ICT-Based Teaching-Learning Tools Used in ELT

Dhurba Kumar Shahi [1,]

[1]Associate Professor, Achham Campus, Mangalsen, Achham. (Tribhuvan University)
[1]Corresponding Author: **ORCID**: https://orcid.org/0009-0007-7123-2000 Email: shahidhurba123@gmail.com

Abstract

Information and Communication Technology (ICT) has revolutionized education, particularly in the field of English Language Teaching (ELT), by providing diverse tools for creating dynamic and interactive learning environments. This review-based research paper explores ICT-based teaching-learning tools and their impact on ELT, drawing on a wide range of studies to analyze their efficacy, applications, and challenges. Key ICT tools such as computers, mobile phones, tablets, digital recorders, interactive whiteboards, and traditional yet versatile devices like radios and televisions are examined for their contributions to enhancing language learning. ICT tools are instrumental in providing authentic learning materials, fostering collaboration, and enabling student-centered, self-directed learning. They support various educational activities, including lesson preparation, classroom interaction, feedback, and assessment, while offering learners the flexibility to engage with resources anytime, anywhere. Emerging concepts like Mobile-Assisted Language Learning (MALL) highlight how mobile devices personalize and enrich learning experiences, making language acquisition more accessible and effective. The findings demonstrate that ICT facilitates better access to information, promotes critical thinking, and enhances learner motivation through multimedia capabilities. Furthermore, ICT enables the transformation of traditional educational practices into digital, collaborative, and lifelong learning frameworks. Despite its potential, effective integration of ICT in ELT requires addressing challenges such as infrastructure development, teacher training, and stakeholder awareness. This paper concludes that ICT tools are indispensable in modern ELT, bridging educational gaps and offering innovative approaches to language instruction. Future research should focus on optimizing ICT integration, ensuring equity, and developing strategies for overcoming barriers to its effective use in diverse educational contexts.

Keywords: ICT-based tools, English Language Teaching (ELT), Digital learning, Technology-Enhanced Language Learning

Introduction

ICT is the modern technology for storing, manipulating, and disseminating information that has brought a revolutionary movement in education, information, and communication. In this context, education has been highly influenced by the use of ICTs since they demand the wide use of information and communication in its process and product. According to Puustinen and Rouet's (2009) study, ICTs are commonly used to facilitate constructivists' problem-based learning approaches in educational settings. Furthermore, they argue that ICT plays a vital role in

teaching and learning, not only in designing, storing, retrieving, and sharing information but also in fostering communication between/among students, instructors, and other learning collaborators. Furthermore, Aoki (2010) viewed ICT as transforming traditional education (t-education) into electronic education (e-education). By overcoming the constraints of time and space, ICT has revolutionized the transfer of information and knowledge, benefitting from the rapid advancements in technology (Fitzpatrick, 2004). It has also opened the door for an open education system, where learning opportunities extend beyond the boundaries of schools or universities.

Regarding the integration of ICT in education, Ghavifekr et al. (2014) emphasize two primary dimensions of its benefits. Firstly, ICT improves access to information, allowing for the shaping and generation of new knowledge. Secondly, they facilitate communication and foster teamwork and collaboration among learners. These factors contribute to the effective utilization of ICT in the educational context.

In the context of technology's role in foreign language education, Kumar and Tammelin (2008) identify three significant advantages of ICT in teaching and learning a foreign language: (i) offering authentic language learning resources and contexts, (ii) creating a cooperative and collaborative environment, and (iii) providing opportunities for effective teaching and learning. Likewise, Angelina and Jimoyiannis (2012) emphasize that ICT can transform the learning environment by creating numerous opportunities in the field of education, such as accessing information and learning resources, collaborating in learning, and focusing on self-directed lifelong learning. It also significantly contributed to improving access to information in education through various communication and information-sharing channels (Anasri & Khan, 2020). The convenience and flexibility of ICT have played a crucial role in providing easy access to learning resources, empowering learners to engage in education anytime and anywhere (dela Pena-Bandalaria, 2007).

Learners adopt adequate ICT tools, such as e-mails, YouTube, Facebook, blogs, wikis, and various other learning management system platforms to access and share information and learning materials such as e-books, e-periodicals, articles, videos, and slides (Sarwar et al., 2019). Such e-materials and practices help the learners reduce reliance solely on teachers. Similarly, Madhabi et al. (2023) describe that ICT fosters interaction between teachers and students, offices easily understandable input and output, aids in the development of critical thinking skills in students, and more students–centric learning, encourages students' autonomy and builds their self-confidence and boosts their motivation. Additionally, the interactive multiple tools allow learners to practice pronunciation in an environment free from embarrassment and fear of making mistakes.

In addition, the virtual teachers available in ICT platforms enable learners to choose from various ideas, analyses, and interpretations on various subjects. Moreover, ICT has democratized information accessible to everyone and everywhere by granting freedom to learners to manage their learning time according to their individual needs and contexts. It also played a crucial role in facilitating collaborative learning. Katz et al. (2004) describe collaboration as the cooperative effort of learners to generate new scientific knowledge. With the support of the Internet, ICT has unlocked numerous possibilities for interaction and collaboration in educational settings (Nechita & Timofti, 2011) through various technologies, such as e-mails, blogs, wikis, Facebook, Skype,

as well as both synchronous and asynchronous computer-mediated communication (Piki, 2008). These ICT tools and platforms offer multiple opportunities for knowledge sharing and group work, fostering e-collaboration among learners and removing the barriers of time, location, and resources.

However, it plays a pivotal role in fostering self-directed lifelong learning by creating student-centered learning environments that enhance the quality of education and increase learner motivation and engagement (Jimoyiannis & Angelina, 2012). Their multimedia capabilities, combining visual images with text, sound, color, and animation, not only capture learners' attention but also aid in comprehending abstract concepts, encouraging self-directed learning. Within this framework, Jimoyiannis & Angelina (2012) assert that ICT applications have established e-learning environments in numerous contemporary educational institutions, fostering learning communities among teachers and students. In the knowledge society of the 21st century, ICT has made lifelong learning more effective, spanning formal, informal, and non-formal education (Drigas & Tsolaki, 2015). They have transformed learning spaces, blurring the boundaries between school and home, as modern individuals are constantly surrounded by technologies such as radio, TV, mobile phones, the Internet, and computers throughout their daily lives (Beyene & Zerai, 2014).

Efforts to enhance the efficiency and effectiveness of formal and informal education at all levels have led to an increased focus on utilizing computers and the Internet (UNDP, 2001). Digital literacy, virtual learning, and distance education have become popular trends in modern societies (Choeda et al., 2016). Thus, there is a pressing need for ICT infrastructure development and stakeholder awareness to effectively utilize such technologies and promote interactive, collaborative, and knowledge-constructive teaching and learning. As mentioned, the literature demonstrates a substantial accumulation of knowledge, but it lacks critical reflection and analysis. This analysis shows deeper into the implications of existing studies for this research, emphasizing the importance of engaging beyond mere summaries.

Despite its potential, the integration of ICT in education presents challenges, such as the digital divide, infrastructure limitations, and varying levels of digital literacy. Addressing these challenges requires a concerted effort to develop ICT infrastructure and create awareness among stakeholders. This research paper explores the role of ICT in English language education, focusing on the tools, practices, and implications for effective teaching and learning.

Methodology

This review-based research paper employs a qualitative, systematic literature review methodology to examine the role of ICT-based teaching-learning tools in English Language Teaching (ELT). The research design synthesizes findings from diverse studies, identifying themes, trends, and challenges related to ICT integration. Relevant literature was sourced from academic databases like Scopus, ERIC, SpringerLink, and Google Scholar, as well as reports from UNESCO, UNDP, and the British Council. Inclusion criteria focused on peer-reviewed articles published between 2000 and 2024 that addressed ICT tools, their impacts, and best practices in ELT. Studies unrelated to ELT, lacking empirical or theoretical insights, or published in non-English languages were excluded.

`Data were systematically reviewed to extract information on ICT tools, pedagogical practices, and outcomes, with thematic analysis highlighting areas such as accessibility, learner motivation, collaboration, and teacher training. Measures like data triangulation, peer consultation, and cross-referencing ensured reliability and validity. Ethical guidelines were followed, including proper citation and plagiarism avoidance. While the study offers valuable insights, it is limited by its reliance on secondary data, suggesting future research could incorporate primary methods to explore ICT use in under-resourced settings. Overall, the methodology provides a robust framework for understanding ICT's applications, benefits, and challenges in enhancing ELT.

Findings and Discussion

ICT-Based Teaching-Learning Tools

ICT tools and devices, such as computers, interactive whiteboards, laptops, and mobile phones, are used in teaching and learning. They aid teachers in presenting lessons effectively and enhance English language teaching. These tools benefit teachers and learners, making the language-learning process more efficient and engaging. ICT has become an indispensable part of our daily lives, and the ELT process has embraced it to create a real learning environment and provide multiple exposures to language content. ICT tools encompass various devices and e-resources, including the Internet, YouTube, e-books, and blogs. Teaching-learning tools like interactive whiteboards and computers are commonly preferred for educational activities. Lim and Tay (2003) classified ICT tools into informative, registration, constructive, communicative, and collaborative, all playing essential roles in effective ELT. Some of the most common ICT tools used in teaching and learning English have been discussed below.

Computer

The computer is a significant technological device capable of running various programs. According to Herring (2010), it operates under the control of instructions stored in its memory. It can accept input data, process it following specified rules, generate output, and store results for future use. This makes the computer a versatile ICT-based tool that performs most of its processing internally through its central processing unit (CPU). Additionally, computers can be connected to multimedia projectors to facilitate effective class presentations. They enable various activities, including word processing, sending emails, creating lessons and tasks, playing videos, downloading learning resources, and using tools like Google Docs and wikis.
Furthermore, computers play a pivotal role in language learning, offering access to (English) language learning software, online courses, and interactive multimedia content (Chapelle, 2001). In addition, the use of computers in language teaching has been explicitly discussed in the computer-assisted language learning programmes that provide individualized instruction, catering to learners' needs (Levy & Stockwell, 2006). In this sense, computers are widely used in the English language classroom for lesson preparation and presentation as well as assessment/feedback.

Mobile Phone

Mobile phones have become one of the most popular ICT tools in recent years. Mobile devices are digital, easily portable, and internet-accessible devices like smartphones. Tablet

computers have become integral to daily life, offering diverging educational opportunities (Nankani & Olalvo, 2010). However, using devices in the educational setting, particularly in the school classroom, has sparked debates (Thomas & Muñoz, 2016). Despite their potential, schools often prohibit mobile device use within the classroom and school (Beland & Murphy, 2015). Mobile Assisted Language Learning (MALL) refers to enhanced language learning using mobile devices. These devices offer unique educational advantages, which include portability, connectivity, the ability to change data and collaborate, context sensitivity, individuality, enabling multiple modalities, supporting student improvisation as needed within the context of learning, and supporting learning on the move (Klopfer et al., 2002; Liu et al., 2020).

Mobile devices hold promise in English as a Foreign Language (EFL) learning and teaching by providing access to up-to-date materials in language use (Godwin-Jones, 2018). Technology can transform the language classroom, making English learning activities personalized, more interactive, and more accessible. However, the effectiveness of integrating technology will depend on the learning activities that students encounter (Pheeraphan, 2013). Technology can aid the learning of EFL grammar. Technology can aid in learning EFL grammar. The highest reading proficiency is achieved by students who use online dictionaries (Dwaik, 2015). Moreover, digital devices have emerged, with students having greater access to technology than schools (Thomas & Muñoz, 2016). Therefore, mobile phones have become integral tools in education, despite debates and restrictions in their classroom. They personalize and enrich learning experiences, especially in grammar and language proficiency. The potential mobile devices bridged the educational gap and highlighted their accessibility compared to traditional resources, underscoring their importance in modern education.

Mobile phones in English language teaching enable ubiquitous access to language learning apps, podcasts, and online resources, facilitating learning anytime, anywhere (Kukulska-Hulme & Shield, 2008). Furthermore, with mobile phones in English language teaching, a new concept, i.e., mobile-assisted language learning (MALL) has emerged. It enhances language acquisition through personalized and interactive experiences (Stockwell, 2010).

Tablets

Conversely, tablets combine the features of laptops and mobile phones, providing a versatile and cost-effective option for English language teachers and learners. With a size between laptops and mobile phones, tablets can be used as mini-notebooks or guidebooks for educational purposes. Like computers and mobile phones, tablets offer a portable and interactive platform for English language learning apps, e-books, and multimedia content, enhancing engagement and motivation (Burston, 2014).

Digital Recorders

Digital recorders are useful devices for capturing ongoing classroom activities and enhancing learners' listening and speaking proficiency by allowing them to listen to English language materials repeatedly. In ELT, digital recording tools help learners practice pronunciation and speaking skills. Teachers can provide feedback on recorded assignments, promoting self-assessment (Stockwell, 2010).

Television

Television may be considered old-fashioned in today's technological landscape, but it can still be used effectively for teaching and learning. Televisions offer a combination of sound, image, motion, and content, making them suitable for watching various programmes, including news, tele-serial, and educational documentaries. Additionally, modern televisions with internet connectivity can function like desktop computers, offering access to various educational content. In ELT, television can be utilized for educational purposes and educational television programmes and documentaries contribute to English language development by exposing learners to authentic language use (Liu, 2000).

Radio

Radio is the most easily available and affordable audio tool that can be used to listen to various programmes. It can be utilized for listening-speaking comprehension of English language teaching-learning. It can be on air for 24 hours at little cost to the users. It can be utilized in educational programmes such as distance learning, English language for authentic listening speaking, and many more.

Interactive Whiteboard (IWB)

The interactive whiteboard is a modern display device. The IWB is an electronic screen linked to a computer, especially used in teaching-learning to present ideas and information. It helps the teachers to structure their lessons and enables ICT use to be more integrated into the classroom. It helps text and images to be moved around the board. It also allows work to be saved for next time. It can also create interest and provide a chance to learn by doing. So, this is one of the useful teaching-learning tools. In ELT, Interactive whiteboards enhance classroom interactivity, allowing teachers to incorporate multimedia content and engage students in collaborative learning (Cutrim Schmid & Whyte, 2012).

Internet

The Internet is a vast computer network that offers diverse information and communication facilities, making it an essential resource for searching, creating, and sharing knowledge. Teachers can use the Internet to explore various websites and software programmes to enhance their teaching techniques and professional development. Online platforms enable teachers to collaborate, share solutions, and discuss new approaches through email, video conferencing, and group chat. The Internet serves multiple purposes, including information gathering, communication, social networking, file transfer, entertainment, online transactions, marketing, and online education. Its widespread use demonstrates that today's human activities heavily rely on the Internet (Glava & Glava, 2012). In the context of ELT, the internet provides access to vast resources, including authentic materials, language exchange platforms, and online courses, fostering autonomous learning (Godwin-Jones, 2018).

Email

Email is the emergence of the Internet, which refers to the electronic mail system for transferring messages from one computer to another computer through Internet access. It is useful in English language teaching for sharing learning materials and safely sharing ideas. According to Sharndama (2013), teachers can use email to send learning materials to students give assignments, assess, and post feedback to the students' email boxes. Therefore, Email is useful for effective teaching and learning processes. Regarding ELT, email facilitates written communication, offering opportunities for language practice, collaboration, and feedback outside the classroom (Warschauer & Healey, 1998).

YouTube

YouTube is a video-sharing service that allows users to watch videos posted by other users, and if interested in uploading videos, it provides a chance. Several YouTube channels upload videos related to English language teaching, especially teaching techniques, problem solutions, digital materials, etc. These ELT-related videos teachers and learners can benefit from educational videos that can be used for motivating, brainstorming, or providing different subject matters. For ELT, YouTube offers a rich source of authentic listening materials, educational channels, and language tutorials, supporting diverse learning styles (Thorne et al., 2009).

E-books

An e-book is an electronic copy or soft copy of the book. The users have to pay some money to read an e-book. Interested persons can read e-book software and e-book readers and store their mobile phones, computers, or laptops. It has many advantages in terms of pedagogical implications. In ELT, e-books provide a portable and customizable reading experience, allowing learners to access a wide range of texts and interactive features (Boggs, 2012).

Blog

A blog is like a journal/diary or article that is found on the internet. It is the personal writing of the blogger where the personal feeling is shared. It allows the texts, images, or link posts and leaves comments. Interactively autonomous learning can be enhanced by the blog, and it can be used in the English language classroom as a learning resource. It is helpful for English teaching-learning activities. It encourages learners to create blogs from the website and share their ideas or feelings. Regarding ELT classes, language learning blogs offer authentic written content and opportunities for interaction, fostering reading and writing skills (Thorne & Payne, 2005).

PowerPoint

PowerPoint is also known as a presentation tool that is used to present our materials or ideas. PowerPoint is supposed to be a powerful presentation software that was developed by Microsoft, which facilitates users to create anything from basic slide shows to complex presentations. It uses slides to convey information rich in multimedia. It can be used for educational or informal purposes. Furthermore, PowerPoint presentations in ELT aid in visualizing language concepts, grammar rules, and vocabulary, enhancing comprehension and retention (Hashemi et al., 2012).

Facebook, Twitter and Skype

Popular social media platforms can be used by teachers to connect with learners, share information, and foster a learning community for discussion and feedback. Social media platforms such as Facebook, Twitter, and Skype can be widely used and practiced in English language classes. They provide opportunities for language practice, interaction with native speakers, and access to authentic language use (Lomicka & Lord, 2012). Furthermore, skype enables video calling, messaging, and file sharing, allowing learners to practice speaking skills and explore cultural aspects of the language.

Wikipedia

A platform for collaborative project work and research, encouraging students to engage with content actively. In ELT, Wikipedia offers a collaborative platform for research, promoting information literacy and critical thinking skills in language learners (Callis et al., 2009).

Google Docs

Facilitates collaborative writing activities and resource sharing among learners. Regarding ELT, Collaborative writing tools like Google Docs facilitate real-time collaboration, peer editing, and feedback, promoting writing skills (Reinhardt & Zander, 2011).

LMS Platforms

MOODLE, Blackboard, Quizbean, Showbie, Socrative, Go Formative, and Second Life provide web-based tools for administering and distributing e-learning courses, promoting effective language skills learning. Similar descriptions have been made by various scholars. Kennewell (2013), for example, has broadly classified ICT tools into four types. They can be discussed as follows.

Hardware Usage

This category includes physical entities or devices used in information and communication technology. Examples of ICT Hardware Usage include desktop (Personal Computer), Laptop PC (Notebook Computer), Mobile phone (Smartphone), digital camera, personal data assistant (PDA), calculator, D-ROM (Compact Disc-Read Only Memory), Database (Storage and retrieval system for information), Interactive whiteboard (Used for interactive presentations and teaching) and Spreadsheet (Software application used for data analysis and calculations).

Software

These are the stored instructions and programmes that enable Hardware Usage to function and process data. Examples of ICT software include word processing programmes (e.g., Microsoft Word), Computer-aided design (CAD) software (used for designing and modeling), Database software (e.g., Microsoft Access), Desktop Publishing (DTP) software (e.g., Adobe

InDesign), Encyclopedia software (e.g., Encarta), Management information system (MIS) software, Video game software. Virtual learning environment (VLE) platforms (e.g., Moodle) and Spreadsheet software (e.g., Microsoft Excel).

Media

This category comprises the materials that carry data and programmes, enabling their storage and retrieval. Examples of ICT media include Hard disk (Internal storage device in computers), Floppy disk (Legacy storage medium), CD-ROM (Compact Disc-Read Only Memory), and Digital Video (Audiovisual content in digital format) *services*. These combinations of Hardware, software, and human resources offer functionalities beyond what Hardware and software alone can achieve.

Internet (Global network of interconnected computers), Intranet (Private network within an organization), E-mail (Electronic mail for communication), E-commerce (Electronic commerce for online buying and selling), World Wide Web (WWW) (Part of the internet for accessing web pages), Short message service (SMS) (Text messaging service).

The web 2.0 tools mentioned by Basal and Aytan (2014) offer valuable opportunities for enhancing the teaching and learning of English as a second language. They are www.blendspace.com (creates interactive and multimedia-rich lessons by combining a variety of resources such as videos, images, documents, and quizzes), www.padlet.com (acts as a virtual notice board where learners can post their ideas, images, multimedia resources, and comments), www.scoop.it (publishes content in the form of an online magazine and useful for classroom projects, research activities, and promoting critical thinking by sharing curated content related to English language learning topics), www.vialogues.com (facilitates video-based discussions, providing a platform for teachers to create quizzes and engage students in interactive discussions related to video content), www.voxopop.com (enables users to record and share spoken content, making it a great tool for English language teachers to encourage students to practice speaking skills and engage in oral discussions), www.lessonwriter.com (assist in creating reading lessons that involve learners in practicing vocabulary, pronunciation, and grammar skills) and so on. In this way, these Web 2.0 tools offer various innovative and interactive features that can significantly enhance the teaching and learning of English as a second language. They provide collaboration, creativity, and engagement opportunities, making language learning more enjoyable and effective for teachers and students.

Conclusion

ICT-based teaching-learning tools have profoundly transformed the landscape of English Language Teaching (ELT), making it more interactive, engaging, and accessible. Tools like computers, mobile phones, tablets, and interactive whiteboards have become indispensable in modern education, offering diverse functionalities that support lesson preparation, delivery, assessment, and feedback. Each tool has unique advantages, such as the portability of mobile devices in Mobile-Assisted Language Learning (MALL) or the collaborative potential of interactive whiteboards. Digital resources like YouTube, blogs, e-books, and social media platforms provide learners with authentic materials and opportunities for autonomous and

collaborative learning. These tools not only enrich the learning experience but also cater to different learning styles, fostering inclusivity and personalization.

The integration of ICT tools in ELT facilitates access to vast resources, enhances learner motivation, and promotes critical thinking. They bridge educational gaps by enabling ubiquitous learning opportunities that transcend traditional classroom boundaries. However, their effectiveness hinges on strategic implementation, which requires adequate teacher training, infrastructure development, and stakeholder awareness. Challenges such as the digital divide, resistance to change, and limitations in resources must be addressed to maximize the potential of ICT in ELT.

In conclusion, ICT-based tools are instrumental in redefining ELT by introducing innovative approaches to language instruction. Their effective use can lead to significant improvements in teaching methodologies and learning outcomes, supporting a shift from traditional to digital and lifelong learning paradigms. Future research should aim at optimizing ICT integration in diverse contexts, focusing on strategies to overcome existing barriers and ensure equitable access to technology-enhanced education. By leveraging the potential of ICT tools, educators can create a more inclusive, dynamic, and effective language learning environment.

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