

Virtual communication and internet tools as a facilitating instrument for school learning

La comunicación virtual y las herramientas de internet como un instrumento facilitador del aprendizaje escolar

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Abstract

Internet tools offer a wide range of educational resources adaptable to different learning styles, which allows students to learn at their own pace and in a more personalized way, they also encourage the development of critical digital skills for the 21st century, such as digital literacy, online research and information management. The objective of this work is to evaluate the understanding and application of virtual communication and internet tools of the students of the Instituto Liceo Franco Americano Preparatory Division. This is a descriptive quantitative study applied to 66 students in the first, third, fourth and fifth semester. Research shows that virtual communication allows for more constant and accessible interaction between students and teachers, facilitating collaborative learning and academic support outside the traditional classroom.

Keywords: Internet; virtual communication; learning; virtual tools; students

Resumen

Las herramientas de internet ofrecen una amplia gama de recursos educativos adaptables a diferentes estilos de aprendizaje, lo cual permite a los estudiantes aprender a su propio ritmo y de manera más personalizada, además fomentan el desarrollo de habilidades digitales críticas para el siglo XXI, como la alfabetización digital, la investigación en línea y la gestión de la información. El objetivo de este trabajo es evaluar la comprensión y aplicación de la comunicación virtual y las herramientas de internet de los alumnos del Instituto Liceo Franco Americano División Preparatoria. Se trata de un estudio cuantitativo de tipo descriptivo aplicado a 66 alumnos de primero, tercero, cuarto y quinto semestre. La investigación demuestra que la comunicación virtual permite una interacción más constante y accesible entre alumnos y profesores, facilitando el aprendizaje colaborativo y el soporte académico fuera del aula tradicional.

Palabras clave: internet; comunicación virtual; aprendizaje; herramientas virtuales; estudiantes

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INTRODUCTION

In the current digital era, the virtual communication and the internet tools have radically transformed the way school learning takes place (Padín, 2023); in an increasingly globalized and digitized world, these tools have not only transformed classroom dynamics, but also expanded the boundaries of knowledge, enabling learning to transcend traditional physical and temporal constraints (Beltran, Piracoca & Romero, 2024). The digital revolution has introduced profound changes in all aspects of society, and education is no exception; the educational environment has experienced a significant metamorphosis with the incorporation of digital technologies, since education traditionally developed in a delimited physical space, with face-to-face interactions between teachers and students (Araque, 2022). However, the introduction of virtual communication has blurred these boundaries, allowing the creation of virtual classrooms where learning is not restricted by geography (Velez & Zambrano, 2022).

Integrating technology into the educational process has enabled traditional classrooms to become more interactive and collaborative learning environments, since through platforms for video conferencing, such as Zoom and Microsoft Teams, and learning management, such as Google Classroom and Moodle (Iza & Sisa, 2024), educators can teach online classes, make assessments, and maintain constant communication with their students, being especially valuable in situations such as the COVID-19 pandemic, when in-person classes were disrupted and

online education became a necessity (Barráez, 2020). These tools not only enable distance learning, but also encourage interaction and collaboration between students from different parts of the world (Gómez, 2023), for instance, online discussion forums, collaborative cloud projects and video conferencing have become essential components of modern learning, promoting more active participation and richer brainstorming (Huamán et al., 2022).

One of the main benefits of internet tools is access to a vast number of educational resources, digital libraries, academic databases and massive open online courses (MOOCs) have democratized the access to knowledge (Herrera 2020), allowing students of different socioeconomic status from all over the world to access high-quality materials that were previously restricted to elite institutions (Julca et al., 2022). Also, online learning platforms, like Khan Academy, Coursera and edX, offer free and paid courses in a wide range of disciplines, from science and math to humanities and the arts (Pinzón, 2020), allowing students to supplement their formal education, deep dive into topics of special interest and acquire new skills at their own pace, promoting the potentialization of self-learning and autonomous learning, which contributes to the development of a culture of continuous learning (Vite & de Castillo, 2021).

The digital tools have enabled a greater personalization of learning, adapting educational content to the individual needs and rhythms of students, since using artificial intelligence

technologies and machine learning algorithms, educational platforms such as Duolingo and DreamBox can adjust exercises and lessons based on each student's progress and difficulties (Sanchez, 2022). This personalization improves learning effectiveness and also increases student motivation and engagement by feeling more supported and understood in their learning process by providing an educational experience that fits their particular needs (Argudo & Ortega, 2022).

In the 21st century, digital literacy has become an essential competence; currently the everyday use of internet tools in the educational field prepares students for an increasingly digitized work world, as through the everyday use of online educational platforms, students develop technical and digital skills that will be crucial in their future professional life such as email and video calls (Rubio & Balda, 2024). In order to collaborate on online projects, it develops effective communication and teamwork competencies that are highly valued in the work market, fostering self-discipline and accountability, key competences for both academic and professional success (Organista & Reyes, 2024).

Despite the many benefits, integrating virtual communication and internet tools into education also poses challenges (Talavera et al., 2024); the digital divide is a major concern, as not all students have access to quality internet connections and devices, so this inequality can limit learning opportunities and exacerbate educational differences (Cervantes, Peña & Ramos, 2020). In addition, overexposure to

screens and lack of face-to-face interaction can have negative effects on students' physical and mental health, so it is essential to develop strategies that mitigate these risks and ensure that technology is used in a balanced and sustainable manner (Gutiérrez, 2020). Hence the importance of what causes clear and complete communication in the analysis, study and understanding of virtual communication and internet tools as the basis for an evolved, current, and innovative education that is more demanding every day (Arenas et al., 2023).

METHODS, TECHNIQUES, AND INSTRUMENTS

The type of study is quantitative, since it evaluates the importance of virtual communication and internet tools, characterized as vitally important for an increasingly revolutionized and cybernetic world that demands their use in certain sectors essential for existence in the world of knowledge, as part of mankind and as a foundation to its preparation for his daily life and dealing with the world.

This study is limited to the Instituto Liceo Franco Americano, which has a population of 66 students. The sample consisted of first, third, fourth and fifth semester high school students enrolled in the 2022-3 period, for a total of 44 students. The instrument applied is a test prepared by the Online Training Institute. This measures the learning acquisition aptitude of the students and uses a Likert scale to rate from 7 (sufficient) to 10 (excellent).

To do an in-depth analysis of the student's knowledge, both prior and obtained, the assessment was divided into two parts, in order to make a comparison between them at the end of the study to determine if virtual communication and internet tools are instruments that facilitate school learning. The initial instrument indicates the degree of knowledge the student has prior to the study and the final instrument indicates the trends of learning and knowledge acquisition by the students. The results were analyzed descriptively in the SPSS statistical package version 22, organizing them using frequency and percentage tables.

RESULTS AND DISCUSSION

In relation to the results obtained in the initial instrument, it was found that 91.0% (40) of the students use the internet and virtual communication tools to prepare their homework or school assignments (figure 1); 75.0% (33) have a high of knowledge about Computer equipment handling (Figure 2); 86.0% (38) have more than two years using these instruments (Figure 3); 95.0% (42) are committed to put some extra effort to acquire more knowledge and learning during the course (Figure 4); regarding the skill in handling these tools, 86.0% (38) are good at them (Figure 5)

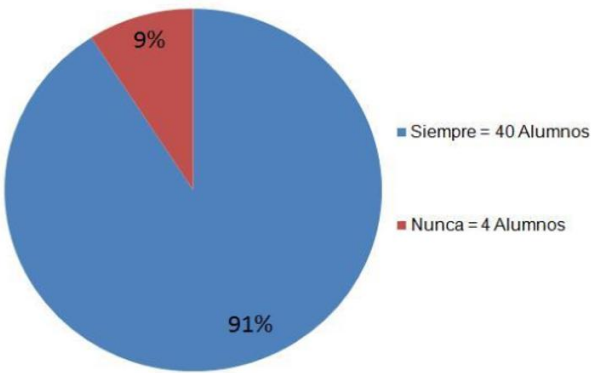


Figure 1. Using the Internet and Virtual Communication Tools

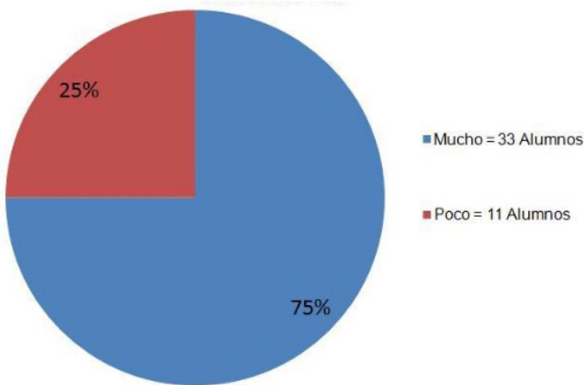


Figure 2. Computer Handling and Use Knowledge

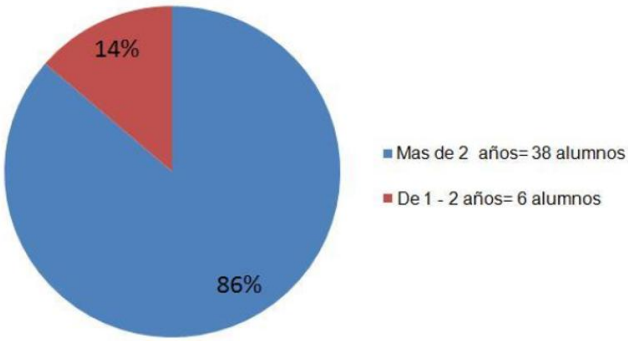


Figure 3. Experience using internet tools.

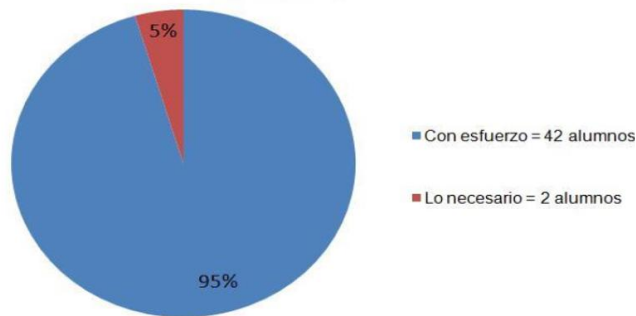


Figure 4. Student engagement for course development

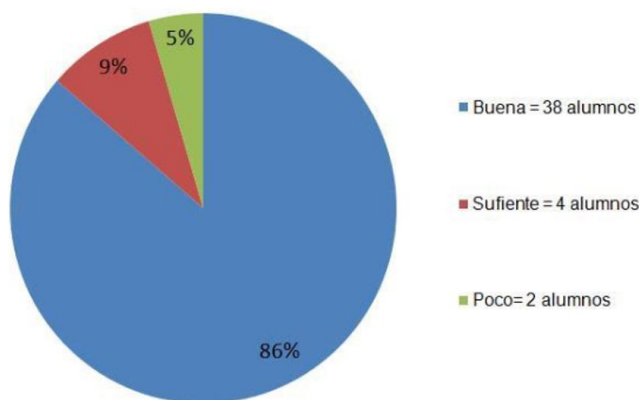


Figure 5. Students' ability to manage internet tools and virtual communication.

In relation to the degree of usefulness or effectiveness of the students' performance according to the applied assessment instrument, the results of the knowledge acquired after the course on the use of internet tools and their application in the development of school activities were analyzed, resulting in:

95%.0 (42) of students consider the use of the internet and virtual communication tools extremely useful, and 5.0% (2) as useful, therefore all students agree that these tools are useful in the performance

of their homework and school assignments. Regarding the use of the different tools and software, 86.0% (38) mention that they found it easy, 9.0% (4) quite easy and 5.0% (2) difficult. The responses obtained regarding the tools most used in the preparation of homework and assignments: 95.0% (42) responded that the software reviewed during the course and 5.0% (2) were on the Internet.

Regarding initial knowledge, learning and final knowledge, 80.0% (35) achieved a high degree of learning proficiency in the course of internet tools and virtual communication, 18.0% (8) achieved a good degree and 2.0% (1) a low degree; in terms of their opinion on what was missing for a higher learning, 75.0% (33) responded that more time than dedicated and 25.0% (11) that there were topics missing; about the question related to the level of learning from the use of tools and software seen, 79.0% (35) learned very good, 16.0% (7) excellent, and 5.0% (2) good.

95.0% (42) consider that internet tools and virtual communication are very necessary for the preparation of homework and school assignments and 5.0% (2) consider them necessary; In relation to the skills level acquired after the course, 79.0% (35) responded that they acquired very good skills in the management and use of internet tools and virtual communication, 16.0% (17) excellent skills and 5.0% (2) good skills. Regarding the learnings acquired in the course of internet and virtual communication tools, 84.0% (37) obtained a very good proficiency as shown in figure 6.

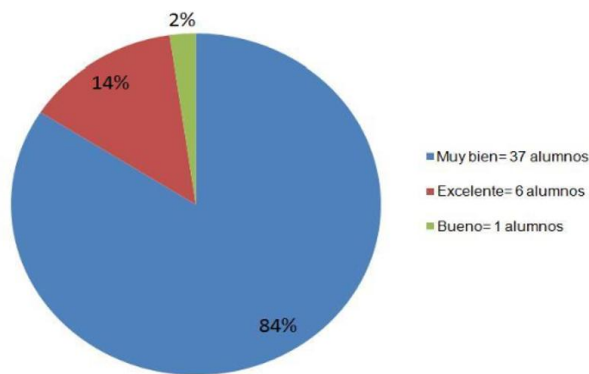


Figure 6. Learnings gained in the course of online tools and virtual communication.

CONCLUSIONS

In recent decades, virtual communication and internet tools have revolutionized the educational field, transforming the way students access knowledge and relate to learning. These technologies have proven invaluable instruments to ease school learning, offering a wide range of resources and opportunities that enrich educational experience.

One of the most significant advantages of online tools is unlimited access to educational information and resources; online educational platforms, digital libraries and academic article repositories allow students to access high-quality materials from anywhere, anytime. This access not only broadens the horizon of knowledge available to students but also encourages self-management and autonomy in learning; also, the availability of multimedia resources such as educational videos, interactive simulations and podcasts, enriches understanding of complex concepts, and supports diverse learning styles.

Virtual communication facilitates interaction and collaboration between students and teachers, removing geographic and time barriers; online learning platforms, like Google Classroom, Moodle and Microsoft Teams, allow the creation of virtual classrooms where students can participate in discussions, share ideas and collaborate on projects in a synchronous and asynchronous way; these tools encourage a more engaging and collaborative learning, where students can benefit from collective knowledge and develop effective communication and teamwork skills.

The internet tools also enable learning customization, adapting to the individual needs and rhythms of each student; adaptive learning environments use algorithms and data analysis to provide content and activities that match the student's level of skill and progress. This allows differentiated and effective teaching, where students can move forward at their own pace and receive personalized feedback; also, the possibility to access a variety of online courses and materials allows students to explore their interests and strengthen specific areas of knowledge.

The use of virtual communication and internet tools in the school environment also contributes to the development of digital competences, essential in the contemporary world; students learn to use a variety of technologies, search and evaluate information online, and communicate effectively in digital environments. These skills are crucial not only to academic success, but also to their future professional and personal life. Despite the many benefits, it is

important to recognize and address the challenges associated with integrating these technologies into school learning, such as the digital divide, online privacy and security, time management, and distraction are aspects that require attention.

It is critical that educational institutions and teachers adopt balanced approaches, providing the right infrastructure, promoting the best practices in the use of technologies, and supporting students in the development of self-regulatory skills and digital responsibility. Virtual communication and internet tools have emerged as powerful instruments that facilitate school learning, offering an unprecedented access to educational resources, promoting interaction and collaboration, personalizing learning and building critical digital skills, because by integrating these technologies effectively and thoughtfully, educational institutions can create more inclusive, dynamic and adaptive learning environments, preparing to meet challenges and seize 21st century opportunities.

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