

Facebook's Potential and Challenges for Internationalization in Angolan Higher Education

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Abstract: The use of Facebook in educational contexts, although controversial, can be particularly useful in countries with technological challenges, such as Angola. This study investigates the perceptions of students and faculty in Angolan higher education regarding the use of the internet and Facebook in teaching and learning. The results reveal that most students use the internet daily, primarily via mobile data, with social networks most frequently accessed via cell phones. Facebook is seen as a valuable tool for interaction and learning, but it poses challenges such as distraction, privacy, and the need for rapid *feedback* from faculty. The conclusion is that Facebook can be beneficial if used in a targeted and balanced manner, complementing traditional teaching methods.

Keywords: Digital Social Networks; Facebook; Teaching and Learning.

Potencialidades e Desafios do Facebook para a Internacionalização no Ensino Superior Angolano

Resumo: O uso do Facebook em contexto educativo, ainda que controverso, pode ser particularmente útil em países com dificuldades tecnológicas, como Angola. Este estudo investiga as percepções de estudantes e professores no Ensino Superior angolano sobre o uso da internet e do Facebook no ensino e na aprendizagem. Os resultados revelam que a maioria dos estudantes usa a internet diariamente, principalmente por dados móveis, sendo as redes mais acessadas via celular. O Facebook é visto como uma ferramenta valiosa para a interação e a aprendizagem, mas coloca desafios como distração, privacidade e necessidade de *feedback* rápido dos professores. Conclui-se que o Facebook pode ser benéfico se usado de forma orientada e equilibrada, complementando métodos tradicionais de ensino.

Palavras-chave: Redes Sociais Digitais; Facebook; Ensino e Aprendizagem.



Potencialidades y Desafíos de Facebook para la Internacionalización en la Educación Superior Angoleña

Resumen: El uso de Facebook en el contexto educativo, aunque controvertido, puede ser particularmente útil en países con dificultades tecnológicas, como Angola. Este estudio investiga las percepciones de los estudiantes y profesores de la educación superior angoleña sobre el uso de Internet y Facebook en la enseñanza y el aprendizaje. Los resultados revelan que la mayoría de los estudiantes utilizan Internet todos los días, principalmente a través de datos móviles, y que las redes más visitadas son las de los celulares. El Facebook es considerado una herramienta valiosa para la interacción y el aprendizaje, pero plantea desafíos como la distracción, la privacidad y la necesidad de una retroalimentación rápida por parte de los profesores. Se concluye que el Facebook puede ser beneficioso si se utiliza de forma orientada y equilibrada, complementando los métodos tradicionales de enseñanza.

Palabras clave: Redes Sociales Digitales; Facebook; Enseñanza y Aprendizaje.

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1 INTRODUCTION

The growing use of digital social networks (DSNs) on mobile devices worldwide opens up vast possibilities for their use in educational contexts. Due to this potential, DSNs are widely accepted among students, particularly in higher education. In addition to entertainment and social interaction, DSNs can support the teaching and learning process. Several authors argue that Facebook, for example, can be a valuable resource in this regard because it offers the opportunity to create a stimulating learning environment in which students can develop communication and interaction skills. Furthermore, Facebook can be explored as a pedagogical tool that promotes collaboration in the educational process and enables critical, reflective knowledge construction across disciplines (Fernandes, 2011; Porto; Santos, 2014).

Conversely, many African countries have fragile internet infrastructure, limited audiovisual and multimedia resources, and scarce computer equipment; thus, the use of Information and Communication Technologies (ICTs) is not a common practice in higher education institutions. However, Angola stands out due to the ease with which students, teachers, school administrators, guardians, and other stakeholders can access and use ICT, which is facilitated by the fact that most telecommunications companies in Angola provide free access to ICT, especially Facebook (Facebook Zero). Finally, the use of ICT, especially Facebook, in education in developing countries has shown promising results in student performance (Marker; Nambs; Appel, 2018). However, many public institutions in these countries lack access to formal online learning management systems (LMS) to facilitate communication between students and faculty. This makes Facebook an appropriate tool for educational settings in developing countries (Sobaih *et al.*, 2020).

The presence of technology in contemporary society is undeniable, reflecting the remarkable affinity of "digital natives" with technological advances (Prensky, 2001). At the same time, "digital immigrants," representing those not born into a digital environment, have also embraced this technological era, a group that includes many educators. Both digital natives and immigrants coexist in a virtual information exchange environment commonly referred to as Web 2.0. O'Reilly Media coined this term in 2003, though there is no universal consensus on the terminology (Sampaio, 2007). Unlike Web 1.0, which was static and limited in interactivity, allowing only comments and content creation, Web 2.0 emerged to revolutionize this paradigm. It has opened up numerous opportunities for collaborative learning thanks to its diverse interaction tools between teachers and students. Notably, it offers a wide range of pedagogical applications that stimulate the development of new

learning models and work approaches (Aires; Em, 2002; Minhoto, 2012).

Coll (2007) emphasizes that practical learning can be enhanced by using Web 2.0 tools, such as wikis, email, educational videos, blogs, websites, and DSN, because they promote skills like collaborative writing, research, and finding solutions to specific issues. These tools also foster interdisciplinary conceptual dialogue. These tools also make learning more interactive by enabling students to assist, explain, illustrate, relate, and contribute to the activities set forth by teachers. These tools also facilitate content management and the exchange of ideas, enabling students to identify and organize relevant information to create a bibliographic repertoire that assists them in both collective and individual production. Finally, the author argues that Web 2.0 tools promote collective, collaborative, and interdisciplinary dialogue. Although Web 2.0 offers a wide range of tools that can be applied to the teaching-learning process, such as forums and wikis, this work focuses on RSD because it is more directly related to the main focus of our study.

Throughout history, human beings have cultivated interpersonal relationships, creating social bonds and forming social networks. According to Franco (2012, p. 74), DSNs are defined as "a process of socialization, some type of collective and social interaction, in person or online, which presupposes the sharing of information, knowledge, desires, and interests" Ribeiro (2017, p. 29) adds that DSNs "represent socially organized spaces based on verbal interaction, as every statement is a response to another statement." DSNs allow for the incorporation of various tools that offer "diverse opportunities for creating a cooperative and collaborative learning environment" as a result of the evolution of Web 2.0 (Patrício; Gonçalves, 2010, p. 598). Similarly, Moreira and Januário (2014) understand that DSNs can contribute to the improvement of skills and more dynamic and interactive, flexible, and innovative teaching and learning methods, encouraging broader participation of participants, more efficient use of resources, and greater circulation of information and knowledge.

The appropriate use of DSN creates opportunities for a new era of social learning and an online presence. It also provides an alternative platform for promoting online learning and reducing the digital divide between developed and developing countries, particularly in Africa (Sobaih *et al.*, 2020). DSN facilitates access to global educational resources, representing an example of pedagogical internationalization. Through this platform, students and teachers can collaborate across national borders. Therefore, DSN emerges as a tool capable of enhancing student learning and engagement inside and outside the classroom. It prepares students for an increasingly interconnected world and promotes more inclusive education. Thus, its use in developing countries, such as most in Africa, including Angola, could positively impact the educational landscape. In this study, we will focus

specifically on Facebook, a significant social media platform.

Facebook, a social network created by Mark Zuckerberg in 2004 and now owned by Meta, was initially designed to help college students connect by sharing photos, messages, and experiences in a private online space. Due to its widespread popularity, Facebook quickly expanded to other North American universities, such as Columbia and Yale, and in 2006, it was opened to the public (Minhoto; Meirinhos, 2011; Patrício; Gonçalves, 2010). As a Web 2.0 product, Facebook offers users features such as publishing and sharing content, creating and downloading applications, participating in discussions and video calls, and joining closed groups on specific topics (Matos; Ferreira, 2014). Several authors, therefore, suggest that Facebook can be a useful pedagogical tool, especially for promoting interaction and collaboration in the educational process. This increases student involvement and consequently improves academic performance (Akbari; Pilot; Simons, 2015; Dyson *et al.*, 2015; Minhoto, 2012; Sivakumar, 2020; Thai; Sheeran; Cummings, 2019). In this sense, Facebook's unstructured environment can gradually become a space for integration, communication, sharing, and cooperation between students and teachers, transforming into an effective, efficient, and stimulating learning environment (Patrício; Gonçalves, 2010).

According to social learning theories, learning is more effective when students can observe and interact with their peers and form or participate in small study groups than with traditional teaching approaches (Gong; Zhang; Li, 2014). DSNs, as learning platforms, allow for the creation of student-centered, knowledge-centered, and assessment-centered learning environments, closely aligned with the socioconstructivist perspective (Rasiah, 2014). They thus offer great potential for improving the learning experience, even though they were not created for educational purposes.

Manca and Ranieri (2013) analyzed the use of Facebook in schools, identifying its main features. They observed that, according to Vygotsky's constructivist perspective, students learn in a social context by sharing thoughts and interacting. To facilitate learning and engagement, teachers posted content, learning resources, and announcements on the Facebook group wall. They also contributed to posts and reminded students of assignment deadlines. Several authors found that Facebook enables students to ask and answer questions, share ideas and reflections, and seek clarification on a particular subject or topic, thereby creating learning bonds (Awidi; Paynter; Vujosevic, 2019; Muls *et al.*, 2020). In a study on the use of Facebook in biology teaching, Minhoto (2012) concluded that using Facebook to support classes provided a flexible and familiar learning context. The author believes that familiarity with the platform encourages its use and enhances learning since using a platform where the learning period is extended often discourages regular use.

Lambić (2016) suggests integrating Facebook into education by using a group as an LMS. Due to its collaborative and community-based nature and its combination of individual profiles with interactive tools such as chat, blogs, and discussion forums, Facebook can serve as an alternative to traditional learning platforms (Arnold; Paulus, 2010). Using Facebook groups as an LMS allows for greater interactivity and open discussion among students. Positive results have been reported in educational contexts (Keles, 2018). Furthermore, participants' posts contribute to the production of new knowledge as well as the exchange and reinforcement of existing knowledge (Keles, 2018).

It is important to note that students' use of Facebook in higher education significantly changes the traditional teaching and learning process. While it offers advantages, it also presents challenges and barriers that must be considered. According to Sobaih *et al.* (2016), the disadvantages and barriers related to DSN use are interconnected and affect faculty, students, institutions, and their management. These disadvantages include the risk of distraction (Çoklar, 2012); the lack of mechanisms to control activity on the Facebook platform (Au; Lam; Chan, 2015); limitations in organizing, assessing, and uploading content and files (Çoklar, 2012; Wang, 2012); ethical issues related to privacy (Wang, 2012); digital disparities between faculty and students (Marin, 2012); and infrastructural problems, especially the lack of internet access (Sobaih *et al.*, 2016); copyright issues regarding materials posted on Facebook; and the fact that the social network is privately owned and for-profit (Kent, 2014). Despite the significant challenges posed by using Facebook in schools, many authors believe it is worthwhile for teachers to invest time in developing strategies to incorporate this social network into their educational practices (Sánchez; Cortijo; Javed, 2014). In recent years, Facebook has improved its tools to support teaching and has minimized some of the previously described barriers.

This study aims to understand students' and faculty's perceptions of internet use, particularly on Facebook, and its potential to support the teaching and learning process in higher education in Angola. More specifically, the study aims to answer the following questions: How do technological conditions (for example, internet connection quality and access devices) influence students' and faculty's experience using Facebook in the teaching and learning process? What are their perceptions of its impact on teaching and learning, particularly on communication and interaction processes? What are the main challenges faced by faculty and students when using Facebook for teaching and learning, and how can these challenges be mitigated?

2 STUDY METHODOLOGY

2.1 Participants

A total of 108 students and five professors from the Instituto Superior de Ciências de Educação da Huíla (ISCED-Huíla) participated in the study. All of the students were enrolled in the Geography Teaching program. The majority of the students were in their third year ($n = 47$, 43.5%), followed by those in their fourth year ($n = 44$, 40.7%) and second year ($n = 17$, 15.7%). First-year students and students from other programs were excluded because this study is part of a larger project that will implement a teaching and learning approach using ICT/Facebook specifically for first-year Geography Teaching students at a later time. The majority of the students were male ($n = 69$, 63.9%). The mean age of the participants was 26.64 years, with minimum and maximum ages of 19 and 45 years, respectively ($SD = 5.56$). Nearly half of the students were employed ($n = 50$, 46.3%), and among these students, a large proportion ($n = 42$, 87.5%) were teachers. The remainder were administrative staff in various institutions, mostly schools.

These teachers also taught geography at ISCED-Huíla. Their ages ranged from 29 to 54, and four were male. Only three of the five participating teachers reported having experience using Facebook in an academic context. Table 1 shows the demographic and professional data of the interviewees.

Table 1 – Demographic and Professional Data of the Interviewees

Interviewees	Age	Academic level	Training Area	Other functions besides teaching	Length of service	Experience using Facebook in Education
P1	50	Licensed	Geography	Head of DAAC	5	No
P2	39	Master Degree	Mathematics/Computer Science	-	11	Yes
P3	39	Licensed	Educational computing	Head of section	5	Yes
P4	29	Master Degree	Educational computing	Head of section	5	Yes
P5	54	Master Degree	Geography	-	31	No

Source: Prepared by the authors (2025).

2.2 Instruments

The Internet Usage Questionnaire was designed to characterize students' use of internet-based

communication and their perceptions of its effectiveness in the teaching and learning process. The questionnaire has two sections. The first section addresses sociodemographic variables (age and gender). The second section focuses on the internet and DSN use in an academic context. Topics include frequency of use, connection quality, main networks used, means of communicating with colleagues, devices used, average time spent on Facebook, and opinions on Facebook's usefulness and difficulties in teaching. The questionnaire contains multiple-choice items, ranking scales, and Likert scales.

A semi-structured interview with teachers was also conducted and is divided into ten sections (see Appendix 1). The first and last sections addressed formal aspects, such as the legitimacy of the interview and acknowledgments. Sections two through eight aimed to collect information on reasons for interaction between teachers and students, Facebook's potential for interaction, the frequency of Facebook use, the ease and difficulty of use, the benefits and challenges of Facebook in teaching and learning, Facebook's influence on engagement and academic performance, the content covered on Facebook, and the assessment methods on Facebook.

2.3 Procedures

First, the ISCED-Huíla Board of Directors was asked to collaborate on and authorize the study. We presented the study's objectives, procedures, and ethical aspects, such as guarantees of confidentiality and voluntary, anonymous participation. After authorization was granted, a collaboration request highlighting the research objectives and ethical aspects was sent by email to faculty and students.

Before the study itself, six Angolan ISCED-Huíla students were invited to participate in a focus group. The goal was to analyze the content of the questionnaires, including the clarity and comprehensibility of the instructions and items, as well as the completion time. A general assessment of areas for improvement was also conducted, if necessary. Based on the information gathered, minor adjustments were made to the formatting and structure of the questions in the final version of the questionnaires to clarify and improve their understanding. The final version of the questionnaire was then administered to the class, with informed consent from the participants.

Teacher interviews were conducted individually. To ensure data quality, interviews were conducted with permission to record, along with an introduction to legitimize the data collection process. The interviews took place in previously agreed-upon locations at convenient times and lasted

an average of 25 minutes (ranging from 17 to 47 minutes). The collected information was transcribed and validated by the participants to ensure data accuracy (Coutinho, 2014).

The data collected from the questionnaires was processed and analyzed using IBM SPSS. Two methods were used for the analysis: for items 11 to 15, the sum of total responses was used (with respondents assigning points from 1 to 5, with 1 carrying the highest weight); for items 17 and 18, which were in a Likert format, weighted averages were used. This resulted in the mean ranking (MR), which is calculated using the following equation: $WM = \sum(f_i.V_i)$; $MR = MP/(NS)$. Where f_i is the observed frequency of each response for each item, V_i is the value of each response, and NS is the number of participants. Thus, the closer the WM is to 5, the more the students agree with the statement.

3 RESULTS

We will now present the study results, beginning with a description of students' internet usage habits and their perceptions of using Facebook for learning. While most participants use the internet "every day" (52.8%), many consider their internet quality to be "average" (59.3%). The most widely used network for internet access is the UNITEL/MOVICEL mobile data network, with a ranking of 507. Students primarily use the internet for social networks, such as Facebook and WhatsApp, and for academic research. Facebook is the most widely used communication medium among students (ranking = 848), followed by Messenger (ranking = 725). These are also the most frequently used social networks (Facebook: 809; Messenger: 555). The most commonly used device to access Facebook is a mobile phone (ranking = 628). Most respondents report spending between one and two hours (44.4%) or three and five hours (26.9%) on Facebook per day (Table 2).

Table 2 - Internet and Facebook Use by Students

Items		n	%
Frequency of internet use	Every day	57	52.8
	6 to 5 times a week	23	21.3
	4 to 5 times a week	19	17.6
	2 to 1 time per week	7	6.5
	Less than once a week	2	1.9
Quality of the internet used	Very good	5	4.6
	Good	32	29.6
	Average	64	59.3
	Bad	6	5.6
	Very bad	1	0.9
Daily hours on Facebook	More than 8 hours a day	4	3.7

8 to 6 hours a day	12	11.1
5 to 3 hours a day	29	26.9
2 to 1 hour per day	48	44.4
Less than an hour a day	15	13.9

Source: Prepared by the authors (2025).

Students find Facebook useful for various teaching and learning activities. The highest score was for "interacting with classmates via chats about academic matters" (RM = 4.24), followed by "distributing notices and messages from academic services and a course unit" (RM = 4.21). Items such as "creating groups in the class for communication and exchanging materials" (RM = 4.18) and "space for creating events" (RM = 4.19) also received high scores, indicating that students view Facebook as a valuable educational resource (Table 3). The main reported difficulties were "risk of distraction" (RM = 3.75) and "internet network failures" (RM = 3.78). Issues such as cyberbullying and student and teacher privacy received high levels of agreement (Table 4).

Table 3 - Usefulness of Facebook in Supporting the Teaching-Learning Process

Items	RM
Sharing content supplementary to the class (links, photos, videos, documents)	4.11
Publish notices and messages from academic services	4.19
Publish notices and messages within the scope of a Curricular Unit of the course	4.21
Interact (via chats) to ask questions with teachers on academic topics.	3.85
Interact (via chats) with classmates on academic topics.	4.24
Discuss via comment on a topic related to the Curricular Unit	4.06
Create groups in the class for communication, exchanging materials, sharing links, etc.	4.18
Space for creating events (lectures, exams, forums, field classes, etc.)	3.93

Source: Prepared by the authors (2025).

Table 4 - Difficulties in Using Facebook as a Tool to Support the Teaching-Learning Process

Items	RM
The risk of distraction	3.75
Students' privacy may be exposed.	3.14
The teacher's privacy may be exposed.	3.05
Students may find it difficult to master Facebook tools.	2.82
Unable to access Facebook due to internet network failures.	3.78
Cyberbullying (violence practiced against someone via the internet).	3.61

Source: Prepared by the authors (2025).

From the data gathered in interviews with five professors, we found that four reported

interacting with students to share course-related information, such as materials, questions, and discussions on course topics. Three also interacted with students regarding other matters, such as warning them about possible delays. The main means of interaction are: Facebook/Messenger, WhatsApp, direct contact, and phone calls. One professor mentioned that he initially uses direct phone contact, and after students become accustomed to Facebook, he starts using the platform to interact.

(...) in the first phase, we communicated with class representatives by calling or sending a message. After adapting to virtual networks, however, we created groups to make communication more comprehensive for everyone (Interview given by P4).

All of the teachers interviewed use Facebook as their main social media platform, and most report using it for an average of two to three hours per day (one teacher reported using it for 12 to 14 hours per day).

According to these teachers, Facebook's main potential is that it allows for instant interaction between teachers and students and among students anytime and anywhere ($n = 5$); enables asynchronous communication with messages that can be read later ($n = 3$); facilitates the rapid dissemination of large amounts of information ($n = 2$); and can be used as an extension of the classroom, allowing the creation of groups for interaction outside the classroom environment ($n = 4$). Below are some of their reports on this topic:

(...) enabling dialogue regardless of time. In a short amount of time, disseminating a lot of information has an advantage. It allows for instant communication (Interview given by P1).
(...) they serve as a tool to assist the teaching-learning process and have the characteristics of interaction and asynchronous or synchronous intervention (Interview given by P2).
(...) it could help with interaction between teachers and students, as well as among students. Any information given to them is shared in the group. I think this way, information can flow faster (Interview given by P5).

With one exception, all the teachers reported that they had no difficulty using Facebook because of its simple features, ease of installation, and ease of learning. They also mentioned that students, especially younger ones, easily adapt to Facebook.

Teachers value the ability to create groups for interaction, post materials and links, and create surveys and events (such as assessment days and field trips) as advantages of Facebook in teaching and learning. They all agreed that Facebook facilitates teaching and learning by enabling the creation of discussion forums, as demonstrated in the following reports:



(...) more links and content, as well as tools like a forum, where students can express their doubts. (Interview given by P1).

(...) the good thing is that Facebook has many tools. For example, I can create closed questions and gather students' opinions on a certain topic with yes/no or multiple choice options (Interview given by P3).

(...) I conducted an experiment by publishing the agenda, and now all the students are aware of their results. We create events. For example, if there is a meeting with the students, we publicize an event so that everyone is notified. Hours before the meeting, they still receive the same notification. I think it is a useful tool for groups (Interview given by P3).

(...) For communication, we can create a group chat or a shared document. The teacher can control who works on a given report. I also use it for publications and links (Interview granted by P4).

(...) They share any information they receive in the group. I think this method allows information to flow faster and gives people access to it. I think it could be helpful (Interview given by P5).

Although teachers consider Facebook an asset for teaching and learning, they pointed out some challenges: all of the teachers mentioned the lack of regular interaction with students and the inadequate devices and internet access that students have; four teachers mentioned cyberbullying, irrelevant content, the lack of a document repository, difficulty organizing posts, and limited assessment on the platform; two teachers expressed concern about the potential for distraction due to entertainment use; two other teachers mentioned exposure of student privacy. Finally, two teachers mentioned the inability to upload multiple files, the impracticality of synchronous communication compared to WhatsApp, and the 50-member limit in discussion groups. To illustrate some of these concerns, we present the following reports:

(...) for example, disclosing student data unnecessarily, such as photos or personal information, can lead to a lack of privacy for group members. This can discourage students from joining these groups. Sometimes, a student's mistake may be mocked by others as a way to lower their self-esteem (Interview given by P1).

(...) Facebook is a public thing. We sometimes end up getting to know the personal side of students (Interview given by P4).

(...) Today, Facebook is really designed for entertainment. We are now taking it to the educational side, which can be a hindrance for students because they might get carried away by other publications of interest to them, whether they are family-related, personal, or professional. They might not pay attention because they can be distracted (Interview given by P4).

(...) although there are risks of distraction, such as students in the classroom using social media instead of looking for information related to the topic at hand, it has happened to me (Interview given by P5).

(...) it does not allow you to create a repository of documents or fascicles, for example. For example, I save everything on Google Drive and create a link for the student to access. I save everything on Google Drive and create a link for students to access. This sometimes creates constraints (Interview given by P4).

(...) I haven't been able to fully obtain the evaluation on Facebook. I do some things manually (Interview given by P4).

(...) well, the more they use the phone, the more they say, "Oh no, I don't have the money to buy a phone that can handle these tools and balances. We have to put data balances on there

that run out in an instant" (Interview given by P5).

In response to the question, "What impact would the use of Facebook have on the teaching-learning process?", two professors noted greater student engagement and interaction, while two others pointed out that the online environment fosters anonymity and ease, which encourages greater participation. One professor mentioned that Facebook can create a competitive spirit, prompting students to seek information to discuss and fostering greater connection among them. Some professors noted that students engage more in discussions because they feel less afraid of making mistakes in cyberspace, where they feel less exposed than in a face-to-face environment:

(...) in Facebook, students participate more. Even if they don't give the right presentation or don't want to speak, they still write. In cyberspace, sensations exist that don't in physical space (Interview given by P4).

(...) the web gives a feeling of anonymity, that is, of freedom and the teaching-learning process itself (...) with social networks they almost feel comfortable expressing their doubts, proposing solutions to problems and so, I certainly believe that this freedom can be a catalyst for them to build their knowledge in a meaningful way (...) (Interview given by P2).

One teacher noted that student engagement depends on more than just the platform's features; it also depends on the need for assessment with rewards or penalties for participation. Many students tend to be spectators in group discussions.

Regarding content, four teachers said theoretical topics are easier to cover on Facebook, though two teachers said practical content can be covered too. Specific topics mentioned include physical geography (climates, winds, rivers, and soil), geographic information systems (GIS), and environmental issues.

Opinions vary on evaluation criteria. Three teachers evaluate the number of views and interactions and the quality of student contributions. Others use questions (polls/surveys) on Facebook. One teacher uses an Excel evaluation sheet to record all student interactions with the teacher and peers on each post. This results in robust statistics on student participation:

(...) the platform allows assessment using a statistical tool, but only to see the number of participants. Well, I always create a guide, and participation is also a negotiation, because the teacher can't force; they must have a conversation, be democratic and conversational. My criteria were the following, right? Simple participation, a value (...) (Interview granted by P4).

As a major limitation in the use of Facebook for teaching, it is important to highlight the difficulty in evaluating students, which was pointed out by two teachers.

At the end of the interview, the teachers were asked to offer suggestions related to the topic. This resulted in the following recommendations: 1) The use of Facebook should support, rather than replace, traditional methodologies (P2); 2) Teachers should consider the tool (Facebook) and teaching strategies (P2, P4, P5); 3) Teachers should use Facebook in a blended learning format (P2, P4) and use the "flipped classroom" as the main strategy (P4). Teachers should assume a participatory role and encourage students to participate more actively in the teaching-learning process (P4). Teachers also advise that groups should be closed (P2, P3, P4) because this allows for greater control.

4 CONSIDERATIONS

This article presents a study that collected information on the use of the internet and DSN in the learning process from students and teachers through surveys and interviews, respectively. Analysis of the student data, particularly regarding DSN use, reveals that most students use the internet daily. However, more than half of the participants consider the connection quality to be "average." This suggests that despite the high frequency of use, internet infrastructure limitations can still affect students' online experience. Furthermore, students primarily use mobile data to access the internet, and Facebook and Messenger are the most popular social networks. Most students use a mobile phone to access Facebook and spend between one and two hours on the platform daily. These data reflect the importance of DSN in students' lives and the convenience of mobile devices for continuous access. Additionally, the non-homogeneous group included in this study, in terms of age range and professional occupation, requires special attention in future studies adopting teaching methodologies using Facebook. The user's age may influence participation time on social networks and sensitivity to technological changes (Sobaih *et al.*, 2016).

The results showed that both teachers and students believe using Facebook can benefit the teaching and learning process. They stated it can enhance interaction and content sharing and create a space for event creation. Teachers also observed greater student engagement and interaction on Facebook, highlighting the sense of anonymity and comfort that the online environment provides. However, some teachers emphasize that student engagement also depends on teachers' need to assess and encourage participation. Similar results have been found in other studies (Akçaoğlu; Bowman, 2016; Keles, 2018; Manasijević *et al.*, 2016; Sánchez; Cortijo; Javed, 2014; Wang, 2012). Thus, it is clear that students and teachers view Facebook as a valuable resource for facilitating communication and academic collaboration. However, the incentives provided by teachers must be considered.

Teachers and students agree on the main difficulties and challenges of using Facebook in the teaching and learning process. Many of these issues have been identified in other studies. These include the possibility of distraction (Çoklar, 2012; Shih, 2011), exposure of personal information (Chugh; Ruhi, 2017), cyberbullying (Green *et al.*, 2017; Redmond; Lock; Smart, 2018), posting content with little academic value, the absence of a document repository on Facebook, and teachers' unavailability to provide immediate feedback (Van Doorn; Eklund, 2013). It is important for teachers to be available to provide feedback, as students expect to receive responses instantly or within a short period of time (Juliani *et al.*, 2012). Teachers must play an active role online and remain online in the DSNs. Distractions may be related to mixing academic and entertainment subjects, for example, being exposed to a variety of information, which requires a high capacity for multitasking. This aspect has also been highlighted in previous studies (Junco; Cotten, 2012; Junco, 2012). Teachers and students also mention limitations in mobile phone compatibility with DSN platforms, as well as internet access and quality. These issues have also been identified by other researchers (Sobaih *et al.*, 2016). Other authors have also detected assessment and control problems (Çoklar, 2012).

Despite the highlighted advantages, teachers emphasize that Facebook should be used in a teacher-guided manner for teaching purposes. These results are consistent with those of other studies (Ainin *et al.*, 2015; Bowman; Akçaoğlu, 2014; Lambić, 2016), which found positive effects of Facebook on engagement and academic performance when used to support the teaching and learning process. In this context, the teacher's role is crucial, acting as a guide and counselor, as Bauman (2005) states.

Teachers offered suggestions for using Facebook in teaching: Facebook should not replace traditional methodologies but rather support them; Teachers should consider both the tool and the teaching strategies; Facebook should be used in a blended learning format through closed groups for better control. Similar references are found in other studies (Sánchez; Cortijo; Javed, 2014), which make it clear that Facebook offers numerous possibilities for improving learning, but it should not replace teaching strategies. These studies also emphasize that teachers should plan taking into account course and learning objectives, as well as student expectations. Therefore, the limitations and suggestions presented by teachers are important to consider when using Facebook to support teaching and learning.

Despite its challenges, the results suggest that Facebook is perceived by both students and teachers as a valuable and versatile tool for supporting the teaching and learning process. However, the study emphasizes Facebook's dual nature as a powerful tool with significant challenges in an

educational context. Teachers emphasize the importance of a balanced and strategic approach to maximize the platform's benefits and mitigate its limitations. A balanced approach combining Facebook with other pedagogical and technological strategies is essential to maximize the benefits and minimize the limitations, especially the risk of distraction.

While Facebook has limitations, its use offers opportunities for educational innovation, many of which are associated with pedagogical internationalization. These opportunities seem to overcome the challenges of teacher training and creating policies that maximize these platforms' benefits in global education. Furthermore, Facebook enables students and teachers to collaborate on projects and activities with colleagues from around the world, broadening their perspectives and strengthening their teamwork, intercultural communication, and problem-solving skills. Thus, in this context, pedagogical internationalization is not only the adoption of global technologies like Facebook but also the adaptation of these technologies to local educational needs. This ensures an enriching and balanced learning experience for all involved.

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Appendix 1

Teacher Interview Structure

BLOCK	SPECIFIC OBJECTIVE	QUESTIONS
LEGITIMATION	<ul style="list-style-type: none"> - Clarify the purpose of the interview. - Ensure the confidentiality of the collected information. - Guarantee the right to privacy and anonymity. <p>Inform the participant of the approximate duration of the interview.</p> <p>Thank the participant for their participation.</p> <ul style="list-style-type: none"> - Ensure recording authorization. <p>Collect academic and professional information, such as age, academic level, area of training, and other functions performed in addition to teaching.</p>	<p>This interview is part of my doctoral thesis at the University of Beira Interior, Portugal, and seeks to gather information about the use of Facebook as a tool to support the teaching and learning process. Its objective is to understand the influence of Facebook on students' engagement and academic performance in the Geography course. I reiterate that anonymity and confidentiality are guaranteed and that the interview will last approximately 20 minutes. I would like to thank you for your participation.</p> <ul style="list-style-type: none"> - Do you authorize the recording of this interview? - What is your age, academic level, area of training and other roles you perform besides being a teacher? - Do you have any questions?
REASONS AND MEANS OF INTERACTION	<ul style="list-style-type: none"> - Identify the main reasons and means of interaction between teachers and students outside the classroom. - Understand which social networks the teacher uses. 	<ul style="list-style-type: none"> • -Outside of class, what are the main reasons that lead you to interact with students? • • -What means does the teacher use to interact with students outside the classroom? • -Do you use any social media? If so, which one do you use most?
FACEBOOK'S POTENTIAL FOR INTERACTION	<ul style="list-style-type: none"> - Understand teachers' views on Facebook's potential to facilitate interaction between teachers and students. 	<ul style="list-style-type: none"> - To what extent can Facebook enhance interaction between students and teachers and consequently improve the teaching-learning process?
FREQUENCY OF FACEBOOK USE	<ul style="list-style-type: none"> -Identify the frequency of Facebook use. 	<ul style="list-style-type: none"> -How often do you use Facebook? (hours per day or week)
DIFFICULTIES/EASES OF USING FACEBOOK	<ul style="list-style-type: none"> -Identify the advantages and disadvantages that teachers have in using Facebook 	<ul style="list-style-type: none"> -Do you find it easy to use? What are the main difficulties?
ADVANTAGES OF FACEBOOK AS A TOOL TO SUPPORT THE TEACHING-LEARNING	<ul style="list-style-type: none"> -Characterize how the interviewed teacher views Facebook's main contributions to the teaching-learning process. 	<ul style="list-style-type: none"> -To what extent would Facebook be an added value as a tool to support the teaching-learning process?



PROCESS		
DIFFICULTY IN USING FACEBOOK FOR THE TEACHING-LEARNING PROCESS	-Identify the main difficulties of using Facebook in the teaching-learning process.	-What difficulties would the use of Facebook bring to the teaching-learning process?
FACEBOOK AND ENGAGEMENT AND INCOME	-Understand the teacher's view on the impact of Facebook use on academic engagement and performance.	-What would be the impact of Facebook use on students' engagement and academic performance?
CONTENT TO WORK WITH USING FACEBOOK	- Identify the main content worked on or to be worked on with Facebook's support.	-Is there content within your course that can be worked on or shared via Facebook? Please specify and justify.
ASSESSMENT	- Understand how the teacher evaluates his students in the Facebook space.	-How have you evaluated students (criteria) through Facebook and at what times?
FINALIZATION	-Request additional suggestions; - Thank you for your collaboration.	-Is there anything you would like to add? - Do you have any suggestions? (I appreciate your availability and collaboration).