

**The Application of 21st-Century Educational Technology to English
Language Learning**

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Date of Receiving the Research: 1/5/2024 Research Acceptance Date: 26/5/2024

Doi: 10.59846/abhath.v11i3.643

Abstract:

"The Application of 21st-Century Educational Technology to English Language Learning" is the title of the paper. This study aims to highlight the use of educational technology in English instruction and learning. Thus, investigating the many technological tools utilized in the teaching and learning process is the aim of this research. The purpose of this study is to determine which technological gadgets are most frequently utilized in FLD, the bachelor's program at the University of Sana'a. It also makes an effort to explain how educational technology is used and to document how teachers incorporate technology into their regular teaching practices. Additionally, it will be necessary to look at the different kinds of technologies—such as printed or electronic devices—that can be used to teach and study the English language, as well as the opinions of teachers and students regarding the use of educational technology (E.T.). Lastly, the investigation will examine the types of E.T. that are never used and the factors that lead to this. More tools for teachers to create programs are also suggested along with a better awareness of the value of integrating educational technology into the process of teaching and learning English as a foreign language. The use of educational technology to support English language learning is diagnosed in this study, which concludes with suggestions and a list of the many advantages of doing so.

Key Words: Educational Technology, English Language Learning, English Instruction, Teaching and Learning Process, Integrating.



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تطبيق تكنولوجيا التعليم للقرن الحادي والعشرين على تعلم اللغة الانكليزية

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تاريخ قبول البحث: ٢٠٢٤/٥/٢٦ م

تاريخ تسلم البحث: ٢٠٢٤/٥/١ م

Doi: 10.59846/abhath.v1i1i3.643

المخلص:

عنوان الورقة هو "تطبيق تكنولوجيا التعليم للقرن الحادي والعشرين على تعلم اللغة الإنكليزية". وتهدف هذه الدراسة إلى تسليط الضوء على استخدام التكنولوجيا التعليمية في تعليم اللغة الإنكليزية وتعلمها. ومن ثم فإن البحث في العديد من الأدوات التكنولوجية المستخدمة في عملية التدريس والتعلم هو الهدف من هذا البحث. والغرض من هذه الدراسة هو تحديد الأدوات التكنولوجية التي تستخدم أكثر من غيرها في شعبة تنمية الأسرة، وهي برنامج البكالوريوس في جامعة صنعاء. كما تسعى إلى توضيح كيفية استخدام التكنولوجيا التعليمية وتوثيق كيفية إدماج المعلمين للتكنولوجيا في ممارساتهم التعليمية العادية. وبالإضافة إلى ذلك، سيكون من الضروري النظر إلى مختلف أنواع التكنولوجيات - مثل الأجهزة المطبوعة أو الإلكترونية - التي يمكن استخدامها لتدريس اللغة الإنكليزية ودراساتها، فضلاً عن آراء المدرسين والطلاب فيما يتعلق باستخدام التكنولوجيا التعليمية (E.T.). وأخيراً، سيبحث التحقيق أنواع E.T. التي لم تستخدم قط والعوامل التي أدت إلى ذلك. كما يقترح المزيد من الأدوات للمدرسين من أجل وضع البرامج، إلى جانب زيادة الوعي بقيمة إدماج التكنولوجيا التعليمية في عملية تدريس وتعلم اللغة الإنكليزية كلغة أجنبية. ويتم تشخيص استخدام التكنولوجيا التعليمية لدعم تعلم اللغة الإنكليزية في هذه الدراسة، التي تنتهي باقتراحات وقائمة بالمزايا الكثيرة للقيام بذلك.

الكلمات الرئيسية: تكنولوجيا التعليم، تعلم اللغة الإنكليزية، التعليم الإنكليزي، عملية

التعليم والتعلم، الإدماج.

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Introduction:

In the twenty-first century, using modern technology to teach English means creatively applying methods, materials, tools, systems, devices, and strategies that are directly related to the subject matter and help achieve the desired objectives. Because of this, technology is increasingly acknowledged by many as a valuable auxiliary and instructional tool in a range of teaching and learning environments. This is particularly true when it comes to teaching English since it offers a variety of opportunities to enhance the pedagogies typically associated with traditional English language instruction, both in terms of content and delivery. The main way this is achieved is by letting the teacher and student go back to difficult material until it is fully understood and assimilated. Adopting modern technology involves more than just using new appliances and gadgets; it also entails implementing innovative teaching strategies and systems that enable a quicker and more comprehensive learning curve.

The aforementioned statement holds particularly true when it comes to English language instruction, as it offers a multitude of opportunities to enhance the pedagogical approaches and content typically associated with conventional English language training. One of the main strategies for doing this is to allow the teacher and student to go over challenging content again until it is completely absorbed and comprehended. Using new teaching systems and techniques that enable a quicker and more complete learning progression is another aspect of embracing current technology, in addition to using contemporary appliances and gadgets.

Additionally, Ahmadi (2017) asserts that one of the most crucial learning variables is the technology that teachers utilize to promote language acquisition. Computers are viewed as an important teaching tool in language schools provided teachers have easy access to them, are well-educated, and have some latitude in the curriculum (Becker, 2000). Computer technology is regarded by many educators as a crucial element of delivering high-quality instruction.

The Association for Educational Communications and Technology

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(AECT) defines educational technology (E.T.) as "the research and ethical practice of enhancing learning and improving performance via the creation, use, and management of appropriate technology processes and resources."

Bull and Ma (2001) assert that language learners have access to a wealth of resources thanks to technology. For pupils to succeed in language learning, teachers should encourage them to use computer technology to find relevant activities (Harmer, 2007; Gençter, 2015). Students can benefit from proper technology tools, claim Clements and Sarama (2003). According to Harmer (2007), the use of computer-based language activities enhances students' collaborative language learning.

Additionally, as per Tomlison (2009) and Gençter (2015), computer-based exercises furnish students with pertinent and up-to-date information. They continue by saying that online resources inspire pupils to pursue higher education. Larsen-Freeman and Anderson (2011) concurred that technology can benefit educators by offering tools and integrating educational opportunities within the classroom. With the help of technology, students can receive a wealth of authentic resources that will inspire them to learn the language.

To assess the significance of teachers' roles, the applicability and accessibility of technology labs and individual components, and the influence of technology on the process of learning a foreign language, Stepp-Greany (2002, p. 165) employed survey data from Spanish language classes that employed a range of technological approaches and methods. The importance of CD Roms and regularly scheduled language laboratories was emphasized, and students' perceptions of their teachers as the primary learning facilitators were confirmed. Stepp-Greany recommended doing a second study to see how relevant technology affects the process of learning a foreign language.

There are two ways that Warschauer (2000a) recommended using technology in the classroom. A social technique enables students to practice the real-life abilities they have learned through involvement in

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actual activities, while a cognitive method allows students to greatly increase their exposure to language and so increase their knowledge.

This data provides academic researchers with important insights into how these technologies are being used and how they can be improved to better meet their goals for the learning-teaching process (Mora et al., 2020).

According to Abad-Segura et al. (2020) and Janet et al. (2020), GIS (Geographic Information Systems) is a crucial technology for the creation of STEM (science, technology, engineering, and mathematics) curricula and a leading instrument in the digital transformation of higher education.

Technology-based learning tools, including learning management systems and virtual learning environments (Turnbull et al., 2022), chatbots (Neumann et al., 2021), videoconferencing (Al-Samarraie, 2019), social media (Chugh & Ruhi, 2019), and mobile learning (Kaliisa & Picard, 2017), are being used by higher education institutions (HEIs) worldwide. These kinds of EdTech tools assist teachers in designing interesting learning experiences for their pupils, which results in several immediate and long-term social and academic benefits (Bond & Bedenlier, 2019). Furthermore, according to Bower (2019), EdTech can be utilized to help students and teachers communicate and to give them personalized feedback. It is imperative to acknowledge that the integration of EdTech into Higher Education Institutions is not devoid of obstacles (Cabaleiro-Cervino & Vera, 2020; Laufer et al., 2021). Hence, before implementing these technologies, HEIs must carefully consider their effectiveness and impact.

Views of home language learners of high school English regarding the impact of technology on their development of 21st-century skills. Overall, it appeared that the study's participants saw technology as having a beneficial impact on their ability to develop the communication, teamwork, creativity, and critical thinking abilities necessary for the twenty-first century Lisa P., 2022.

1. The concept of the study

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Educational technology

Education is an all-encompassing field that uses suitable teaching and learning techniques, approaches, and protocols to modify a person's behaviour. Significant developments have been observed in this regard from the traditional Guru Sisyparampra period to the present. In this modern era of science and technology in the twenty-first century, educational technology is nothing more than the application of current technology in the field of education. It has altered and simplified the difficult process of teaching and learning. By dividing the term "educational technology" into two parts, one may determine its definition: education and technology. Education is the methodical acquisition and transfer of the learner's cognitive, affective, and psychomotor development. Education is a discipline with roots in both the arts and sciences. It combines teaching science with teaching art. On the other hand, technology is the methodical application of scientific ideas in terms of tools, apparatus, and other information to accomplish a goal, such as developing new gadgets that increase productivity and solve problems for people. As a result, technology is employed as a tool for problem-solving and to promote human growth.

2. Challenges in the Use of Educational Technology

Because of the tremendous advancement in technical gadgets with fast processors and sophisticated programs, it is time to eliminate the issues and challenges associated with digital tools and devices used in the classroom. It has also become more portable and reasonably priced. The ability to organize, plan classes, and back up information is facilitated by devices such as CD-ROMs, DVDs, and USB sticks.

Nonetheless, additional significant changes are anticipated in the future due to networking possibilities (Castells, 1996 as cited in Saljo, 2010). In contrast, the Horizon Report noted six significant issues that some educators run into while integrating new technology into the classroom.

First, the necessity of digital media literacy as a critical talent in all

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fields and professions is still ignored in faculty training. To face this challenge, educators must become proficient in the use of technology. First of all, workforce preparation continues to ignore the fact that computerized media education is becoming an increasingly important talent for every order and calling. This test hinted that teachers need to learn how to use technology. Since many teachers do not have formal training, professional growth is necessary. They are therefore able to incorporate technology into the process of teaching and learning (Lepi, 2013).

Second, the creation of appropriate and scalable assessment methodologies lagged behind the emergence of new scholarly modes of authoring, publication, and research. Conventional grading practices in academia may not always align with emerging research paradigms, such as social media utilization and virtual collaborations. Academic decisions are centred on what is and is not acceptable, even if these scenarios happen frequently in the real world (Lepi, 2013).

Third, the practices and procedures in education often hinder the uptake of new technologies. Some educators are steadfast in their refusal to integrate technology into the classroom. They refuse to modify their outdated pedagogical approaches (Lepi, 2013).

Fourth, current innovations and approaches do not go far enough in igniting learners' passion for tailored instruction. Certain learning styles may not be compatible with technology. Though many technologies are still in their infancy, they can help students get exactly what they need (Lepi, 2013).

Fifth, new educational models are posing a serious threat to established higher education paradigms. Teachers need to consider how new learning models fit into the current learning and assessment systems, as well as the advantages and disadvantages of each (Lepi, 2013).

Sixth, most academics do not use modern technology for teaching and learning or research organization. How can teachers expect pupils to use instructional materials if they do not care to try them?

The poll indicates that there is a negative perception in higher

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education that these technology incursions are not to be expected. Therefore, in order to enable teachers to incorporate new technologies and more effective teaching techniques into their classrooms, a mentality change and a willingness to modify current procedures are needed (Lepi, 2013).

3. Statement of the Problem

For those who do not speak English as their first language, the language can be challenging and complicated. In Yemen, English is a foreign language. Traditional techniques of teaching the English language have become antiquated and tedious. With the advancement of technology in the twenty-first century, English is taught with the aid of numerous modern educational technology tools, including computers, radios, televisions, tablets, smartphones, and the internet. Teachers at Sana'a University continue to teach English using conventional methods including chalk, chat, books, and boards.

Most students have access to many contemporary media technologies, and colleges connected to Sana'a University offer some instructional technology resources. Without any coordination between professors and students, pupils continue to utilize them haphazardly in an attempt to learn English. The researcher believes that since educational technology gives students the means to practice the four macroskills of the language, it is imperative to emphasize its usage in the teaching and learning process. Consequently, this study will address the following queries: What is utilized regularly and what gets used infrequently? How much do the new educational technology tools get used more than the traditional educational ones?

4. Necessity of Research:

The important results, the researcher thinks, can inspire recommendations that improve teacher-student coordination. While studying English at Sana'a University, undergraduate students' capacity to use educational technology is being enhanced through the meaningful usage of educational technology tools. The overall importance of this study

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stems from the fact that educational technology is essential to enhancing English instruction in Yemen. The majority of institutions are unaware that teaching English can benefit from the use of educational technology. Chalk, discussion, board, and books are still the most common instructional aids used by Yemeni English teachers .

There has been no current research on contemporary teaching trends, like the impact of educational technology, particularly in the academic sector. Examining instructional technologies for English language proficiency in speaking, listening, reading, writing, pronouncing words correctly, using grammar, and utilizing vocabulary is a requirement of the course.

6. Objectives and Aims of the Study:

1. To determine the degree to which English language acquisition is facilitated by educational technology tools.
2. To find out how frequently educational technology devices—both printed and electronic—are used.
3. To investigate how students use contemporary educational technology gadgets to study English .
4. To ascertain which instructional resources students use infrequently or never .

7. Hypothesis

1. When learning English in the classroom, students do not appropriately utilize educational technology resources.
2. The usage of conventional teaching tools surpasses that of contemporary technological instruments in education.
3. Of all the contemporary instructional technology tools, students use the Internet the most.
4. Some technological instruments for education are sporadically or never used in the classroom to teach English.

8. Limitation of the Study:

The research has several limitations:

1. The study sample consists of Yemeni fourth-level English

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department students at Sana'a University.

2. The investigation primarily looks at how much students perceive the usage of contemporary media in their classes; including desktop and laptop computers, tablets, cellphones, CD players, MP3/MP4 players, TVs, USB devices, speakers, headphones, digital projectors, interactive whiteboards, and printers. Investigations will also be conducted on some print materials, including textbooks, newspapers, and periodicals.

3. The study is limited to the 2020–2021 academic year.

8.1. Data Collection:

A quantitative approach in the form of a questionnaire was selected as the data collection strategy for the online survey. Google Forms created on Google Drive were used to collect the data. This option was selected because of the ease of creation of Google Forms, their transparent final layout, and the easy-to-read compilation of responses in a Google Docs spreadsheet. Charts can also be created using the results of Google Forms; however, these charts were regarded as too inconvenient and had to be created in Microsoft Excel. The survey was distributed in Arabic and then translated into English. The questionnaire included instructions in the first section in addition to the questions. The questions were accessible online from March 2 to November 2, 2021.

9. Methodology

9.1. Research Design

The current study, which is descriptive and quantitative, defines the study population as Sana'a University students pursuing FLD at the UG level in Yemen. Using various questionnaire forms for teachers and students, the data gathered from the questionnaire were statistically examined using descriptive statistics like the mean, standard deviation, and percentage from undergraduate students.

The data analysis in the current study is done using the quantitative method. By presenting the results numerically, the researcher can ensure objectivity through the quantitative approach.

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9.2. Sample and Participants

The researcher needs to choose the right demographic because his goal is to compare and analyze how undergraduate students at Sana'a University in Yemen use educational technologies to study English. Since it is impractical to obtain information from the complete population due to issues of time, money, energy, and accessibility, purposeful sampling is employed to gather data.

In this study, the researcher utilized the "purposive sampling" approach. This sampling approach includes the "purposive or deliberate selection of particular units of the cosmos for constructing a sample reflecting the universe". 120 U.G. students enrolled in the English department at the fourth level were chosen by the researcher. The four Sana'a University-affiliated colleges that make up the sample are Education Collage, Mueen Arts College, Al Tahreer Education College (Arhab), and Education Collage (Khawlan).

10.1. Validity and Reliability:

Five experts were consulted to ensure the validity of the questionnaire, and their recommendations were taken into consideration. Lastly, a questionnaire has been created online and sent to Sana'a University students via email. Following data collection, the researchers have made an effort to categorize, identify, and describe the primary instruments that are utilized or not.

10.2. Internal consistency:

To examine the validity of the instrument used in this study, correlation coefficients between dimensions and their constituent parts are examined. These coefficients reflect the internal consistency of the instrument used in this investigation. Thus, the internal consistency of the survey was determined by finding the Pearson correlation coefficients between the survey's components and students at Sana'a University. The

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range of Pearson's correlation coefficients in the questionnaires given to Sana'a University students is (.935,.710).

The reliability analysis of the questionnaire makes it clear that the questionnaire's Cronbach's Alpha is satisfied (.984). The extraordinarily high Cronbach Alpha value leads to a highly pleased overall level of questionnaire reliability, indicating that the questionnaire's dependability was sufficient for the study.

Reliability Statistics

Cronbach's	
Alpha	N of Items
.984	16

11. Findings:

The English departments have a variety of technological instruments for teaching. The purpose of this section is to determine the frequency with which students employ different types to acquire English in the classroom. For this reason, the researcher created the following inquiry to investigate how students feel about the use of instructional technology in the classroom.

Q.1. How frequently do you instruct English language learners using the following educational technology?

To ascertain the extent to which students perceive the usage of instructional technology tools at colleges, the researcher computed the means, standard deviations, and percentages for every item within this domain. Additionally, the Chi-square test was employed to verify the hypothesis. As indicated in Table (4.5), the researcher also computed these values for the component as a whole.

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Table 1: Distribution of Sana'a University students' usage frequency of various educational technology types (from the student's point of view).

	Sana'a University (Yemen)				
	standard	Freq	(%)	mean	St. dv.
laptop computer	often	9	7.5	2.24	.907
	Sometimes	40	33.3		
	rarely	42	35.0		
	never	29	24.2		
Desktop computer	often	12	10.0	2.23	.941
	Sometimes	34	28.3		
	rarely	44	36.7		
	never	30	25.0		
Smartphone	often	8	6.7	2.08	.980
	Sometimes	38	31.7		
	rarely	29	24.2		
	never	45	37.5		
I Pad (tablet)	often	3	2.5	1.37	.685
	Sometimes	5	4.2		
	rarely	25	20.8		
	never	87	72.5		
Language lab	often	9	7.5	2.27	.923
	Sometimes	44	36.7		
	rarely	37	30.8		
	never	30	25.0		
MP3, MP4	often	15	12.5	2.66	.865
	Sometimes	65	54.2		

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	rarely	24	20.0		
	never	16	13.3		
CD player	often	16	13.3	2.73	.817
	Some times	68	56.7		
	rarely	24	20.0		
	never	12	10.0		
	often	7	5.8	2.49	.789
USB	Some times	60	50.0		
	rarely	38	31.7		
	never	15	12.5		
	often	32	26.7	2.83	.947
Speakers & Headphones	Some times	49	40.8		
	rarely	26	21.7		
	never	13	10.8		
	often	6	5.0	1.68	.890
Television	Some times	28	23.3		
	rarely	18	15.0		
	never	68	56.7		
	often	6	5.0	1.81	.873
Interactive whiteboards	Some times	18	15.0		
	rarely	43	35.8		
	never	53	44.2		
	often	15	12.5	2.43	.914
Digital projector	Some times	41	34.2		
	rarely	44	36.7		
	never	20	16.7		
	often	92	76.7	3.74	.494
Textbook	Some times	25	20.8		
	rarely	3	2.5		
	never	0	0		

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Internet	often	5	4.2	1.80	.866
	Some times	20	16.7		
	rarely	41	34.2		
	never	54	45.0		
Newspapers and magazines	often	20	16.7	2.60	.911
	Sometimes	47	39.2		
	rarely	38	31.7		
	never	15	12.5		
Printer	often	2	1.7	1.38	.734
	Some times	12	10.0		
	rarely	15	12.5		
	never	91	75.8		
Overall				2.25	.910

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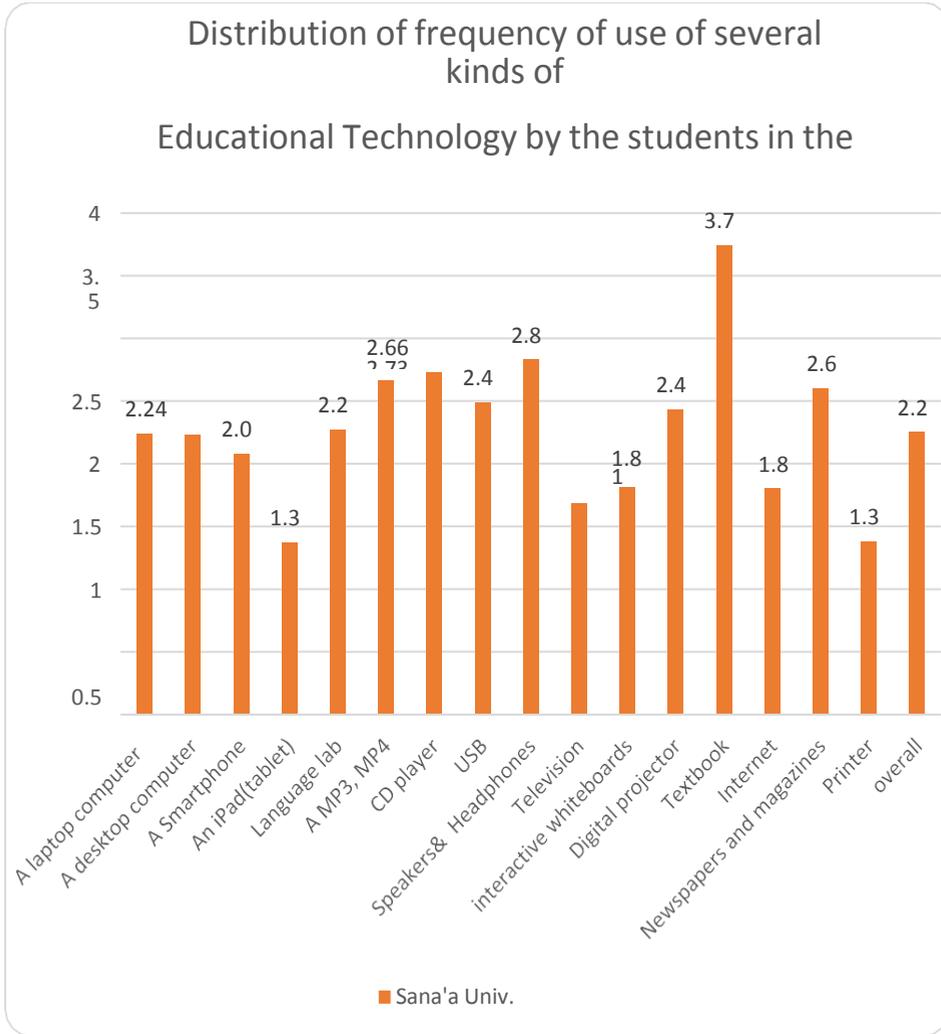
The results show that most of the educational technology resources available in the evaluated Sana University-affiliated colleges are only infrequently used in the classroom. The first, which is true, asserts that educational technology tools—which include laptops, desktop computers, cellphones, lab equipment, USB, digital projectors, MP3, MP4, CD players, speakers, headphones, newspapers, and magazines—are not being used in classrooms in an appropriate manner.

The second hypothesis, which is also valid, it states that various educational technology tools are rarely or never used for English language learning in the classroom, is accepted by Sana'a University's FLD (foreign Language Department). Tablets, digital projectors, interactive whiteboards, Internet, and printers are rarely or never used. The third hypothesis, which is too correct, it holds that classic educational tools are used more frequently than contemporary educational technology tools, is accepted as textbooks are used by students in their classes".

According to their perception, students hardly ever use the Internet because of its high cost. This supports the third hypothesis, which holds that students believe the Internet is the most popular instructional technology tool available today.

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12. Conclusion

In conclusion, the findings indicate that most of the educational technology resources provided by the Sana University-affiliated colleges under investigation—including digital projectors, MP3, MP4, CD players, speakers, headphones, smartphones, desktop and laptop computers, lab equipment, USBs, newspapers, and periodicals—are only infrequently used in the classroom. Tablets, digital projectors, interactive whiteboards, printers, and the Internet are rarely or never used in Sana's University's FLD. At Sana's University, conventional media tools are used more often than modern educational technologies because textbooks are used in class. Students rarely utilize the Internet because of its high cost. The Internet will provide students with a wealth of materials to help them improve their English so they can study and finish any assignments using text, graphics, audio, and videos—that is, assuming they will find the internet charge reasonable. Additionally, they could use social networking sites, which they frequently use to start and join conversations, exchange information, and obtain information. The social networking sites also appear to enhance contact between students and instructors because they are instruments that let them communicate whenever and from anywhere.

13. Recommendations

- To the highest authority: Provide educational institutions with the gadgets they need so that teachers and students can work together to create projects that encourage text, picture, sound, and video projection in a way that makes sense for the content they are learning. As a result, educators and students will always have access to these technology resources.
 - Pupils need to be aware of the importance of modern educational technology tools in making learning easier and faster while also giving them more opportunities to engage with the language they are studying.
 - Additionally, teachers should inform students that the technological tools available to them in education today provide them autonomy over the teaching and learning processes, giving them a voice in how their language skills develop.
 - Instead of spending time speaking their native tongue, students should use contemporary educational technology gadgets

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to watch, listen, speak, and communicate with peers in the English language.

➤ Students need to pursue courses on using technology tools for learning to overcome the challenges of using modern media.

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