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PROPOSAL FOR AN ONLINE TUTORING SYSTEM TO SUPPORT THE ENGLISH LANGUAGE TEACHING-LEARNING PROCESS OF VULNERABLE STUDENTS

PROPUESTA DE UN SISTEMA DE TUTORÍA EN LÍNEA PARA APOYAR EL PROCESO DE ENSEÑANZA APRENDIZAJE DEL IDIOMA INGLÉS DE ESTUDIANTES VULNERABLES

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ABSTRACT

In the present research, a proposal for an online tutoring system using Information and Communication Technologies (ICT) has been suggested to address educational challenges at the Educational Unit for Individuals with Incomplete Schooling (UE PCEI by its acronym in Spanish which stands for Unidad Educativa para Personas con Escolaridad Inconclusa) Monseñor Leonidas Proaño, Caluma. Students face educational issues due to the prevalence of social vulnerability factors such as poverty and dysfunctional families. This results in high rates of school absenteeism, low academic performance, and emotional challenges, increasing the risk of dropout. The proposal is supported by a review of scientific literature and professional experience, aiming to enhance educational opportunities for vulnerable students through an innovative approach of online tutoring that overcomes economic and social barriers limiting access to face-to-face classes, especially for working students and mothers. The success of the proposal could not only contribute to academic performance but also counteract demotivation and low self-esteem, fostering a more inclusive educational environment. The research approach is mixed through a descriptive case study. A sample of 13 students was intentionally selected to understand elements of vulnerability and the level of ICT competencies among the sample. Among the results regarding the degree of digital literacy, it is scarce among the studied population; however, all have access to smartphones and internet connection, which would facilitate the implementation of the proposed online tutoring system.

Keywords:

Online tutoring, students in vulnerable situations, school absenteeism, academic performance, inclusive education

RESUMEN

Se sugiere una propuesta de tutoría en línea utilizando Tecnologías de la Información y las Comunicaciones (TIC) para abordar los desafíos educativos de la Unidad Educativa para Personas con Escolaridad Incompleta (UE PCEI). Personas con Escolaridad Inconclusa Monseñor Leonidas Proaño, Caluma. Los estudiantes enfrentan problemas educativos debido a la prevalencia de factores de vulnerabilidad social como la pobreza y las familias disfuncionales. La propuesta está respaldada por una revisión de la literatura científica y la experiencia profesional, con el objetivo de mejorar las oportunidades educativas de los estudiantes vulnerables a través de un enfoque innovador de tutoría en línea que supere las barreras económicas y sociales que limitan el acceso a las clases presenciales, especialmente para los estudiantes que trabajan y madres. El éxito de la propuesta no sólo podría contribuir al rendimiento académico sino también contrarrestar la desmotivación y la baja autoestima, fomentando un ambiente educativo más inclusivo. El enfoque de investigación es mixto a través de un estudio de caso descriptivo. Se seleccionó intencionalmente una muestra de 13 estudiantes para comprender los elementos de vulnerabilidad y el nivel de competencias en TIC entre la muestra. Entre los resultados respecto al grado de alfabetización digital, éste es escaso entre la población estudiada; sin embargo, todos tienen acceso a teléfonos inteligentes y conexión a internet, lo que

facilitaría la implementación del sistema de tutorías en línea propuesto.

INTRODUCTION

The present study proposes an online tutoring system tailored to the mission, vision, and values UE PCEI Monseñor Leonidas Proaño. The aim is to strengthen learning for marginalized sectors of in-person education, promote inclusive education for vulnerable students, and foster the practice of human, ethical, and civic values. This initiative aligns with the institution's commitment to provide quality education, promoting equity, and the comprehensive development of all students, regardless of their socioeconomic circumstances.

The research addresses the complex educational issues at the Educational Unit for Individuals with Incomplete Schooling (UE PCEI) Monseñor Leonidas Proaño, located in Caluma, Bolívar Province, Ecuador. High rates of absenteeism and low academic performance are evident within the institution. Students, often serving as family caregivers, encounter difficulties attending classes regularly due to work responsibilities and economic constraints. Mothers, restricted by childcare duties, also face obstacles in accessing education regularly.

In response to this scenario, the research aims to propose an online tutoring system, utilizing Information and Communication Technologies (ICT), to overcome attendance challenges and enhance the learning of vulnerable students. The proposal seeks to offer a practical and accessible solution that leverages available technological resources. The initiative has the potential to drive the educational success of these young individuals despite economic and social barriers. Ultimately, the research aspires to contribute to improving educational opportunities, personal development, and the future of these students, recognizing the importance of adapting to the specific environment to achieve a lasting positive impact.

Problem Statement

The authors, (Cordero & Zambrano, 2023) highlight that in "Latin America, the alliance of technology with the teaching-learning process has not been achieved, convincing strategies that demonstrate adequate use in education are not shown" (p. 525).

The UE PCEI Monseñor Leonidas Proaño, in its Caluma branch, faces a complex and challenging educational situation due to the composition of its student body. The majority of students come from environments of high social vulnerability, characterized by poverty, dysfunctional families, teenage pregnancies, and early engagement in agricultural activities (UNESCO, 2021). Additionally, Caluma's rural location means many students must travel significant distances to attend the institution. At times, they do so through inter-parish transportation or by renting transportation services at high rates, and in the case of those who lack access to either, by walking to the institution. Despite these adversities, they have access to the internet and basic mobile devices that allow them to connect online.

The symptoms of this educational issue are evident in the high rate of school absenteeism, exceeding 40% (on average, students miss 35 out of 80 annual working days); furthermore, in low academic performance and emotional challenges such as low self-esteem, stress, demotivation, and social isolation. These factors could contribute to school dropout. Many of them, due to their household work responsibilities and the need to contribute to family support, face difficulties in attending classes regularly.

The above translates into high rates of absenteeism and low academic performance. Mothers, in particular, are restricted by the need to care for their children and cannot access education consistently. Additionally, economic limitations prevent them from covering expenses related to transportation, lodging, and food during school days, a social issue that further limits the capacities and functioning of the students.

The objective of this research is to propose an alternative remote assistance for students in vulnerable situations through online tutoring, aiming to reduce school absenteeism and improve academic performance, student participation, and emotional well-being. The central question guiding this research is as follows: Can a tutoring system be proposed using ICT to mitigate attendance challenges and improve the learning process of students in vulnerable situations at the UE PCEI Monseñor Leonidas Proaño, Caluma extension? Additionally: What are the socio-economic conditions faced by students in rural areas like Caluma and how do they influence attendance and academic performance? and How can ICT address the attendance difficulties and low academic performance of students in vulnerable situations?

This proposal would not only benefit vulnerable students but also offer advantages for the entire educational community. Students who, for justified reasons, cannot attend the institution at a given time would also benefit from this system. Additionally, since the consequences of these situations affect both students and their families, the latter could also benefit from this approach. Meetings, grade delivery, monitoring of children's performance, or other aspects requiring parental or guardian attention could be

conducted through similar technological platforms, thus avoiding the need for mobilization, additional expenses, or loss of workdays. This convenience is particularly relevant for parents whose lifestyles may be significantly impacted by these circumstances. Furthermore, this proposal has the potential to extend to other areas of study, benefiting the educational institution as a whole.

This research project aims to provide a practical and accessible solution to improve educational opportunities for students facing marked vulnerability due to economic and social adversity, including factors such as poverty, early employment, and mobility difficulties. Through a review of scientific literature and the integration of professional experience, the goal is to design an online tutoring system that leverages available technological resources within the context of these students and addresses the multiple causes and symptoms of the issue.

Theoretical Framework

The convergence of pedagogical theories, teaching approaches, and educational models provides a comprehensive perspective that addresses both the dynamics of online learning and the specific needs of students in socioeconomically disadvantaged situations.

In this regard, we can agree with PhD. Achhab (2022) that online tutoring entails an educational format in which the teacher's role evolves from being the sole source of knowledge to becoming a tutor who acts as a guide, facilitator, and omnipresent figure in the learning process. All pedagogical material adopts a fully audiovisual and virtual approach, accessible through a website on the internet or specific platform.

Similarly, online tutoring eliminates the need for physical contact between the tutor and the student, as all interactions take place virtually through a platform. In this context, the tutor is perceived as a facilitator of learning for the students. It is essential that, from the beginning of the course, the tutor identifies the expectations, needs, and interests of their learners, as the interaction between them becomes a crucial element in determining the success or failure of the teaching-learning process (Achhab, 2022).

On the other hand, Lleixa et al. (2011) argue that in online or electronic tutoring, ICT is used to work together effectively. To achieve this, the authors continue, various communication tools integrated into the space are employed, both synchronous (chat, messaging) and asynchronous (forum, email). All these tools allow the tutor and the students to: facilitate social communication channels; promote group cohesion; encourage and motivate the participation of all members; support didactic and organizational situations.

Now, in teaching English as a foreign language, the Communicative Language Teaching (CLT) method proves to be a pedagogical approach that focuses on guiding students to use a language other than their native one in various situations, emphasizing the importance of learning language functions. The purpose of this didactic approach is to enable second language learners to achieve authentic communication, both orally and in writing, with native speakers of that foreign language. To achieve this, texts, recordings, and various materials are used to carry out activities that reproduce situations that students could face outside the educational environment as faithfully as possible (Unir, 2020).

Another methodology for teaching English is Task-Based Language Teaching (TBLT). This approach is based on presenting students with a series of tasks in the target language, the one they are studying, in order to stimulate their ability to communicate in that second language. In the context of the TBLT method, a task is defined as an activity in which the target language is used as a means of communication to achieve a specific outcome. In other words, the teacher presents situations in which the student must achieve a goal by expressing themselves in the language they are learning (Unir, 2020).

As we know, Lev Vygotsky's Scaffolding Theory and Zone of Proximal Development propose that learning is most effective when students receive support or scaffolding from a more capable tutor or peer. The zone of proximal development is the space between what a student can do independently and what they can do with assistance. An application of this theory can be found in the book: "Scaffolding Language, Scaffolding Learning: Teaching Second Language Learners in the Mainstream Classroom." In this work, its author Gibbons (2002), addresses the challenges of teaching linguistically diverse students, including language barriers, difficulties in accessing and participating in the curriculum, and the need for specialized support to address their unique needs. Gibbons emphasizes the integration of language instruction with the regular curriculum, which aligns with the use of technology and online tutoring in this research. Additionally, she highlights the importance of creating inclusive and supportive learning environments for these students.

Another theory that contributes to the application of this research is the Theory of Technological Constructivism, which is based on the fundamental ideas of constructivism proposed by Jean Piaget, a learning theory that states that students actively construct their knowledge through interaction with their environment and participation in meaningful learning experiences. The application of these ideas to the context of educational technology is what gives rise to technological constructivism.

In this sense, Seymour Papert, one of the foremost proponents of this theory, believed that computers and programming could provide students with the opportunity to learn in a more active and participatory way. His book "Mindstorms: Children, Computers, and Powerful Ideas" (published in 1980) is an influential work that addresses how programming and technology can empower students to construct their knowledge meaningfully. This theory supports the idea that technology can be a powerful tool for active learning, meaningful learning, and problem-solving. These principles can be applied in the design of the online tutoring system to enhance the learning process of students in vulnerable situations, aligning with the objectives of this research.

This research is conceived as a Model of Educational Intervention for Equity in Socioeconomic Vulnerability Contexts. Through the design and implementation of specific educational intervention strategies, especially through online tutoring and the use of ICT, it is possible to improve access to education and academic performance of students facing socioeconomic challenges in rural environments. This approach is based on the pursuit of educational equity, ensuring that interventions are inclusive and accessible to all students, regardless of their economic situation, and has the potential to positively influence students' academic performance, promoting their comprehensive development (Escarbajal et al., 2020).

A model of equitable and inclusive education should address multiple aspects to tackle inequalities and promote fair learning opportunities for all. Among these aspects, the following should be considered:

- Situation diagnosis: It is essential to understand the socioeconomic and educational reality of the community in question. This involves analyzing demographic, economic, educational, and social data to identify the main needs and challenges.

- Community participation: This may involve the creation of committees or working groups that include parents, students, teachers, community leaders, and other relevant stakeholders.

- Comprehensive approach: Addressing not only the educational needs but also other dimensions of students' and their families' lives, such as health, nutrition, access to social services, housing, among others.

- Attention to diversity: Recognizing and valuing the diversity of students, both in terms of their abilities and learning styles, and their cultural and socioeconomic backgrounds. This involves adapting pedagogical strategies to meet the needs of all students.

- Equitable access to educational resources: Ensuring that all students have access to quality educational resources, including teaching materials, technology, suitable school facilities, and well-trained teaching staff.

- Socioemotional support: Providing emotional and psychological support to students, especially those facing significant socioeconomic challenges.

- Teacher training and school leadership: Providing training to teachers and school leaders in inclusive pedagogical strategies and managing diversity in the classroom. Additionally, promoting school leadership oriented towards equity and social justice.

- Alliances and collaborations: Establishing partnerships with governmental, non-governmental, and private sector organizations to expand the reach and impact of the model. This may involve collaborations for access to health programs, nutrition, social services, among others.

- Long-term equity promotion: In addition to addressing immediate needs, efforts should be directed towards creating structural conditions that promote long-term equity, such as inclusive educational policies, community economic development programs, and measures to reduce poverty and inequality.

As seen, proposing an online tutoring system to support vulnerable students is just one step of a much more complex action that should involve many more people and institutions. However, it is hoped that these actions can be progressively realized in the short term.

Online education in modern times

Online education has experienced significant growth thanks to technological advancements, providing global educational opportunities. A variety of modalities are offered, from short courses to complete academic programs, through digital platforms that allow access from any location. Flexibility and customization are highlighted features, especially in crisis situations, such as the recent pandemic. The diversification of assessment methods and interactivity in virtual environments enrich the experience in this educational modality.

The choice of online education as a tool to address the challenges faced by these students is primarily based on the intention to leverage their access to smart mobile communication devices and internet connectivity. This strategic approach recognizes the presence and use of mobile devices and the availability of network access, utilizing these conditions to facilitate the educational process and overcome barriers that limit access to conventional learning. According to UNESCO (2022), in today's society, digital tools are essential to ensure that education is considered a fundamental human right, especially in a world facing crises and conflicts more frequently.

The role of the teacher and tutor in online education

The role of the teacher in online education is crucial for facilitating effective and enriching learning experiences. Although the virtual modality entails changes in the educational dynamics, the teacher remains a fundamental guide. Their role includes designing and facilitating content, encouraging active participation of students through various virtual tools, assessing individual progress, and providing personalized support. The adaptability and technological skills of the teacher are essential for creating an effective and motivating online learning environment.

Additionally, the teacher plays a key role in promoting social interaction and developing collaborative skills in a virtual environment. As this environment differs from the traditional one, the role of the teacher evolves, being immersed in constant changes and online training, which will ensure the success of the formative process (Llorente, 2007).

After their research, Kirschner & Davis (2003) propose six formative actions that teachers involved in online education should develop:

1. Competent in ICT personally

2. Competent in using ICT as a cognitive tool

3. Mastery of a variety of educational paradigms that make use of ICT

4. Competent in using ICT as a teaching tool

5. Mastery of a variety of assessment paradigms that make use of ICT

6. Understanding the political dimension of using ICT for teaching and learning

According to (Gisbert et al., 2007), the roles of a teacher in technological environments can be summarized as follows:

1. Information consultants / learning facilitators

2. Designers of mediated learning situations

3. Virtual moderators and tutors

4. Continuous evaluators

5. Guides

6. Evaluator and selector of technologies

These perspectives suggest that the 21st-century teacher must be a multifaceted professional. In addition to being proficient in the technical use of digital tools, they must have the ability to adapt to various situations and perform roles that go beyond the traditional transmission of knowledge. Continuous training and professional development are essential for educators to be prepared to face changing challenges and leverage the opportunities that technology offers in the educational field. Collaboration and the exchange of best practices among teachers are also crucial for building an educational environment enriched by technology and focused on meaningful learning.

On the other hand, in the case of tutors, the best one is the one who becomes more dispensable as they teach, while the student becomes more autonomous. A good virtual tutor is experienced and enthusiastic, shows involvement in the training process, fosters motivation, is flexible yet organized, a good communicator, and an even better listener, knowledgeable about technology. The virtual tutor becomes a facilitator of learning, helping students achieve it through various strategies such as establishing relationships among all participants, addressing doubts, encouraging participation in discussion forums, and motivating students (Lleixà et al., 2011).

According to Rogovsky (2020), some of the main tasks that a tutor carries out throughout a training course are as follows:

• Group dynamics: involves promoting dialogue and movement within the group. This includes posing questions, revisiting students' words to "knead" dialogues and build new questions.

• Organization and monitoring of activities: entails keeping a record and monitoring students' participation and performance. The tutor suggests paths to follow, provides various sources of complementary information, gives feedback, and fosters collaboration.

• Continuous motivation of students: achieved by presenting new challenges, explaining tasks with commitment, and encouraging participation.

• Creating a good learning atmosphere: promoting dialogue and exchange aimed at knowledge construction, where a relaxed and trusting atmosphere predominates.

• Facilitating the educational process by providing experiences for knowledge construction.

Roles of the student in online education

Students in online education must take an active role, demonstrate autonomous skills, and participate collaboratively to make the most of this educational modality. Success in online education is intrinsically linked to the student's ability to manage their own learning and participate effectively in the virtual learning community.

According to Mir et al. (2003), students must develop several skills to be able to learn through online education:

• Autonomous Learning involves the student independently addressing a portion of the course content, resolving doubts that arise during the process on their own.

- Self-regulated Learning entails the student ensuring to follow a previously established work plan, in line with the scheduled program for the course.

- Collaborative Learning involves the ability to interact and dialogue with the aim of reaching agreements, both with the teacher and with other classmates, as it is often an integral component in most online training courses.

For Cabero et al. (2008), these are some of the characteristics that future students should possess:

- Adapt to a changing environment

- Work collaboratively

- Be creative in problem-solving

- Be cooperative

- Learn new knowledge and ideas

- Create and apply knowledge to new situations

- Be independent and take initiative

- Identify problems and propose solutions

- Communicate using different communication tools

- Control and direct their learning processes

- Systematically compare

- Propose alternative solutions

- Solve problems independently

The convergence of these perspectives reveals the complexity of the skills that students need to develop in the digital age. Both emphasize the importance of autonomy and collaboration, crucial skills in online educational environments that require self-management and active participation. Furthermore, the list of skills proposed by Cabero et al., (2008) highlights broader aspects of personal and social development that extend beyond the specific context of online education.

It is necessary to emphasize the need for a comprehensive approach to student education, one that not only focuses on technical skills or specific aspects of online education but also fosters cross-cutting skills essential for the current and future world. Additionally, online education should not only focus on knowledge transmission but also promote critical thinking, problem-solving skills, and adaptability, preparing students to face changing challenges and seize emerging opportunities.

Background

In the research by Cheng & Yang (2023), the impact of smart classrooms combined with student-centered pedagogies on outcomes such as academic performance, student collaboration, and problem-solving skills is evaluated. The results reveal that the integration of these pedagogies significantly improved the learning of rural students, providing relevant findings for similar situations.

Similarly, the study by Xodabande & Hashemi (2023) indicates that the use of electronic textbooks on mobile devices was effective in improving vocabulary knowledge among English as a foreign language student in the short and long term. This study also identifies benefits such as episodic learning and increased motivation, as well as challenges including health issues and distractions from other mobile applications, which are relevant to future online tutoring.

Regarding Achhab's research (2022), it provides a comprehensive view of online tutoring, its importance, and characteristics, highlighting the role of the tutor in virtual learning environments, contributing relevant concepts to the current study topic and emphasizing essential skills for tutors/teachers in virtual settings.

On the other hand, Albatti's study (2022) finds that the impacts of e-learning include both positive and negative aspects, with challenges in communication, engagement, and assessment. Although the future of e-learning for teaching English language in Saudi Arabia is considered promising, there is a need for improvements, changes, time, training, and additional skills for the success of students and teachers, providing relevant insights for the design of the online tutoring system.

Additionally, Chinkondenji's article (2022) provides findings on the support structure for teenage mothers returning to school, emphasizing the need for Ubuntu-centric educational approaches to promote equitable and inclusive education, contributing functional findings for the integration of students who are young mothers.

Finally, the research by Khajavi & Abdolrezapour (2022) identifies facilitating and hindering factors in online classes, highlighting the importance of clear communication, positive feedback, and a sense of control over the teaching process. Furthermore, it presents teachers' perspectives on necessary skills and roles, as well as problematic situations and possible solutions for conducting smooth teaching in digital environments.

MATERIALS AND METHODS

The study addresses the educational issue at the UE PCEI Monseñor Leonidas Proaño School, Caluma, using a mixed research approach through a descriptive case study. It is based on a literature review to support the proposal of the online tutoring system, while the diagnosis of the conditions of the students affected by different situations of vulnerability is carried out through the application of a survey.

An intentional sampling was applied, selecting a sample of 13 students enrolled in the Second Year of High School.

The sample will include students aged 17 to 22 years old in different situations of vulnerability such as economic, mobility, and adolescent and young mothers. All these students share several of the characteristics considered as vulnerability.

RESULTS

In the mentioned context, it is crucial to address the educational needs of students facing vulnerability. In response to this reality, there is a need to propose an online tutoring system specifically designed to meet the demands of this student group. This system would focus on providing group and collaborative support through blended learning, where students would not only receive tutoring virtually but could also reinforce the knowledge acquired during face-to-face classes.

It is important to note that the teaching modality of the Educational Institution in question is semi-face-to-face. Students have face-to-face classes only on Fridays and Saturdays, while from Tuesday to Thursday they have the opportunity to receive face-to-face tutoring, which depending on each case, can be used for: recovering missed lessons, academic reinforcement, submitting overdue assignments, grade recovery, etc. However, this system is designed to serve all those students facing various vulnerabilities in their daily lives.

For example, in Figure 1, you can observe the reasons for students' absenteeism at the UE, where mobility and pregnancy are the most frequent factors.
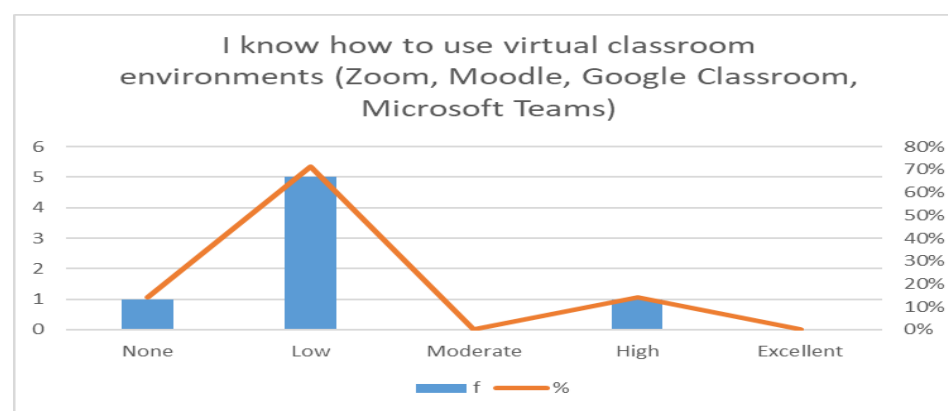
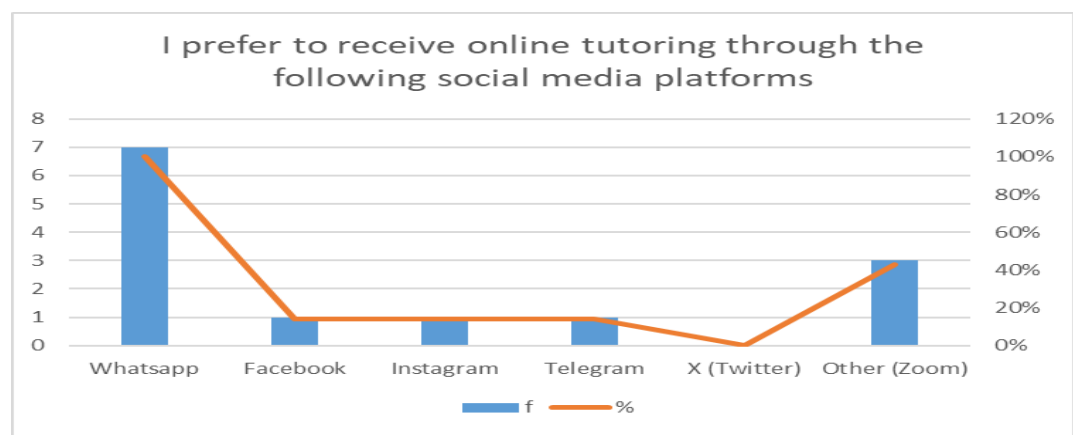Figure 1. Reasons for Student's Absenteeism at the School

Source: Prepared by authors

The selection of digital tools and platforms was based on the survey results, as shown in Figure 2 and Figure 3, which demonstrate the digital resources participants have experience with and feel comfortable using. A favorable aspect of this methodology is the widespread access to the Internet among students (Figure 4).
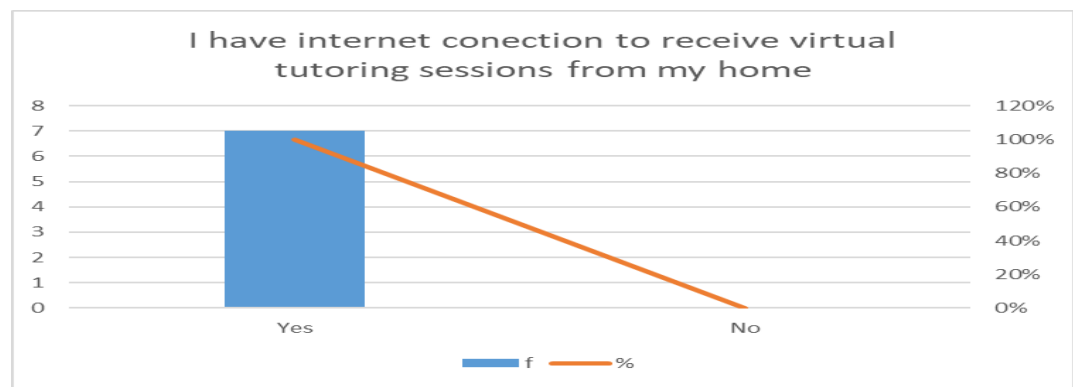
Figure 2: Platform Preference

Source: Prepared by authors

Figure 3: Social Network Preference
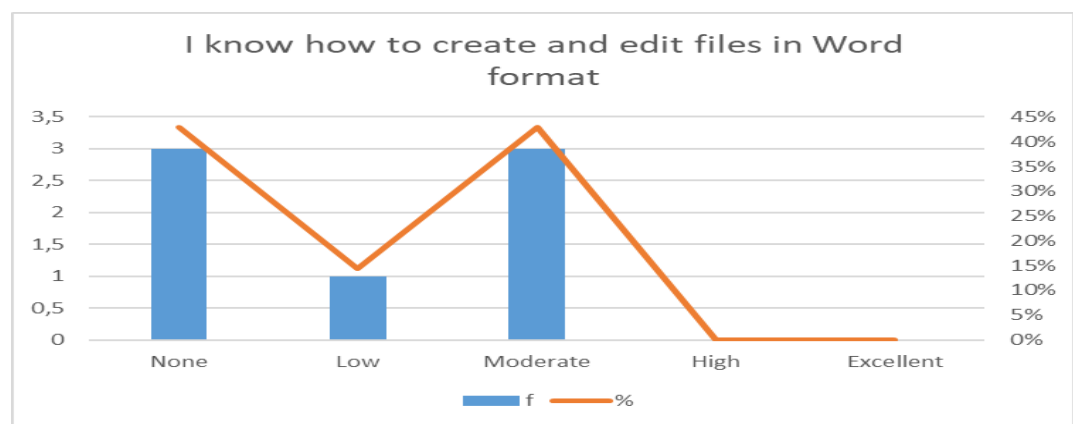

Source: Prepared by authors
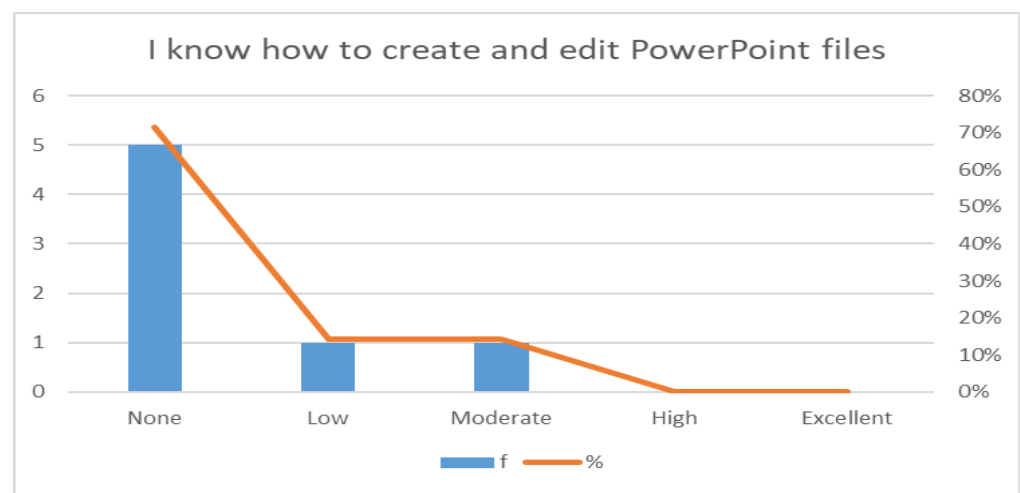
Figure 4. Internet Availability

Source: Prepared by authors

Furthermore, during the survey, the students' level of knowledge regarding certain aspects of office automation was evaluated, which generally turned out to be unsatisfactory, with little to no proficiency in packages like Word (Figure 5) or PowerPoint (Figure 6).

Figure 5. Uso of Microsoft Word

Source: Prepared by authors
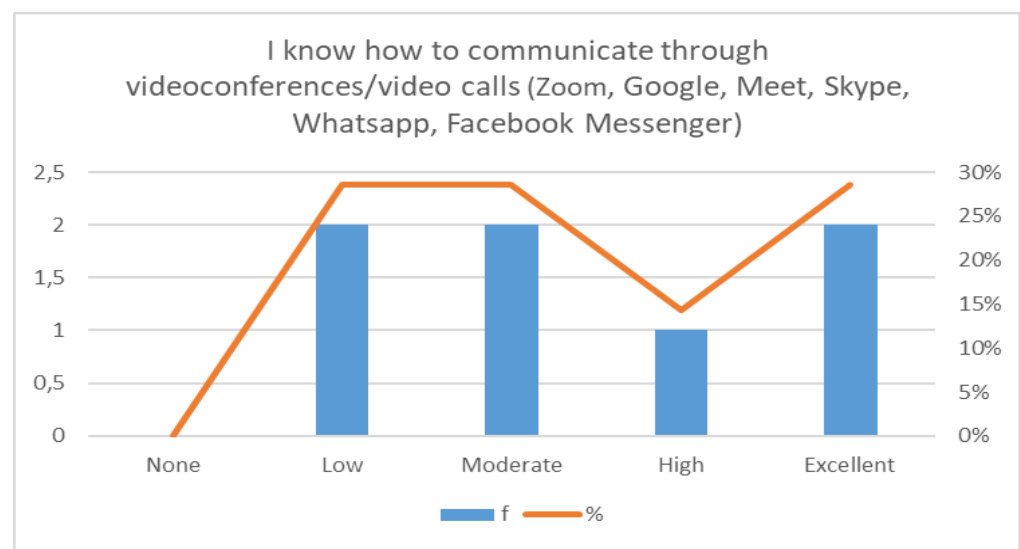
Figure 6. Use of Power Point

Source: Prepared by authors

Similarly, respondents expressed little knowledge regarding managing digital files in the cloud. They showed limited proficiency in using Virtual Learning Environments such as Zoom, Moodle, Google Classroom, Microsoft Teams. They demonstrated inadequate use of digital tools like Educaplay, Kahoot, Quizizz, Quizlet, Socrative, etc. Additionally, they indicated that they are not accustomed to collaborative assignments using tools like Google Drive, Dropbox, Wikis, Padlet, etc.
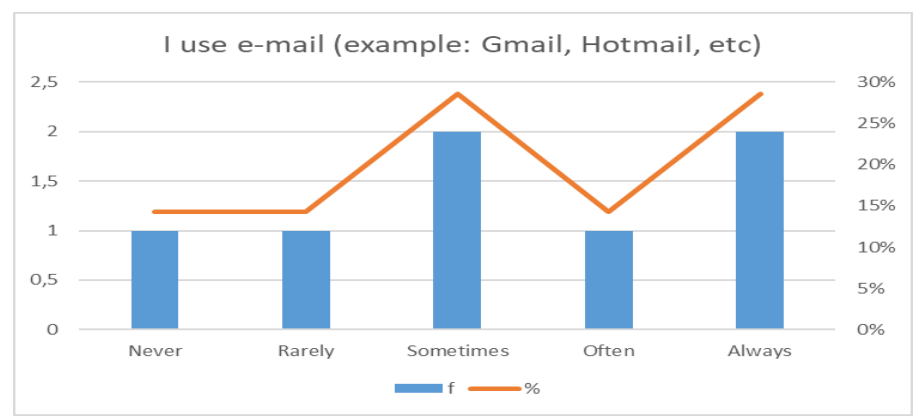
As gleaned from the obtained responses, the level of digital competence among this group of students is quite basic. Therefore, to facilitate the process, it has been decided to propose those platforms and tools with which students have previous experience and/or are easy to use. It is important to highlight that, if this tutoring modality is implemented, students will be provided with the necessary training on how to access, use, and apply the selected platforms and tools.

However, in terms of digital communication, the respondents demonstrated greater capabilities. Thus, in Figure 7, it can be seen that they feel comfortable using various synchronous communication platforms (video conferencing). And, in Figure 8, they often use asynchronous communication tools such as email.

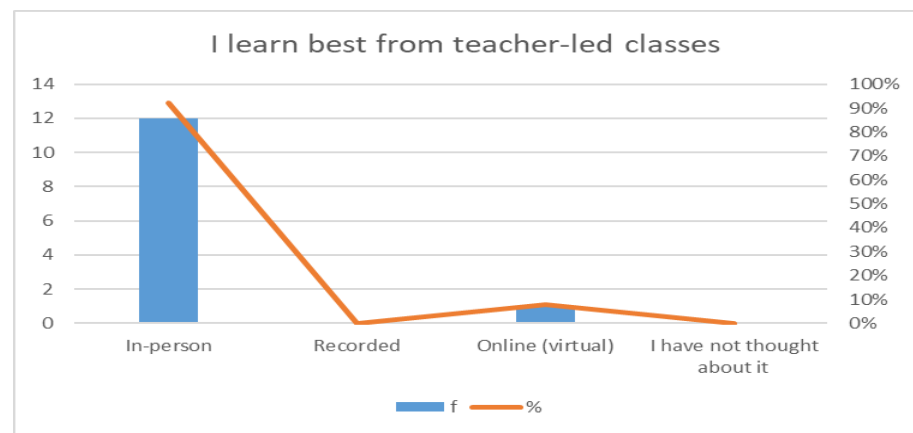Figure 7. Use of videoconference platforms

Source: Prepared by authors

Figure 8. Use of e-mail

I use e-mail (example: Gmail, Hotmail, etc)
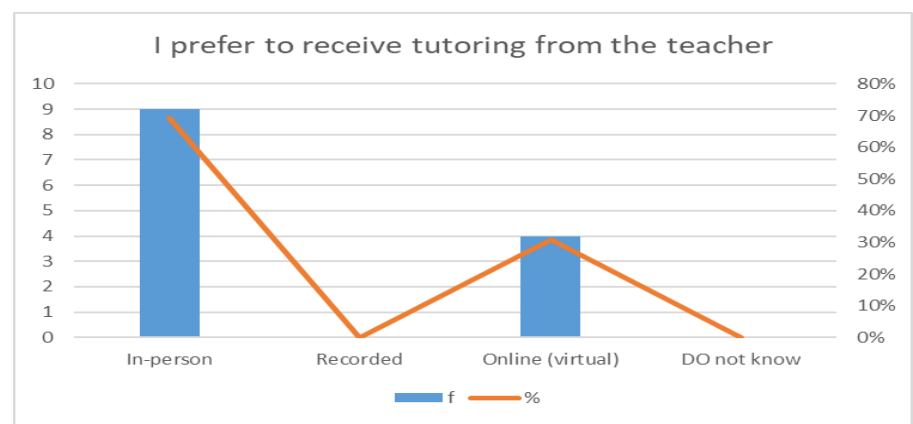
Source: Prepared by authors

Regarding the expectations and disposition of students regarding the possibility of studying through online tutoring methodology, students clearly express their preference for in-person class sessions (Figure 9) or tutoring (Figure 10).

Figure 9. Class Preference

I learn best from teacher-led classes

Source: Prepared by authors
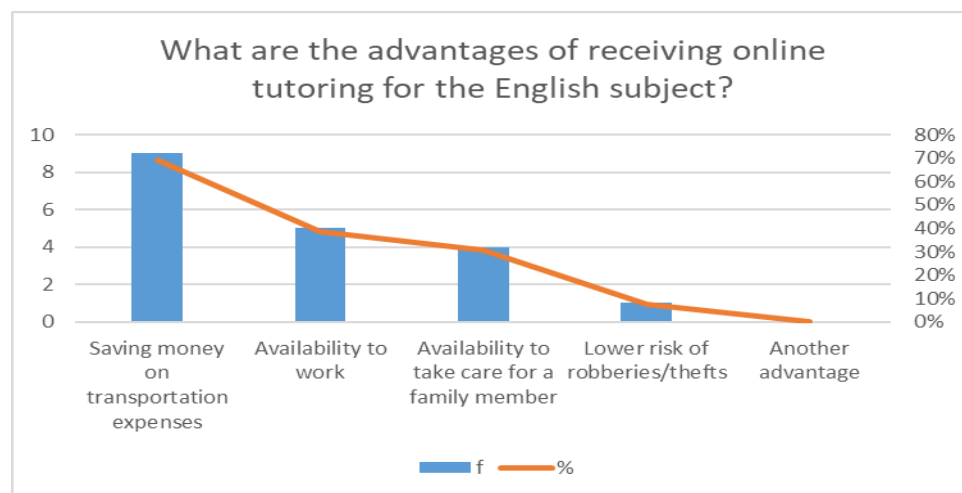
Figure 10. Tutoring Preference

I prefer to receive tutoring from the teacher

Source: Prepared by authors

Now, in Figure 11, they recognize economic incentives as part of an online tutoring system.

Figure 11. Advantages of Online Tutoring

Source: Prepared by authors

According to Lleixá et al (2011), in recent decades, the widespread adoption of technology has opened up new opportunities to bridge distances between people, from which tutoring programs have benefited. When this tutoring is developed and managed through a Virtual Learning Environment (VLE), we refer to it as electronic tutoring, which can be asynchronous, when exchanges do not occur in real-time, using emails, messaging, and tools for collaborative work; or synchronous or online, when the interaction between the tutor (teacher) and the tutees (students) occurs in real-time. However, it is common for there to be a combination or mixture of both synchronous and asynchronous elements, allowing communication, exchange, collaborative work, and learning through digital tools.

Always bearing in mind, as Cabero states, cited by Lleixá et al (2011), that ICT should be used as support tools since they do not contribute much on their own, they must be given meaning and used appropriately and thoughtfully. We must avoid what is called technocentrism, which would place technology above pedagogy and didactics; they should be used as a resource in the service of learning.

On the other hand, Espinoza & Ricaldi (2018) point out the following benefits of online tutoring:

- Students can access this type of education from wherever they reside and interact, discuss, and provide feedback with their peers through forums and chats from home, work, etc.
- Quick access to information exchange, breaking spatial and temporal barriers.
- Increased interactivity between students and technologies.
- Flexibility in scheduling and time management.
- Personalized education, where the student has a tutor available to guide, accompany, supervise, and correct their learning individually.
- Learning is individualized according to each student's pace and style.
- Enables studying while working.
- Stimulates the development of various skills in students, such as communication (interpreting and producing messages) using different languages and media, developing personal autonomy and critical thinking, helping them to coexist in a multicultural and fair society with the technological innovations of the time.
- Guides and regulates the learning process and facilitates control for the student.
- Contributes to the formative development of the student, their mental activity, attitudes, and values. Promotes responsibility and autonomy.
- Enhances creativity development.

- Time and money-saving.

- Cultural exchange environment.

- Students have an active role that is not limited to receiving information but is part of their own education.

- Compatible with face-to-face education in compliance with the academic program.

- Allows students to complete their studies.

- Following the indications of Monserrat et al. as cited by Lleixá et al. (2011), the key elements that the virtual tutoring tool must have from a functional and technical point of view are:

- Accessibility: leveraging all the potentialities of the Internet

- Interactivity: enabling users to have an active role

- Multimedia: incorporating text, images, sound, video

- Openness: allowing for constant updating

- Synchrony and asynchrony: enabling participation at the same or different times

- Distribution: accessing resources and materials distributed across different parts of the world and Internet servers

- Integrative: incorporating, organizing, and structuring different technological tools in a single digital space

- Designed and developed following the premises of open-source software to enable widespread use once the project is

It is important to have an implementation strategy where all stakeholders are involved; institutional support is also required, along with recognition of the tutor's work; as well as the need to have the necessary resources available. It should be noted that every innovation project with ICT support requires four virtues: trust, time, patience, and perseverance, always starting from a plan supported by the institution.

The adaptability and technological skills of the teacher are essential for creating an effective and motivating online learning environment. Additionally, the teacher plays a key role in promoting social interaction and the development of collaborative skills in a virtual environment. As this environment evolves differently from the traditionally known one, the role of the teacher is submerged with constant changes and online training, which will guarantee the success of the formative process (Llorente, 2007).

The selected teacher or tutor for this task must possess certain characteristics and training, which can be verified through the review of courses or studies completed during their teacher training. Additionally, it is essential that they are constantly updated, as technology evolves continuously, along with certain personal characteristics that will enhance the performance of the role:

1. Empathetic - To establish a connection with students despite the inherent separation in time and space in distance education methods, as well as the diversity of students' personal styles.

2. Proactive - To overcome technological and human challenges that may arise.

3. Good Host - Must be responsible for initiating and encouraging student motivation in this educational format.

4. Communicative Mastery - Must master all forms of communication in various media, being clear to avoid distortions in messages. Additionally, must act as an intermediary between multiple communications among students and themselves.

5. Didactic Experience - Must have the ability to choose topics and plan the most suitable activities to achieve established objectives, adapting to the characteristics of the student group. (Rodriguez & Guerrero, 2019)

For the assignment of a tutor, the aforementioned characteristics should be taken into account. In the case of an institution with several teachers, the one who best meets these requirements will be chosen. In the event of an institution where there is only one teacher who teaches this subject, their training will be ensured prior to its implementation. Additionally, the assignment of a coordinator will be considered.

Furthermore, assigning a coordinator is important to ensure the smooth operation and effectiveness of the program. Some of the functions that the coordinator would perform include:

- Planning and control of established schedules, as well as educational resources and materials.

- Selection and Training of Tutors: Responsible for selecting suitable tutors for the program, ensuring they have the necessary training and skills to work with vulnerable students. Additionally, provides ongoing training to tutors to enhance their pedagogical and technological competencies.

- Supervision and Monitoring: Oversees the performance of tutors, monitoring the quality of online tutoring, providing constructive feedback, and offering support in case of difficulties or problems that may arise during the teaching-learning process.

This role can be performed by either an internal or external entity to the educational institution, depending on availability, capacity, and roles within the educational institution.

Online Tutoring System for Students with Vulnerability

Based on the literature review and the diagnosis carried out in the context of academic activities and the different situations of vulnerability to which the students of the UE PCEI Monseñor Leonidas Proaño are exposed, the proposed online tutoring system includes the following elements:

The research proposes online tutoring for vulnerable students using Learning Management Systems (LMS), which Alshammari et al. (2018) define as web-based technology that facilitates the planning, development, and evaluation of any learning process. It is a software application designed to manage student interactions and distribute educational resources to users or students.

It is proposed to adopt a blended learning approach with the aim of complementing the face-to-face modality. The diagnosis confirms the need to **minimize the challenges** faced by students from rural areas of the educational unit under study, particularly regarding attendance. Given the complicated situations students face, such as mothers having to care for their children in case of illness without support, or students working to meet family needs, it leads to occasional absences from classes.

The **geographical situation** is taken into account; given the frequent rainfall causing landslides in the areas where the students reside, which hinders their transportation to the educational institution. On some occasions, they are affected by delays in public transportation, limiting their arrival in the early morning. These are just a few examples of the numerous cases collected in the diagnostic interview with the teacher from the educational institution.

As for the **basic requirements** of the online tutoring system, both the tutor and the students need to have access to the following: Internet, email, access to the learning platform, and open educational resources (OER). Additionally, they require technological devices (for the tutor, a computer with a camera or laptop, and for the students, a personal mobile device).

Regarding **digital educational resources**, Google Classroom is proposed. This platform provides a Virtual Learning Environment (VLE) that facilitates class management, distribution of educational materials, and interaction between teachers and students. It offers comprehensive tools for creating and delivering assignments, real-time collaboration capabilities, and the option to receive instant notifications. It provides a dynamic and participatory learning environment that effectively adapts to the particular needs of students. Its interface is intuitive, and integration with other Google applications makes it an accessible option. Table 1 outlines the features that Google Classroom offers to users for virtual education.

Table 1. Google Classroom according to each type of user

Type of user	This is what you can do
Teachers	Start video calls Create and manage classes, assignments, and grades online Add materials to assignments Provide real-time feedback Post announcements, questions to encourage dialogue Send periodic communications about student work and missing assignments
Students	Stay updated on content and assignments Check reports, feedback, and grades Share and interact on the bulletin board or via email
Parents or tutors	Receive communications about the student in charge Check announcements and activities

Note: Adapted from "About Classroom" from the Google Help Center (2024).

Another tool proposed for use is Zoom, as it facilitates remote teaching and learning. Teachers can remotely conduct tutorials, deliver classes, and engage in other activities. The features of Zoom as an ideal tool for this task are (Zoom, 2023):

• Interactive Video Conferencing: Real-time classes can be conducted, allowing interaction with students.

• Screen and Content Sharing: Teachers can share their screens to display presentations, documents, applications, or virtual whiteboards.

• Breakout Rooms: Allows students to work in smaller groups and collaborate effectively.

• Session Recording: Sessions can be recorded for students who cannot attend in real-time to review later or to archive them as learning resources.

• Security and Privacy: Zoom provides security features such as meeting passwords, waiting rooms to control participant access, and options to restrict screen sharing or chat, ensuring a secure learning environment.

Purpose of implementing the online tutoring system

The online tutoring system is proposed for students with educational vulnerability with the purpose of:

- **Improve attendance and participation:** Facilitate access to education for students with difficulties attending regularly by encouraging their active participation in the educational process.

- **Support continuous learning:** Provide personalized academic support to vulnerable students, allowing them to reinforce their knowledge, address doubts, and progress in their learning effectively.

- **Overcome geographical and temporal barriers:** Eliminate geographical and temporal barriers that may hinder access to education, allowing students to participate in online tutoring from anywhere and at flexible hours that suit their needs.

- **Improve academic performance:** Contribute to increasing the academic performance of vulnerable students through personalized educational support tailored to their specific needs, strengthening their skills and competencies in the English language**.**

- **Promote inclusion and educational equity:** Ensure that students, regardless of their socio-economic or personal circumstances, develop their academic potential.

- **Foster autonomy and motivation:** Stimulate students' autonomy and motivation to learn in a self-directed manner, promoting their engagement with the educational process and their personal and academic development.

- **Facilitate access to Open Educational Resources (OER):** to enrich the teaching-learning process, providing students with quality educational materials free of charge.

Before implementing the online tutoring system, it is important for students to receive induction on the use and management of the platforms to be used, as well as the tools and technological resources that will be used for them. The following protocol is suggested:

1. **Notification** by the teacher via the WhatsApp social network (preferred by students for its ease of use), where online tutoring sessions will be scheduled, indicating the reason and topics to be covered in each session.

2. **Coordination of date and time** for the session with the participants. These depend on the availability of both students and the teacher. They are conducted in real-time, as this ensures active participation from students and allows them to address any doubts they may have during the session.

The timing of these sessions is crucial and should not exceed the date of the next class to ensure continuity of learning. In other words, classes usually take place on Fridays and Saturdays. If a student is absent, tutoring sessions will be scheduled between Tuesday and Thursday of the following week. The duration of these tutoring sessions will be equivalent to the missed academic periods; that is, if one period is missed, the tutoring session will last for 40 minutes, and so on. If necessary, this time can be extended by an additional 20 minutes. If more time is required beyond this, another session can be scheduled to prevent frustration and mental exhaustion.

3. **Preparation.** Before the session, the material to be used would be prepared. Depending on the complexity of the topic, Google Classroom could be chosen as the preferred platform by the teacher, as it offers a variety of useful tools for teaching and assessment. Alternatively, a combination of different platforms and tools could be considered, such as Zoom for video calls and applications like EducaPlay, Kahoot, or other tools that allow practice and assessment of what was learned during the session.

4. **Tutoring Session.** Once the means and tools have been chosen, the session will be divided into four parts:

a. Welcome and establishment of session objectives

b. Pre-teaching. Brief review of previous topics to provide context for new knowledge.

c. Teaching. Presentation of the new topic, in this section both digital versions of the workbook contents can be used through projection on the screen, knowing that the student will also have their workbook at hand, or the material can be presented using PowerPoint presentations, Prezi, etc., to make the class more dynamic. Once the new knowledge has been presented, the practice of it will proceed, which can be done through real-time question and answer interactions (Google Classroom or Zoom) or using external tools like EducaPlay, Kahoot, etc.

d. Post-teaching. At the end of the session, time will be dedicated to addressing doubts and checking acquired knowledge, either through questions, activities, summaries, concept maps, etc.

5. **Record keeping and monitoring:** The teacher must maintain a record supported by photographic evidence documenting the attendance or absence of the student from tutoring sessions. These records will be used to inform the course tutor and/or the student's parent or guardian, in order to collaborate together to safeguard the student's educational well-being. Additionally, they will enable timely measures to be taken to prevent school dropout.

6. **Assessment and feedback:** After each session, the teacher will conduct an evaluation to determine its impact. This assessment will be quantitative, allowing for the measurement and comparison of acquired knowledge with that of other classmates. The objectives of this assessment are to identify the success

of the tutoring session and to confirm the acquired knowledge. In case areas of improvement are identified, relevant concepts will be reinforced to ensure a complete understanding by the student.

7. **Monitoring and functionality of tutoring:** The tutoring sessions will be evaluated by the coordinator and/or tutor, as well as periodic self-assessments conducted quarterly to assess satisfaction and the functionality of the tutoring sessions.

a. Follow-up questionnaire for students covering aspects such as: frequency of participation during tutoring sessions, difficulties encountered in both content and technical aspects, adequacy of the duration of sessions, perceived impact of tutoring on the learning process, areas for improvement, reasons for absence (if applicable), need for individual tutoring, reinforcement of knowledge, etc.

b. Questionnaire for tutors, which can be observed/evaluated by the coordinator or used for self-assessment, covering aspects such as preparation and organization, strategies to encourage participation, success or failure of the platforms and tools used, areas for improvement in the tutor role, adaptive measures for students with different types of vulnerabilities, actions to promote teamwork and collaboration, etc.

c. Feedback questionnaire on the functioning of the online tutoring system, based on academic performance and student inclusion, can evaluate aspects such as the effectiveness of tutoring sessions, the most favorable aspects, those that need to be changed or eliminated, challenges faced, how to optimize communication between peers and tutor-student, areas requiring more training to improve sessions, etc.

CONCLUSIONS

Educational challenges such as school absenteeism and low academic performance are persistent issues that affect students in vulnerable situations. Factors such as the need to contribute to family support, childcare responsibilities, geographical distances, mobility limitations, and economic constraints to consistent education access negatively impact academic success.

A proposal for implementing online tutoring supported by the use of Information and Communication Technologies (ICT) has been presented as an innovative construct that can address the educational needs of students facing various socio-economic vulnerabilities. It aims to provide personalized, group, and collaborative support to enhance learning acquired during face-to-face classes and consequently improve academic performance.

Both scientific literature and professional experience support the feasibility of online tutoring for students with educational vulnerability, integrating educational strategies tailored to the specific needs of this student group.

REFERENCES

Achhab, A. (2022). La tutoría en línea. Valoraciones Generales. *Dilemas Contemporáneos: Educación, Política y Valores, IX*(2),. https://dilemascontemporaneo-seducacionpoliticayvalores.com/index.php/dilemas/article/view/3136/3125

Albatti, H. (2022). E-Learning for English Language Teaching in Higher Education Institutions in Saudi Arabia during Covid-19 Pandemic. *Arab World English Journal*, 355-371. https://awej.org/wp-content/uploads/2022/11/23.pdf

Alshammari, S., Bilal, M., & Rosli, M. (2018). LMS, CMS and LCMS: The confusion among them. *Science International*, 455-459. https://www.researchgate.net/publication/326551953_LMS_CMS_AND_LCMS_THE_CONFUSION_AMONG_THEM

Cabero, J., Castaño, C., & Romero, R. (2008). *Diseño y producción de TIC para la formación de nuevas tecnologías de la información y la comunicación.* Barcelona: UOC. https://dialnet.unirioja.es/servlet/libro?codigo=327575

Cheng, C.-C., & Yang, Y.-T. C. (2023). Impact of smart classrooms combined with student-centered pedagogies on rural students' learning outcomes: Pedagogy and duration as moderator variables. *ElSevier*. *Computers & Education, 207,* https://doi.org/10.1016/j.compedu.2023.104911

Chinkondenji, P. (2022). Schoolgirl Pregnancy, Dropout or Pushout?: An Ubuntucentric Re-Construction of the Education for Student Mothers in Malawi. *ERIC Institute of Education Sciences*, 738-753. https://eric.ed.gov/?id=EJ1357082

Cordero de Jiménez, Y. N. & Zambrano Cedeño, L. V. (2023). Influencia del modelo Conectivista en el perfil de egreso. *Revista Conrado*, *19*(94), 524-534. https://conrado.ucf.edu.cu/index.php/conrado/article/view/3381

Escarbajal, A., Corbalán, P., & Orteso, P. (2020). Análisis de la inclusión educativa en contextos vulnerables. *Revista Colombiana de Educación*, (78), 361-382. https://doi.org/10.17227/rce.num78-6776

Espinoza, E. & Ricaldi, M. (2018). *The tutor in virtual learning environments*. *Revista Universidad y Sociedad, 10*(3), 201-210. http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S2218-36202018000300201&lng=es&tlng=en.

Gibbons, P. (2002). *Lenguaje de andamiaje, aprendizaje de andamio.* https://www.google.com.ec/books/edition/Scaffolding_Language_Scaffolding_Learnin/tr8lAQAAIAAJ?hl=es&gbpv=0&bsq=Scaffolding:%20Teaching%20and%20Learning%20in%20Language%20and%20Literacy%20Education%20pauline%20gibbons&kptab=getbook

Gisbert, M., Cabero, J., & Llorente, M. (2007). El papel del profesor y el estudiante en los entornos tecnológicos de formación. *Tecnología educativa*, 263-280. https://dialnet.unirioja.es/servlet/articulo?codigo=2276171

Google Help Center (2024). *Google*. https://support.google.com/edu/classroom/answer/6020279?hl=es

Khajavi, Y. & Abdolrezapour, P. (2022). Exploring English as a Foreign Language (EFL) Teachers' Experience of Flow During Online Classes. *OpenPraxis*, 202-213. https://openpraxis.org/articles/10.55982/openpraxis.14.3.495

Kirschner, P. & Davis, N. (2003). Pedagogic benchmarks for information and communications technology in teacher education. *Technology, Pedagogy and Education*, 125-147. https://www.tandfonline.com/doi/pdf/10.1080/14759390300200149

Lleixà, M., Gisbert, M., Marqués, L., & Espuny, C. (2011). Diseño de un programa de E-Tutoría para favorecer la inserción laboral de los profesionales noveles de enfermería. P*ixel-Bit. Revista de Medios y Educación*, (38), 23-34. http://www.redalyc.org/articulo.oa?id=36816200002

Llorente, M. (2007). La Tutoría Virtual: Técnicas, Herramientas y Estrategias. *Revista Eduweb*, 16. https://revistaeduweb.org/index.php/eduweb/article/view/290

Mir, J., Reparaz, C., & Sobrino, Á. (2003). *La formación en Internet* (1° ed.). Barcelona, España: Ariel, S.A. https://es.scribd.com/document/409693487/La-formacion-en-internet-pdf

Rogovsky, C. (2020). Tutorías virtuales: una mirada desde adentro. *Educación y Tecnología*, *3*(1). https://publicaciones.flacso.edu.uy/index.php/edutic/article/view/8

Rodríguez, P., Guerrero, S. (2019). The virtual tutor, their functions and roles as support for the Degree in Library Science and. *Revista Electrónica Sobre Tecnología, Educación Y Sociedad. Revista Electrónica Sobre Tecnología, Educación y Sociedad*, *6*(11). URL: https://www.ctes.org.mx/index.php/ctes/article/view/688

UNESCO (2021). *La UNESCO y el Programa Mundial de Alimentos aúnan esfuerzos en favor de la salud y la nutrición escolares para ayudar a los niños a recuperarse tras el cierre de las escuelas UNESCO*. https://www.unesco.org/es/articles/la-unesco-y-el-programa-mundial-de-alimentos-aunan-esfuerzos-en-favor-de-la-salud-y-la-nutricion

UNESCO. (2022). *Qué necesita saber acerca del aprendizaje digital y la transformación de la educación.* UNESCO. URL: https://www.unesco.org/es/digital-education/need-know

Unir. (2020). Método comunicativo: en qué consiste este modelo y ventajas para enseñar inglés. https://mexico.unir.net/noticias/educacion/metodo-comunicativo-ingles/

Xodabande, I. & Hashemi, M. R. (2023). Learning English with electronic textbooks on mobile devices: Impacts on university students' vocabulary development. *Education and Information Technologies*. https://link.springer.com/article/10.1007/s10639-022-11230-1

Zoom Video Communications, Inc. (2023). *Educación: Soluciones para la enseñanza híbrida*. Zoom. URL: https://www.zoom.com/es/industry/education/