

Foreign Language Learning: a Study of Digital Literacy in Generation Z

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ABSTRACT

Background. This research explores the shift in education driven by technology in foreign language learning. Technology integration holds promise for enhancing students' engagement, motivation, and language comprehension. Focusing on Generation Z, who are digital natives, the study investigates their intensive use of technology in the learning process. Top of Form.

Purpose. This research has the general aim of exploring and understanding how digital literacy can be optimized in foreign language learning in Generation Z. Specifically, this research aims to identify patterns of technology use, detail the obstacles faced, and design solutions that can be implemented in increasing the digital literacy of students majoring in foreign languages.

Method. This research methodology carries a quantitative approach with a research design in the form of a survey. The use of questionnaires as research instruments was carefully designed to explore aspects of digital literacy. Data collection was carried out via the Google Form platform with the participation of 30 Generation Z students, which is expected to provide an in-depth perspective regarding the experiences and challenges in their digital literacy.

Results. The results of data analysis show a significant level of involvement of students in the use of digital devices, with the majority choosing learning via an application or digital platform. Digital literacy is an important focus, and the majority of students feel comfortable and confident in using digital resources. Nonetheless, challenges such as confusion in evaluating the authenticity of online information need to be addressed.

Conclusion. The study identifies barriers to digital literacy, such as accessibility inequalities, insufficient training, and technological changes. Students often overcome these challenges by seeking assistance from peers, teachers, and online resources, while experimenting with new learning approaches. The research emphasizes holistic, personalized strategies for foreign language students, enhancing understanding and addressing individual preferences and needs.

KEYWORDS

Digital Literasi, Foreign Language Learning, Generation Z

INTRODUCTION

In the era of globalization characterized by the digital revolution, foreign language learning has an increasingly crucial role, especially for Generation Z

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(Stahl & Literat, 2023). This generation, which grew up between the mid-1990s and the early 2010s, entered the world of education with a technological background. (Said Ahmad et al., 2023). So dynamic In everyday life, they are accustomed to rampant digital connectivity, demanding a learning approach that combines traditional with technological innovation (Allioui & Mourdi, 2023).

Generation Z has its own characteristics, closely linked to the existence of technology (Poláková & Klímová, 2019). Therefore, foreign language learning needs to be adapted to the multitasking character and preference for interactive learning experiences. Foreign language learning can no longer ignore the existence and influence of technology, but must integrate it wisely into teaching methods (Nurjanah et al., 2020).

Digital literacy is a key foundation in foreign language learning in the Generation Z era (Kushwaha, 2021). Not just mastering hardware and software, digital literacy involves critical skills in filtering, evaluating, and creating information effectively (Putri et al., 2022). With digital literacy, foreign language learning can become a more dynamic and relevant experience for a generation growing up in a sea of digital information. However, along with the positive dynamics of digital literacy, a number of problems also arise that need to be overcome (Pangrazio et al., 2020). Digital disruption and literacy-related challenges are an important highlight. Therefore, this research not only aims to document the use of technology in foreign language learning by students majoring in foreign languages, but also to find solutions to these potential obstacles.

Then the research highlights the teaching of generation Z which is the basis of organizational personnel in the future. Personnel support in production organizations is crucial in intensifying the digital transformation of the economy, especially in the era of the sixth technological mode. The focus of the study is the study of foreign languages as a relevant objective in training specialists in engineering fields with a comprehensive approach. This article discusses the theoretical basis for the use of digital technology in teaching foreign languages to generation Z and provides practical examples of increasing the efficiency of teacher-student interaction through digital technology. This research evaluates the effect of a new approach using the CALL (Computer Assisted Language Learning) method on interactions in the educational process at technical higher education institutions (Remizantseva & Ablyazov, 2019).

Then further research describes the era of Information and Communication Technology (ICT) where internet services are widespread throughout the world, allowing easy access to abundant information. Digital literacy skills are crucial for filtering trustworthy and unreliable information. Digital literacy competency is also very important to filter the widespread spread of fake news or hoaxes and hate speech. In education, digital literacy competencies need to be taught and trained to students to obtain information, analyze digital information content critically, and use information in various formats from various sources obtained via computers. Therefore, digital literacy skills can be integrated into learning. Cooperative learning is a learning approach that allows students to participate in group learning activities to analyze, synthesize, and reflect on careful evaluation of digital content. This research aims to encourage the integration of digital literacy competencies into English as a Foreign Language (EFL) classes through a cooperative learning approach. The subjects of this research were 37 6th semester students of TBI-1 class (English Language Education Department) at the State Islamic University of North Sumatra. This research was conducted using qualitative methods. Data collection techniques use secondary research and observation. Research findings show that students who are dominated by Generation Z are quite digitally literate in implementing digital literacy skills through a cooperative learning approach (Henny Mardiah, 2022).

Furthermore, research examines the differences in learning between Generation Z students using mobile devices and traditional methods. The results show that the use of mobile applications has a positive impact on student achievement results, especially in vocabulary learning. Students who use the app tend to remember more words and rate using the app as more enjoyable than traditional methods. However, the results also show that being a Generation Z student does not automatically make them interested in using mobile applications in language learning. Further research is planned to confirm the results of this preliminary study, given the limited number of participants (Poláková & Klímová, 2019).

The three previous studies that have been described highlight the importance of integrating technology in learning, especially for Generation Z students. The first study emphasizes the use of technology in foreign language learning as a response to the characteristics of this generation, with a focus on digital literacy. The second study explored the impact of using mobile devices in the classroom on language learning, showing positive results especially in vocabulary learning. The third study highlights the differences between students using mobile applications and traditional methods, showing that the use of technology can increase efficiency and be enjoyable for students.

In this context, the aim of this research becomes increasingly relevant. This research aims to explore how digital literacy can be optimized in foreign language learning among Generation Z. By identifying patterns of technology use, mapping barriers, and designing practical solutions, this research seeks to contribute to increasing the digital literacy of students majoring in foreign languages. The findings from this research can be a basis for developing more adaptive teaching methods, as well as enriching understanding of the dynamics of language learning in this digital era.

In this context, this research makes a new contribution by looking at how the integration of digital literacy can be applied effectively in language learning foreign language, especially for Generation Z. By understanding the dynamics of digital literacy in this generation, it is hoped that practical solutions can be produced that can improve the quality of foreign language learning.

In addition, in developing research literature, this article explores the latest literature studies or 'state of the art' related to foreign language learning and digital literacy. By summarizing previous research findings, we can see the development of trends, challenges and potential solutions in integrating technology in foreign language learning. The general aim of this research is to explore and understand how digital literacy can be optimized in the context of foreign language learning in the Generation Z. Specifically, this research aims to identify patterns of technology use, detail the obstacles faced, and design solutions that can be implemented in increasing the digital literacy of students majoring in foreign languages.

By digging deeper into the use of technology in foreign language learning and digital literacy among Generation Z, it is hoped that this research can make a positive contribution to the development of more adaptive learning methods. It is hoped that the implications of this research finding can become a basis for curriculum development, teaching methods, and increasing digital literacy in foreign language learning more broadly.

RESEARCH METHODOLOGY

This research takes a quantitative approach with the main aim of exploring and understanding the level of digital literacy of students majoring in foreign languages, especially from generation Z (Maqbool et al., 2020). The research design chosen is a survey, which allows collecting large amounts of data to detail patterns of technology use, identify barriers, and design solutions for increasing digital literacy. It is hoped that the choice of this method will provide a holistic picture of

the dynamics of digital literacy in the population of generation Z language students (Kuleto et al., 2021).

To obtain the required information, this research uses a questionnaire preparation technique. The questionnaire was designed carefully and systematically to explore aspects of digital literacy, from skills in using devices to evaluating critical abilities in filtering digital information. The prepared questionnaire is then integrated into the Google Form platform, making it easy to distribute to respondents. The distribution process was carried out through a WhatsApp group for students majoring in languages, with a target participation of 30 generation Z students.

The objects and respondents in this research were students majoring in languages from generation Z who were expected to provide an in-depth perspective regarding the experiences and challenges in their digital literacy. The active participation of 30 respondents was the main focus in data collection to ensure adequate representation of the population studied.

After the data collection process, data analysis was carried out using the Miles and Huberman technique (Kuleto et al., 2021). This analytical approach allows researchers to explore meaning and patterns from the quantitative data collected, providing a powerful framework for detailing research results. By using a combination of survey methods, Google Form technology, and careful data analysis, this research seeks to make a significant contribution to the understanding of digital literacy of students majoring in foreign languages, especially from generation Z.

RESULT AND DISCUSSION

Use of Technology in Foreign Language Learning

The use of technology in foreign language learning has a significant influence in changing the educational paradigm (Keshav et al., 2022). Various studies and literature support the idea that technology integration can enrich learning experiences, especially in language learning contexts (Xue & Churchill, 2022). References to the use of technology in foreign language learning highlight the potential for increasing students' engagement, motivation and understanding of the target language (Hidayati & Diana, 2022). Technology provides access to a variety of digital resources, such as learning applications, e-learning platforms and multimedia content, which can be tailored to individual needs. Various interactive tools and features can also enrich teaching methods, creating a more dynamic and interesting learning experience (Torres Kompen et al., 2019).

The literature concept also emphasizes the importance of digital literacy in the use of technology for language learning. Digital literacy includes skills in using, evaluating, and collaborating with various digital tools and resources (Oh et al., 2021). Therefore, learning foreign languages with technology is not only limited to using devices, but also involves developing students' abilities in understanding and managing digital information.

However, there are challenges that need to be overcome in using technology for foreign language learning (Maican & Cocoradă, 2021). Several references highlight possible unequal access to technology among students. Apart from that, the importance of training for educators in integrating technology effectively is also emphasized so that learning objectives can be achieved optimally (Canals & Al-Rawashdeh, 2019). Understanding the use of technology in foreign language learning creates a learning ecosystem that is more dynamic, flexible, and relevant to the needs of generation Z (Kuleto et al., 2021). With reference to literature and conceptual understanding, it can be concluded that technology is not just an additional tool, but rather an integral part of the evolution of foreign language education towards a more adaptive and innovative approach.

After distributing a questionnaire to students studying foreign languages regarding the Use of Technology in Foreign Language Learning with the first question, How often do you use digital devices (laptop, tablet, smartphone, etc.) in foreign language learning? With answer options: Very Often, Frequently, Sometimes, Rarely and Never. With the following answer results:

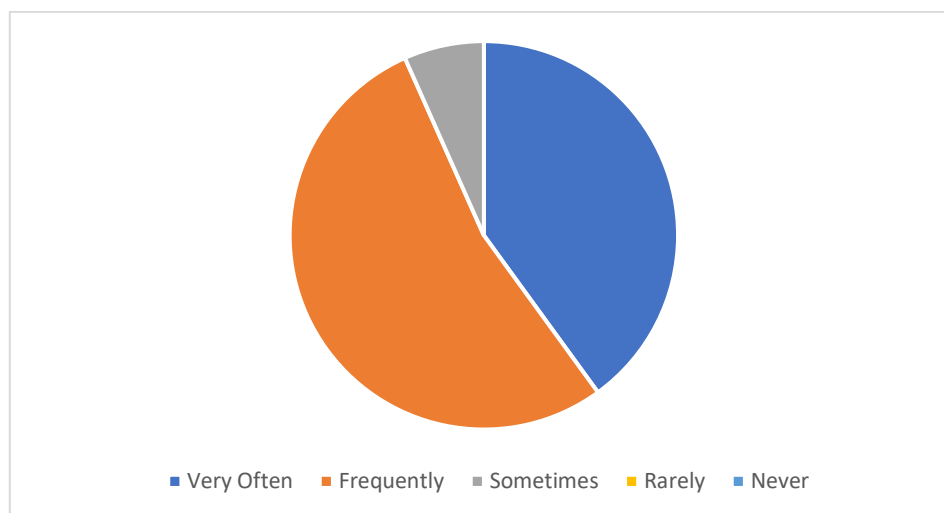


Figure 1. How often do you use digital devices (laptop, tablet, smartphone, etc.) in foreign language learning?

Based on the results of the questionnaire analysis regarding the use of technology in foreign language learning, it can be concluded that the majority of the 30 respondents showed a significant level of involvement with digital devices. Of the total respondents, 40% or 12 people stated that they used digital devices 'very often' in the foreign language learning process. This reflects the dominance of intensive use of technology among foreign language students.

Furthermore, 53.33% or 16 people stated that they use digital devices 'often'. This figure shows that the majority of students tend to utilize technology regularly to support their foreign language learning. This frequent use can cover a variety of activities, from accessing learning materials to using special foreign language applications.

However, as many as 6.67% or 2 people stated that they only use digital devices 'sometimes'. Although the numbers are limited, these results reflect the existence of a small group of students who may prefer a more conventional learning approach or face some obstacles in using technology regularly. With these results, it can be concluded that the majority of foreign language students show a positive level of engagement towards the use of digital devices in their learning. However, it should be recognized that there are variations in usage patterns, and further understanding individual preferences and constraints can provide a deeper insight into the integration of technology in foreign language learning.

Next question, Do you prefer learning a foreign language through an app or digital platform rather than traditional methods? With answer options: Yes, No and Not sure. With the following answer results:

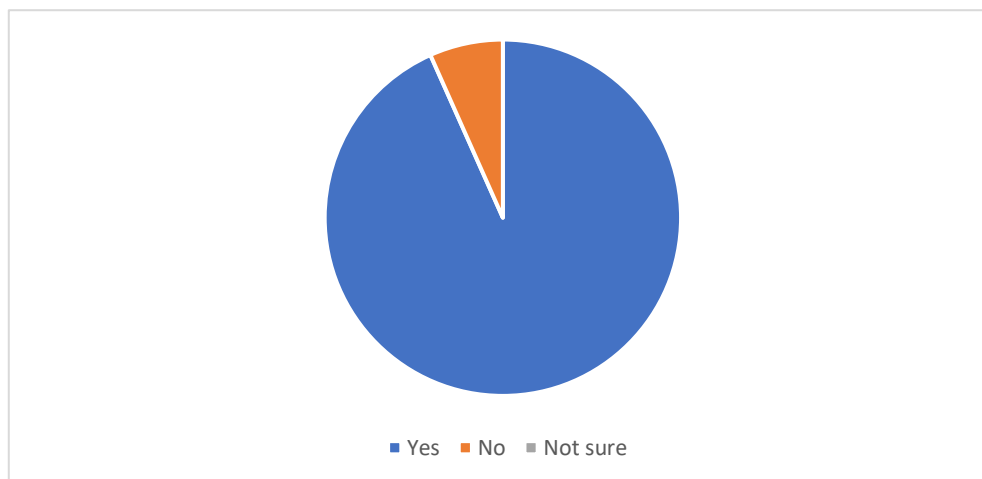


Figure 2. Do you prefer learning a foreign language through an app or digital platform rather than traditional methods?

Based on the results of questionnaire analysis regarding preferences in foreign language learning, a number of interesting findings can be identified. Of a total of 30 respondents, 93.33% or 28 people stated that they preferred learning foreign languages through applications or digital platforms rather than traditional methods. This high figure reflects the strong adoption of technology as the main tool in the foreign language learning process among students. On the other hand, 6.67% or 2 respondents chose the 'No' option. These results indicate that there is a small group of students who prefer traditional methods in foreign language learning, perhaps due to personal preferences or perhaps the presence of certain obstacles that make them less comfortable with digital approaches.

It is important to note that no respondents selected the 'Not sure' option. This shows that the majority of students are clear in their preferences regarding foreign language learning methods, whether through applications or digital platforms, or through traditional methods. Thus, it can be concluded that the majority of foreign language students tend to choose learning through applications or digital platforms, confirming the important role of technology in enhancing their learning experience. However, it is important to continue to pay attention to individual needs and preferences and support a variety of learning methods to ensure an inclusive and effective approach to foreign language learning.

Digital Literacy in Learning

Digital literacy in learning is an important focus in contemporary educational literature (Blau et al., 2020). The reference and concept of digital literacy defines an individual's ability to use, understand, and critique digital information effectively. The integration of digital literacy in learning has a major impact on how students understand, interact, and use information in an era of rapidly developing information technology (Leaning, 2019).

Based on references, digital literacy includes several dimensions. First, the basic ability to use hardware and software such as computers, tablets and applications is an integral part of digital literacy (Suwanto et al., 2022). Furthermore, understanding digital security, privacy protection, and ethics in the use of technology are important aspects for students to understand. The ability to assess and filter online information is also a key component in digital literacy, given the large fluctuations in the availability of information on the internet (Munger, 2020).

The importance of digital literacy in the learning context emphasizes that students not only need technical skills, but also critical abilities to process and evaluate information (Pangrazio et al., 2020). In the literature, digital literacy is associated with the ability to think critically, analytically and reflectively in dealing with various digital resources. The use of technology to search, organize and present information is also a key element in digital literacy which is emphasized by the reference.

However, the literature also reflects several challenges in implementing digital literacy in learning. Teachers' lack of understanding of digital literacy, incomplete school policies, and differences in access to technology are factors that need to be addressed. Therefore, digital literacy is not only the responsibility of students, but also requires support and understanding from educators and educational institutions.

By referring to the concept of literature and understanding of digital literacy, it can be concluded that digital literacy is not just a technical skill, but also involves critical understanding and skills to manage digital information wisely and effectively. Digital literacy in learning creates a foundation for developing the abilities students need to face the challenges and opportunities that exist in the digital era.

After distributing questionnaires to students studying foreign languages regarding digital literacy in learning, with the first question, What is your comfort level in using resources? digital to read and understand texts in a foreign language? With answer options: Very Comfortable, Comfortable, Neutral, Uncomfortable and Very Uncomfortable, with the following answer results:

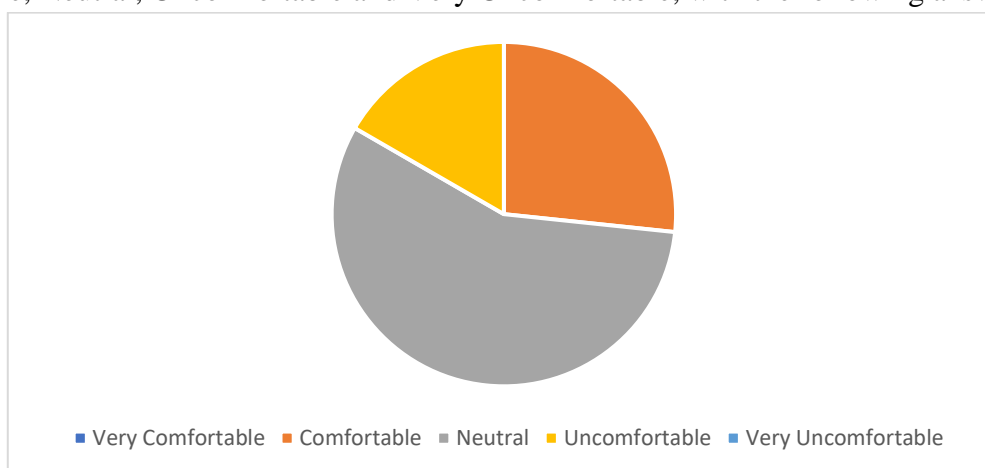


Figure 3. What is your comfort level in using resources? digital to read and understand texts in a foreign language?

The results of the questionnaire analysis regarding students' comfort levels in using digital resources to read and understand texts in foreign languages show interesting variations. Of the 30 respondents, 56.67% or 17 people stated that they felt 'Neutral' regarding the comfort of using digital resources. This suggests that most students do not have a strong preference, perhaps due to varying experiences or uncertainty regarding the effectiveness of using digital resources. Meanwhile, 26.67% or 8 respondents stated that they felt 'comfortable' in using digital resources to read and understand texts in foreign languages. This shows that some students feel that the use of digital technology provides comfort and efficiency in understanding foreign language texts.

On the other hand, 16.67% or 5 respondents stated that they felt 'Uncomfortable'. These results highlight the existence of a group of students who may experience particular obstacles or discomfort in using digital resources for foreign language learning. Through these results, it can be

interpreted that although the majority of students feel neutral regarding the comfort of using digital resources, there is a small group who tend to feel comfortable, while other groups feel uncomfortable. Further understanding regarding the factors that influence this level of comfort can provide deeper insight regarding the adoption of technology in foreign language learning.

Next question, To what extent do you feel confident in assessing the authenticity of the information you encounter online in foreign language learning? With answer options Very Confident, Confident, Fairly Confident, Not Confident and Not Confident At All. With the following answer results:

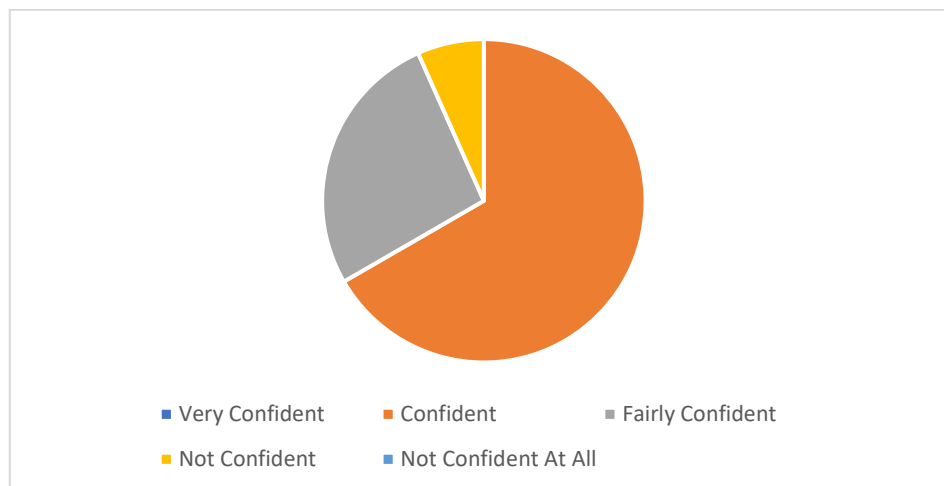


Figure 4. What extent do you feel confident in assessing the authenticity of the information you encounter online in foreign language learning?

From the results of the questionnaire analysis regarding the level of student confidence in assessing the authenticity of online information in foreign language learning, it can be concluded that the majority of students feel quite confident or confident in evaluating the authenticity of online information. Of the total 30 respondents, 66.67% or 20 people stated that they felt 'Confident' in assessing the authenticity of online information. This shows that the majority of students have high self-confidence regarding their ability to evaluate the accuracy and authenticity of online information.

Furthermore, 26.67% or 8 people stated that they felt 'Quite Confident'. Although this number is smaller than those who feel confident, it still shows a positive level of self-confidence in assessing the authenticity of online information. On the other hand, 6.67% or 2 respondents stated that they felt 'Not Confident at All'. These results indicate the existence of a small group of students who may face challenges or lack confidence in evaluating the authenticity of online information in the context of foreign language learning.

Through these results, it can be interpreted that the majority of students feel confident in assessing the authenticity of online information, but it is important to understand the factors -factors that influence this level of confidence, such as digital literacy skills, previous experience, and education related to media literacy.

Digital Literacy Obstacles and Challenges

The digital literacy literature identifies a number of obstacles and challenges that individuals face in developing their digital literacy (Fauzi et al., 2021). These obstacles provide in-depth insight into the barriers that students, teachers, and even educational institutions may face in effectively integrating digital literacy. References highlight that one of the main obstacles is unequal

accessibility to technology (Rahiem, 2020). Not all students or educators have equal access to the digital devices and internet connectivity needed to develop digital literacy. These inequities can increase gaps in the understanding and application of digital literacy among students (Aguilar, 2020).

In addition, the literature emphasizes that a lack of training and understanding of digital literacy can be a serious obstacle (Said Ahmad et al., 2023). Teachers and educators need to understand not only the technology itself but also how to integrate it into the curriculum and learning. Lack of resources and support for digital literacy training can also be a significant barrier (Rafiq et al., 2021). Another challenge that has emerged in the literature is the existence of uncertainty or constant change in digital technology. Rapid technological developments can make it difficult for students and educators to stay up-to-date with the necessary digital literacy skills and knowledge (Morgan et al., 2022). This emphasizes the importance of continuous learning and adaptability in the face of technological advances.

From a security perspective, the literature highlights the risks associated with digital literacy, such as the spread of false information, loss of privacy, and the inability to manage digital footprints (Koskelainen et al., 2023). This emphasizes the need to focus on ethical and security aspects in developing digital literacy, not just on technical aspects. Overall, digital literacy does not only include mastering technology, but also facing a number of complex challenges involving social, economic and cultural aspects (Martzoukou et al., 2020). Therefore, holistic and inclusive educational strategies and policies are needed to overcome these obstacles and challenges and ensure that digital literacy can be implemented evenly and effectively across the educational spectrum.

After distributing a questionnaire to students studying foreign languages regarding the obstacles and challenges of digital literacy with the first question, What are the main obstacles or challenges you experience in using technology for foreign language learning? With answer options: Interference or distraction when studying, Technical difficulties in using devices, Limited accessibility to online resources, Confusion in evaluating the authenticity of online information and Inability to filter relevant information. With the following answer:

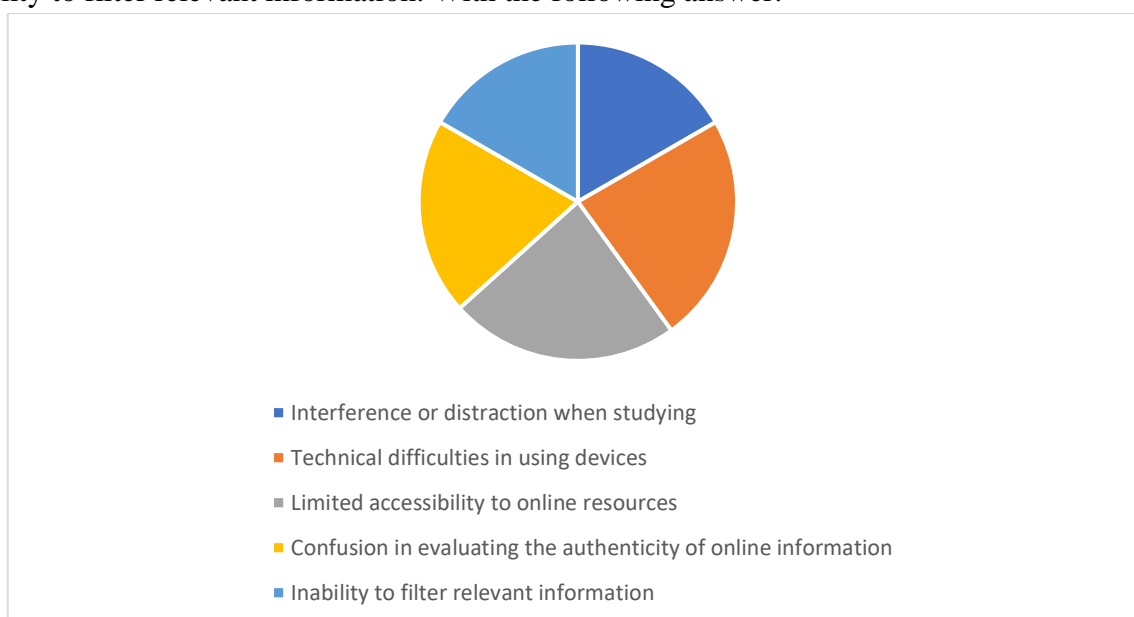


Figure 5. What are the main obstacles or challenges you experience in using technology for foreign language learning?

The results of the questionnaire analysis regarding the obstacles and challenges of digital literacy in foreign language learning illustrate the various obstacles faced by students. Limited accessibility to online resources was one of the main focuses, identified by 16.67% or 5 respondents. In this context, the problem of access to online learning materials is an obstacle that needs to be considered, perhaps related to limited infrastructure or resources in the student environment.

Meanwhile, as many as 23.33% or 7 respondents noted technical difficulties in using devices as a significant obstacle. These challenges reflect hardware or software-related barriers, which can impact students' overall learning experience. Apart from that, 20% or 6 respondents felt confused in evaluating the authenticity of online information. This challenge shows the complexity in filtering reliable information in a digital environment, which is a critical aspect of digital literacy.

Through these results, it can be concluded that the obstacles and challenges of digital literacy include technical aspects, accessibility, and information evaluation capabilities. A deeper understanding of these factors can help design more effective strategies and solutions to increase students' digital literacy in the context of foreign language learning.

The next question is related to digital literacy obstacles and challenges, What do you do to face digital literacy obstacles and challenges ? (Choose more than one if necessary) with answer options Seek help from peers or teachers, Look for online guides or tutorials, Take digital literacy training, Try new learning methods and Set a more structured study schedule. With the following answer:

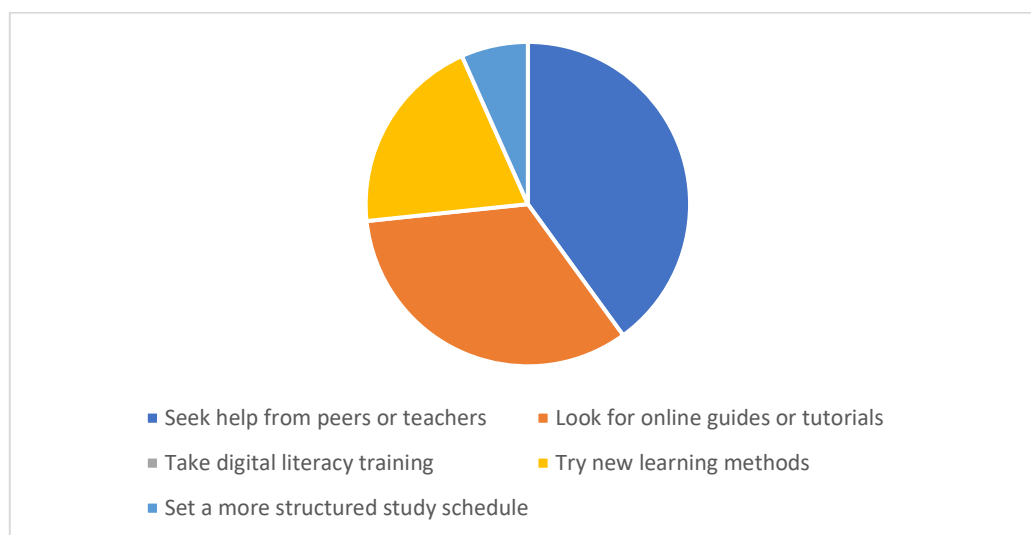


Figure 6. What do you do to face digital literacy obstacles and challenges ? (Choose more than one if necessary)

Responses to questions regarding strategies for dealing with digital literacy obstacles and challenges in foreign language learning provide an overview of the varied approaches taken by students. Of the 30 respondents, 40% or 12 people preferred to seek help from peers or teachers as the first step in overcoming digital literacy obstacles. This approach reflects the importance of social support in a learning context, where collaboration with peers or guidance from teachers is considered a valuable resource for overcoming technical obstacles or complex concepts.

Along with that, 33.33% or 10 people chose to seek guidance online or tutorials as their main strategy. These results reflect the independent attitude of students who tend to rely on online resources to deepen their understanding of digital literacy. In the digital information era, access to various online guides and tutorials is a proactive step to improve digital literacy skills. Meanwhile,

20% or 6 students chose to try new learning methods as a step in dealing with digital literacy obstacles. This choice shows that some students are willing to experiment with different learning approaches to overcome barriers in understanding digital technology. The initiative to look for new methods reflects an adaptive and creative attitude in facing digital literacy challenges.

On the other hand, 6.67% or 2 students chose to organize a more structured study schedule as a strategy. This choice shows awareness of the importance of good time management in overcoming digital literacy challenges. Setting a structured schedule can help students focus on digital literacy learning without being affected by distractions or distractions. Given the variety of strategies taken by students, it can be concluded that responses to digital literacy obstacles reflect the need for a holistic approach and tailored to individual student preferences and needs. These steps provide a strong basis for designing more effective and measurable supporting solutions in increasing digital literacy in foreign language learning.

CONCLUSION

In conclusion, the use of technology in foreign language learning creates an educational paradigm shift with the potential to increase student engagement, motivation, and understanding of the target language. Digital literacy plays a central role in optimizing the use of technology, involving skills in using, evaluating and collaborating with various digital tools and resources. However, challenges such as accessibility inequalities, lack of training, and constant changes in technology need to be addressed to achieve optimal implementation. The results of the questionnaire analysis highlighted a significant level of involvement of students in using digital devices, but also revealed variations in usage patterns.

Most students choose learning via applications or digital platforms, emphasizing the dominance of technology in foreign language learning approaches. However, the diversity of individual preferences and constraints indicates the need to adapt learning strategies. Digital literacy is an important focus in understanding students' level of comfort, confidence and barriers to using digital resources. The majority of students felt comfortable and confident, showing the positive potential of their digital literacy. However, challenges such as confusion in evaluating the authenticity of online information need to be addressed.

Digital literacy barriers and challenges include accessibility inequalities, lack of training, and technological changes. Strategies to overcome these obstacles vary, with students more likely to seek help from friends or teachers, seek online guidance, and try new learning methods. A holistic approach tailored to student preferences is the key to effectively increasing digital literacy in foreign language learning.

AUTHORS' CONTRIBUTION

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; In-vestigation.

Author 3: Data curation; Investigation.

Author 4: Formal analysis; Methodology; Writing - original draft.

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