 114) draws attention to this fact as follows:

> The more there is to choose from, the more we will occasionally crave someone to help us with decisions. The more we move to self-choice and personal decision making about learning, the more we will occasionally desire external reward and feedback for our work and achievements. The more we talk to anyone, the more we will crave having a special person to talk to that really knows us and our history and our needs.

This necessity provides assurance to teachers who have fear of being redundant due to the increased technology use in teaching. On the contrary to this believe, teachers are needed to help learners to choose the right item fitting to their purposes. ICT can contribute to teaching profession by improving the level of literacy, skills and competencies teachers should have.

Kenning (2007, p.115) points out an important facet of education and notes that there are areas in which technology use may not be appropriate. Therefore, retaining direct contact with learners is necesssary for the development of these areas. She explains these areas by distinguishing 'mental development' coming from Piaget's view concerning psychological side of education and 'internal development' depending upon Vygotsky's ideas relating interacting with people and cooperating with peers. In the former the teacher will carry out the function of providing right materials and learning opportunities, in the latter the teacher will participate in learning actively as a communicative partner in order to help learners to show high development they cannot achieve on their owns.

CONCLUSION

In the 21st century the priorities given in education changed from the textbook knowledge to ICT skills and this trend changed the traditional language teaching. Now, it is clear that new generations need good navigation, processing and analytical skills to cope with the requirements of the digital age. Learners should be aware of what is new, useful and innovative and how they can access it. Therefore, the teacher should act as a guide to show the ways of reaching the information they need. The teacher should provide assistance in interpreting and absorbing the information they obtain from various ICT sources and lead learners to develop strategies for finding solutions to new problems and meeting the demands of changing world.

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