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Exploring new educational horizons, ICTs and their impact on learning practices

Explorando nuevos horizontes educativos, las TIC y su impacto en las prácticas de aprendizaje

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ABSTRACT

ICT is designed to develop key skills, which means that the appropriate use of technology is not only focused on the transfer of information, but also aims at developing students' basic problem-solving skills and other skills related to students' holistic development. This study aims to analyse holistic educational transformation through the use of technologies, exploring learning practices to optimise educational quality in higher education students. A quantitative methodology was adopted. 97.6% of respondents said they use technology at school, while 2.4% said they do not use technology. The widespread preference for Google Chrome as the main browser and the frequent use of computers to support academic activities emphasise the centrality of technology in students' daily lives.

Descriptors: distance education; computer-assisted instruction; information technology; social media. (Source: UNESCO Thesaurus).

RESUMEN

Las TIC están diseñadas para desarrollar habilidades clave, esto significa que el uso apropiado de la tecnología no sólo se centra en la transferencia de información, sino que también apunta al desarrollo de habilidades básicas de los estudiantes en la resolución de problemas y otras habilidades relacionadas con el desarrollo integral de los estudiantes. Este estudio tiene como objetivo analizar la transformación educativa integral mediante el uso de tecnologías, explorando prácticas de aprendizaje para optimizar la calidad educativa en estudiantes de nivel superior. Se adoptado una metodología cuantitativa. el 97.6% de los encuestados dijo que usa tecnología en la escuela, mientras que el 2.4% dijo que no usa tecnología. La preferencia generalizada por Google Chrome como navegador principal y el frecuente uso de computadoras para apoyar las actividades académicas enfatizan la centralidad de la tecnología en el día a día de los estudiantes.

Descriptores: educación a distancia; enseñanza asistida por ordenador; tecnología de la información; medios sociales. (Fuente: Tesauro UNESCO).

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Research articles section

INTRODUCTION

ICT is designed to develop key skills, which means that the appropriate use of technology is not only focused on the transfer of information, but also aims at developing students' basic skills in problem solving and other skills related to the holistic development of students. The importance of technology in the educational field refers to the creation of a didactic approach (Pintado et al., 2021). In other words, it is about how teaching and learning strategies are planned and organised in relation to technology. It is not just a question of having access to technological tools, but how these tools are used effectively to develop and strengthen meaningful learning. Students appreciate the communication and direct interaction that occurs in face-to-face situations, finding benefits in this type of interaction that are not fully replaced by ICT (Ferrada-Bustamante et al., 2021).

This suggests that, although there are advantages and conveniences in digital communication, students still perceive face-to-face interaction as more enriching, effective or meaningful in certain aspects. In sum, it can be inferred that the study seeks to understand how the integration of technologies impacts on various aspects of education, not only in terms of tools and resources, but also on teaching and learning practices. The mention of learning practices suggests an interest in how students participate in and benefit from technologies in their educational process.

It highlights the importance of the educator, on his or her own initiative, actively using and applying technological resources to enrich the learning experience of students (Falla et al., 2021). This implies that the teacher must not only be familiar with technology, but also be proactive in its application, adapting it autonomously to the educational objectives and specific needs of the educational environment. Autonomy in the integration of technological tools reinforces the idea that the educator plays a fundamental role in creating enriched and updated learning environments through the effective use of technology.

Innovative pedagogical practices implemented by teachers, which involve the effective use of ICT, contribute to the comprehensive development of students (Bernal & Rodríguez, 2021). This approach suggests that the appropriate use of technology not only improves the delivery of education, but also has a positive impact on students' cognitive skills and readiness to face academic and work-related challenges. It is therefore necessary to recognise that the effective use of ICT not only involves the adoption of new technological tools (Sosa et al., 2022), but also the ability of teachers to reflect on how these technologies affect the dynamics of learning and teaching. The importance of researching and understanding the interactions between students and ICTs and their impact on the educational process is highlighted.

It is stressed that this process of ICT incorporation requires the acquisition of skills and knowledge by educators to effectively use these tools in the educational environment (Castillo, 2020), the need to develop an organisational and planning process that considers various aspects, such as curricular content, student characteristics and the context in which ICT will be implemented. This suggests that the introduction of ICT involves not only technical training, but also careful consideration of how these tools are effectively integrated into the educational content and context.

This study aims to analyse holistic educational transformation through the use of technologies, exploring learning practices to optimise educational quality in higher education students.

METHOD

A quantitative methodology involving statistical analysis of the data collected was adopted. The main purpose of this approach is to objectively describe, explain, predict and control the reasons associated with the object of study (Sánchez, 2019). In this way, it seeks to validate conclusions through a rigorous and systematic application of the methodology, thus contributing to a deeper and more grounded understanding of the phenomena involved.

Regarding the selection of the sample, a non-probabilistic convenience sampling was chosen (Pineda, 2018), and finally 170 students were selected to participate in the survey. Data collection was carried out by means of a survey and a questionnaire containing 13 closed

questions, validated by expert judgement and Cronbach's reliability calculation obtaining a coefficient of 0.83. Subsequently, the information collected was processed using SPSS statistical software, where the variables were organised in frequency tables. This process allowed the expected results to be obtained and presented graphically for later interpretation.

RESULTS

The interpretation of this statistic shows that 97.6% of the respondents said they use technology in school, while 2.4% said they do not use technology. This indicates that the integration of technology in educational settings is very common among the populations studied. The vast majority of participants recognised and actively used technology tools as part of their school experience (Figure 1).

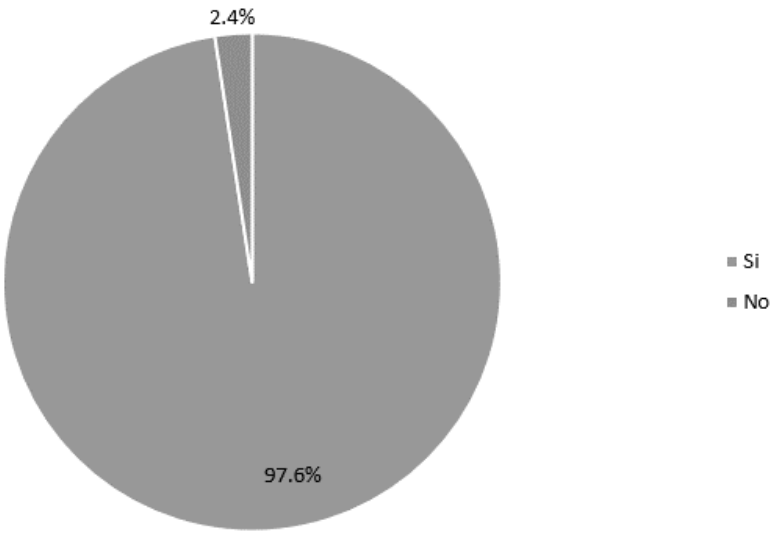

Figure 1. Do you use technology at school?
Source: own elaboration.

A significant proportion of respondents make frequent use of the computer as a tool to support their studies. 34.1% report using it every day, while 17.1% use it once a week. In addition, a considerable 38.2% use it two to three times a week. On the other hand, a small percentage of respondents, 2.4%, use the computer monthly, and 8.2% use it rarely. These data indicate a strong reliance on the computer as a study support resource, with a majority using this tool on a regular basis (Figure 2).

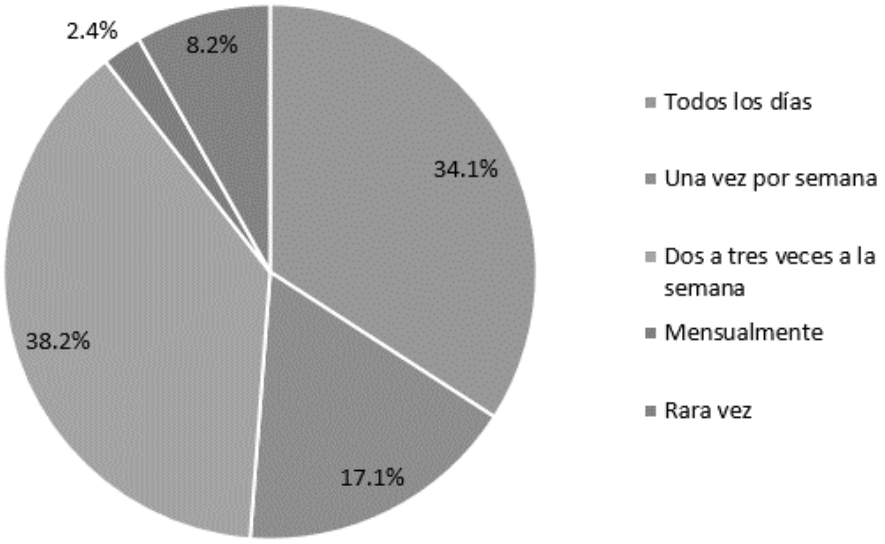

Figure 2. Have you used a computer as a support tool in your studies?
Source: own elaboration.

Respondents have a clear preference for the Google Chrome browser, with 75.9%. Internet Explorer is still used by a significant segment, but to a lesser extent, representing 15.9%. On the other hand, Firefox accounts for 2.9%, Safari for 3.5%, and a small percentage, 1.8%, prefer another unspecified browser. These results indicate an overwhelming preference for Google Chrome among respondents, which may suggest its perceived popularity and reliability as a browser for performing tasks (Figure 3).

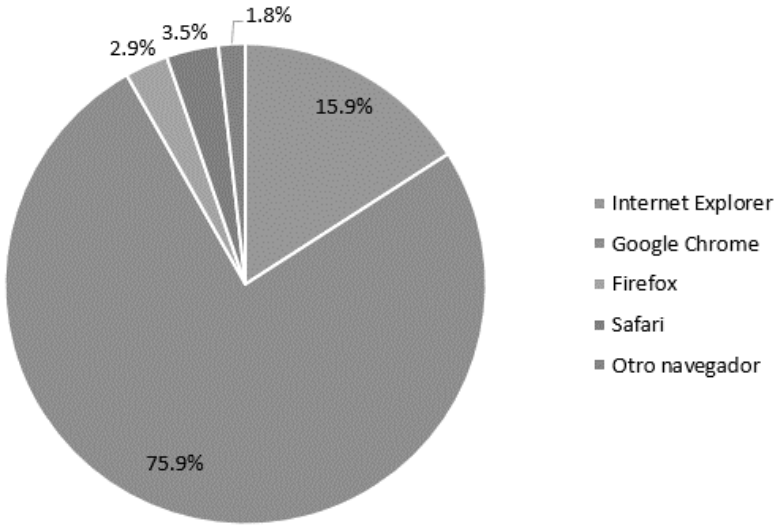

Figure 3. Which browser do you prefer to use to perform your tasks?

Source: own elaboration.

Therefore, respondents spend a significant amount of time using technology on a weekly basis. Ten percent spend less than one hour, while a larger segment, 41.2%, spend between 1 and 2 hours. Some 31.2% use technology 3-5 hours per week, and 13.5% spend 5-8 hours. A small percentage, 4.1%, indicated that they do not know how much time they spend using technology

on a weekly basis. These data suggest that the majority of respondents spend considerable time on technology activities each week, reflecting the importance and pervasive presence of technology in their lives (Figure 4).

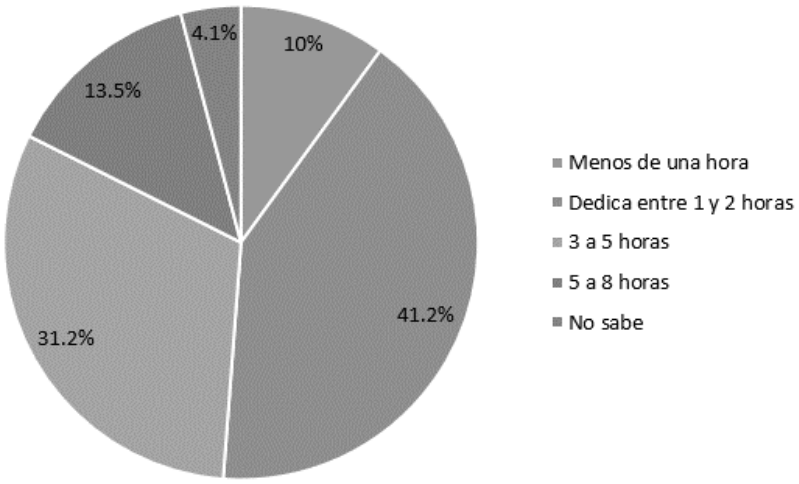

Figure 4. How much time do you spend each week using technology?

Source: own elaboration

Likewise, Facebook is the platform most used for academic purposes, being chosen by a considerable 81.8% of respondents. Google and YouTube are also mentioned, but to a lesser extent, with 3.5% and 2.9%, respectively. Instagram and WhatsApp have an even lower share, with 0.6% and 5.3%, respectively. In addition, 5.9% of respondents mention other unspecified platforms. These results suggest that, for academic purposes, Facebook is the preferred choice, while other platforms have a more limited presence in this context (Figure 5).

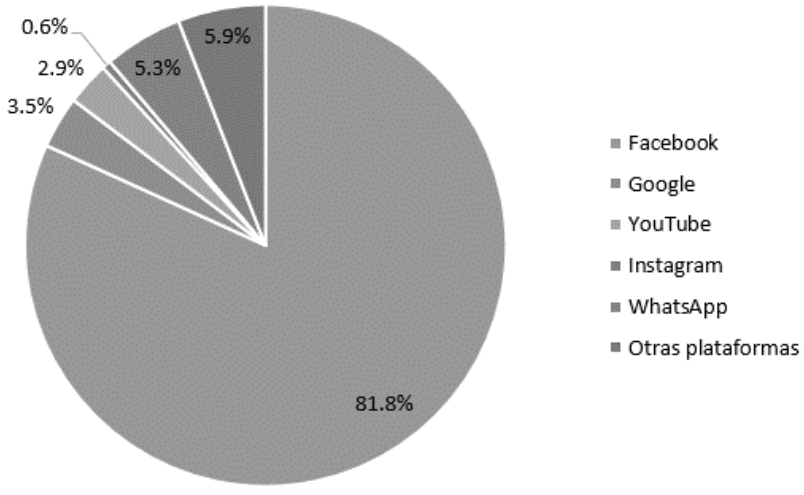

Figure 5. In which social networks do you participate for academic purposes?
Source: own elaboration

The majority, 67.6%, indicate that computers are located in a computer centre. Ten per cent mention that they are in the classroom, while 19.4 per cent identify them in the library. Only a small percentage, 0.6%, indicated another location, and 2.4% stated that their educational institution did not have computers. These results suggest that computer centres are the most

common location for accessing this resource, followed by classrooms and libraries, which could influence the availability and accessibility of computers for students (Figure 6).

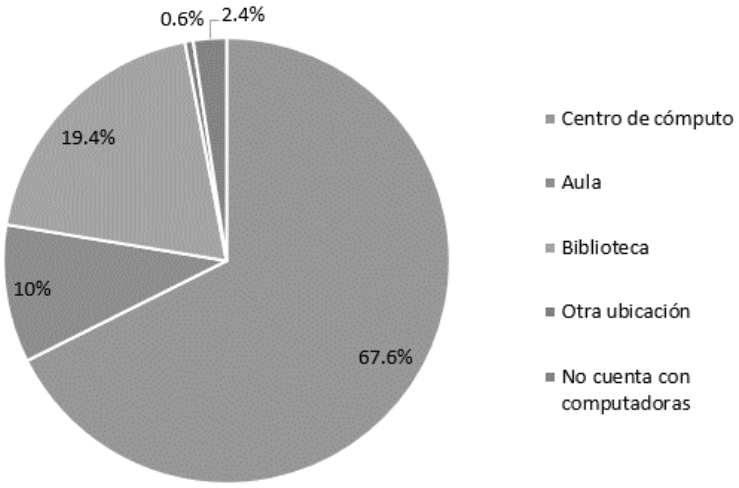

Figure 6. What is the distribution of computers in your educational institution?

Source: own elaboration

DISCUSSION

The results reveal a remarkable picture regarding the integration and use of technology in educational settings. A high percentage, 97.6%, indicate that respondents use technology at school, reflecting widespread adoption of technology tools in educational contexts. This suggests a positive trend towards the integration of technology as a fundamental part of the educational experience. In relation to the use of the computer as a study support tool, the results indicate that a considerable proportion of respondents use it on a frequent basis. The preference for Google Chrome as the main browser is overwhelming, with 75.9%, highlighting its perceived popularity and reliability among participants.

In terms of time spent using technology, it is observed that the majority of respondents spend a considerable amount of time on a weekly basis, underlining the importance of technology in their daily lives. This finding highlights the need to consider technology as a key component in learning and educational development strategies. In academia, Facebook is the preferred platform with a remarkable 81.8%, evidencing its prominence in educational use. Other platforms such as Google and YouTube are also used, although to a lesser extent. These results point to the importance in academia, especially Facebook, as a tool to support communication and information sharing among students.

In terms of the distribution of computers in the educational institution, computer centres are the most common location, followed by classrooms and libraries. This suggests that there is relatively wide access to computers, but location may influence availability and accessibility for students. In that context, these results indicate a strong presence and dependence on technology in the educational environment of the respondents, highlighting the importance of considering technology as an integral component in the design of educational strategies and learning practices.

Integrating ICT through the provision of digital competencies implies that educators must not only have access to technological tools, but also be trained to use them effectively in their teaching (Chasi-Solórzano, 2020). This ranges from familiarity with technological tools to

understanding how to integrate them pedagogically and meaningfully into the curriculum. For this reason, the use and understanding of ICT is considered essential not only for students, but also for educators (Cardozo, 2022). It is not only about using devices and software, but also about integrating digital skills as a fundamental part of the set of competences needed to participate effectively in today's education.

Therefore, educational technology is not only related to the adoption of devices or programmes, but also plays a key role in the improvement and efficiency of the administration and management of educational institutions (Chapa & Cedillo, 2022). Furthermore, its positive influence on the work of teachers, providing tools that facilitate teaching, and on student learning, offering new opportunities and resources for academic development, is recognised. In particular, it is noted that the introduction of ICT has facilitated access to the tools needed to transmit knowledge (Vinueza et al., 2022). This technological inclusion has improved the possibilities of access to information in educational communities, which, in turn, has contributed to reducing the digital divide.

In this context, ICT are considered valuable tools that not only improve the quality of teaching, but also enhance the effectiveness of the learning process (Granda-Asencio et al., 2019). Participation, the availability of online educational resources and the promotion of the development of digital skills are aspects that enrich the educational experience, adapting it to the needs of students in the digital age.

CONCLUSION

The survey results strongly reveal the ubiquity and significant impact of technology in the educational settings investigated. With an impressive 97.6% of participants using technology in school settings, it is clear that these tools have become an indispensable component of the contemporary educational experience. The widespread preference for Google Chrome as the primary browser and the frequent use of computers to support academic activities emphasise the centrality of technology in students' day-to-day lives. Consequently, the considerable allocation of time devoted to technological activities underscores the strategic importance of these tools in learning and educational development. These findings underscore the imperative need to harness technology effectively to enrich educational practices and improve the quality of the educational process as a whole.

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CONFLICT OF INTEREST

There is no conflict of interest with individuals or institutions involved in the research.

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