# Social Networks and Their Use as a Learning Strategy

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### **Summary**

Social networks have become a necessity that can well contribute to the education of children from school to a higher level, however, the involvement of educational actors depends on whether they are used to make teaching and learning effective. The objective of the study was based on determining the use of social networks by teachers as a learning strategy in children from a public school. Applying a mixed approach through a survey structured in 12 questions with a 5-point Likert scale and framed in 3 dimensions, aimed at a sample of 15 teachers, as well as the interview with the expert in this field; obtaining as results a total of teachers who always use social networks to solve doubts in class, making children always more participative in classes when they use them, they can recreate knowledge learned in the classroom and satisfactorily carry out group work, of the 8 educational social networks consulted, a majority of teachers always use the Internet in the classroom and Edmodo; in addition, the total number of teachers always use generic social networks WhatsApp and YouTube as a learning strategy. Concluding that social networks need to be effectively used by teachers to promote learning in schoolchildren from early childhood, as a resource that promotes and facilitates the development of learning, so that when the student knows how to use them, the result is always positive, managing to learn new knowledge, promote their abilities and improve their academic performance.

Keywords: learning, educational community, strategy, infants, social network.

### Introduction

Social networks are means that allow interaction between people in different parts of the world and that currently have the participation of a large part of humanity that connects to create friendship, leisure, sentimental, study, business or similar relationships. Since the 90's when the first social networks emerged, they have been evolving, new ones appearing and others disappearing, however the impact they have had on society indicate that they are here to stay.

As a result of the last decade, at a global level, the use of information and communication technologies has had an impact on the attention of population groups such as students and teachers to carry out the various activities that are developed in the teaching-learning processes (Macías et al., 2022), which, in many cases, they incorporate technological instruments such as didactic resources for the stimulation, motivation, and support of the knowledge that is taught within the classroom (López et al., 2020).

These technologies are used as part of the growing digital revolution of the web that offers a range of social networks, applications, software and others (Ricardo et al., 2017), as a comprehensive system that maintains connectivity in different parts of the planet to inform at the precise moment what is happening on the other side of the sea through news, news flashes, academic and scientific publications, novelties, among others, that capture the attention of the conglomerate, whether at home, at school, at university, in the countryside, At work, because the place is not influential, the important thing is to be connected. (Medina, 2019) (Islas & y Carranza, 2011)

Such a social reality demands emerging attention at the level of education, so that both teachers and students can assertively use the multiple tools of the web in the training process, such as social networks (Sierra et al., 2016), which have become an instrument that allows collaborative learning and involves spaces for the exchange of information. fostering cooperation. The preferences and fascination that social networks bring with them for students in general can well be used effectively by teachers to reach those portions of students who are less participative with pedagogical, didactic and innovative mechanisms. (Spider & y Segarra, 2017)(Tapia, 2022)

The multiple advantages that social networks offer are available to all teachers who dedicate time to explore, select and learn to effectively use these didactic tools, with the purpose of building collaborative, interactive spaces that promote the capacity for response and immediate communication between student and teacher within the teaching-learning process (Velasteguí, 2019)(Bailey et al., 2021), having then that one of the current challenges of education is the reconstruction of the

educational space to place it to the constant changes of a globalized society and demand science, technology and innovation in all sectors, being the educational one not exclusive of this evolution (Zúñiga et al., 2021).

In this context, the reality in Ecuador and in provinces such as Manabí, in fiscal educational units of cantons located in rural territories, does not differ greatly from that experienced at the level of other Latin American countries, and that is that social networks have become a necessity that only requires having a mobile device connected to the basic internet service in order to be used as training support resources. especially in times of national emergency of the state of war type, such as the one recently ruled for all of Ecuador by the constitutional president of the Republic; In this sense, the objective of this research is to determine the usefulness of the (Duarte, 2023) (Expreso, 2024)social networks as a learning strategy by teachers of a fiscal educational unit.

## Theoretical review

Social networks group several types such as the so-called generic, work, leisure, educational social networks, among others; the most requested being WhatsApp, YouTube, TikTok, Facebook, Twitter, Instagram, Snapchat, Pinterest, G+Google+, Discord, Linkedin, Telegram, among others; within the educational social networks there are Leoteca, Interuniversidades, Cibercorresponsales, Internet en el aula, Edmodo, Clipit, Brainly, Docsity, Eduskopia, Comunidad Todoele, Otra Educación, RedAlumnos and Schoology . (RD STATION, 2024)(EDUCACIÓN 3.0, 2024)

Leoteca is a children's community to attract reading in the little ones, they can share experiences by commenting on tastes and teachers can follow up; Interuniversidades is used as a career search engine, vocational tests, orientation tests, teachers can create classes and study groups. Cybercorrespondents serves as a complement to develop educational activities, a digital newspaper led by young people. (Solana, 2021)

The Internet in the classroom facilitates the sharing of classroom experiences and resources through forums, projects, blogs, methods for the teacher. *Clipit* It is a collaborative environment of students who present their videos receiving feedback for improvement, and for teachers it provides additional resources such as analytical tests, learning assessment, creation of rubrics.(EDUCACIÓN 3.0, 2024)

Eduskopia It is a space for debate and reflection that invites the educational community in a collaborative way to generate ideas and put them into practice, it also offers talks, workshops, and others for students, teachers, parents, institutions. Comunidad Todoele provides Spanish teachers with a space for dialogue, meeting and collaboration to exchange points of view, ideas and experiences. Edmodo It allows the participation of the family, teachers and students, to send work, share documents and links, create private and closed groups, teachers can encourage participation in online debates on a subject. (UNIR, 2020)

Otra Educación is a safe virtual school that provides various educational tools such as comics, both for primary and secondary students and teachers. RedAlumnos is a platform and training space to put teachers and students in contact so that they can teach online courses and support their face-to-face classes, which works free of charge and also paid, and can be installed in educational centers, to offer online exams, chats, edublogs, virtual classrooms, among others.(ConectaTic, 2024)

*Brainly* it specializes in the area of eLearning and social learning, for students of various levels of training, parents, children, teachers, in which ideas and knowledge are exchanged through mutual help, asking about the various subjects. *Schoology* It is a platform for discussions, gradebooks, forums, bulletin boards, assessment quizzes, rewards, course creation with various options to interact learning. *Docsity* it facilitates the consultation of didactic videos, notes, blogs on various subjects. (Euroinnova, 2024)

Social networks such as *Playkids Talk* They include secure messaging and chat for the little ones (under 12 years old), includes recreational activities, cartoons and children's books, games and videos, in which the parents are the ones who manage and control the account administrators. *Spotlite* whose previous name was *Kudos* it is a digital environment for children and adolescents to begin to explore the web safely, learning and understanding the advantages of being online to learn; They can share tastes through images, videos, make comments, form groups of similar tastes or interests, with the purpose of interacting positively online, for which they make reminders to handle things positively, always requiring to leave pleasant comments. (Internet matters, 2024)

Go bubble is a social media platform that was created for teachers (Go Bubble for teachers) and for children, this network promotes collaboration between peers, communication, reflection through school projects on the various subjects; This social network, unlike others, is managed by the educational center, which is the one who enrolls the student with the approval of the parents, so that the teachers can use them within the classes. Social Grom it is an entertainment application for children, they can

connect with others through videos, images, chat messages, publications; This network has filters and it is the parents who monitor the activity of the children through another application called *MamaBear* (Internet matters, 2024).

All the accounts of these networks have rigorous security mechanisms, for which, they need the approval of the parents or caregivers of the minors, by means of email, they do not track or sell information of the children such as location or images, the parents are aware of all the movement of the children on the network since they are the ones who exercise control of the account, they can see the shared videos that can only be viewed by friends accepted by them, who in turn also have the approval of the account by their parents; These networks have 24-7 content moderators, so inappropriate content is banned, blocked, and parents are notified. (Internet matters, 2024)

### Materials and methods

The investigation was carried out in the fiscal educational unit "Francisco Antonio Daza Zambrano" located in the El Higuerón site of the Junín canton, belonging to the province of Manabí, Ecuador.

The research adheres to the positivist paradigm, the mixed approach and explanatory descriptive level, through the use of theoretical and empirical methods such as analysis-synthesis and empirical analysis, since they are very useful for the search and processing of empirical, theoretical and methodological information, since "the analysis of information makes it possible to break it down in search of what is essential in relation to the object of study, while synthesis can lead to generalizations that contribute step by step to the solution of the problem..." (Quesada & y Medina, 2020).

For its part, the empirical analytical method allows us to "know the reality through the sensation and direct perception of entities and processes that possess distinctive qualities" (Baldeón et al., 2023), since it is based on the experience of the teachers of the educational unit in contact with the reality of each student at the level of training at which they teach, to determine the usefulness of social networks as a learning strategy.

The application of data collection techniques such as survey and interview was also used. The survey was applied to the teaching population to determine how they use social networks as a learning strategy, since it allows the collection of quantitative and qualitative data through an instrument called a questionnaire and from a sample of people. (Castillo & y Martínez, 2023)

In the case of the interview, the open type was used to know the experience and appreciation of experts on the usefulness that teachers can give to social networks to promote learning in students, knowing that the open interview allows to know in depth the different experiences of the interviewees and to be able to contrast them with the results obtained (Ibarra et al., 2023).

The survey questionnaire consisted of 12 questions categorized according to the use of social networks as a support in student learning; as a learning strategy in children, and according to the type of social networks used; whose response options attend to a Likert scale ranging from 5 to 1, with 5 being understood as the highest level and 1 as the lowest in the answers, and whose equivalences correspond to 5 = always, 4 = almost always, 3 = Sometimes, 2 = almost never, 1 = never.

The validation of the instrument was carried out in two phases, one qualitative and the second quantitative, the first corresponding to the elaboration of the content of the questionnaire through the literary review of the concept, a list of keywords, the formulation of the questions, the rational validity and the verification of the concept at the level of the study population. The The second step consisted of the evaluation of the metric properties of the questionnaire content through the validity of the construct or concept, which is the main one in the types of validity (Fraticelli et al., 2018).

Since construct validity is "the unifying concept that integrates considerations of content and criterion validity into a common framework for testing hypotheses about theoretically relevant relationships" (Messick, 1980; Cronbach, 1984 cited by Martínez, in this case the use that teachers make of social networks as a learning strategy for students, as a learning strategy in children and the types of social networks that the teacher uses to support learning has been considered; since "the final goal of validation is explanation and understanding and, therefore, this leads to consider that all validation is construct validation" (Cronbach, 1984) cited by Soriano. (2019)(2014)

For the purpose of this research, the population of teachers working in the educational unit was considered, which corresponds to 28 teachers who teach from the 2nd level of basic general education (EGB) to the third level of technical baccalaureate, of which we worked with a sample of 15 EGB teachers determined through a non-probabilistic sample of an intentional type with, Considering that this sampling focuses on the specific characteristics of the population of interest by

efficiently answering the research questions (Reales et al., 2022) and "it is used to select the elements that are most likely to produce adequate and useful information, thus allowing the identification and selection of cases that will effectively use the limited research resources..." (Campbell et al., 2020).

## Analysis and discussion of results

The results of the survey formulated to teachers are divided into 3 parts, the first corresponds to the use of social networks by teachers as a support mechanism in the teaching-learning process, which is evidenced in Figure 1.

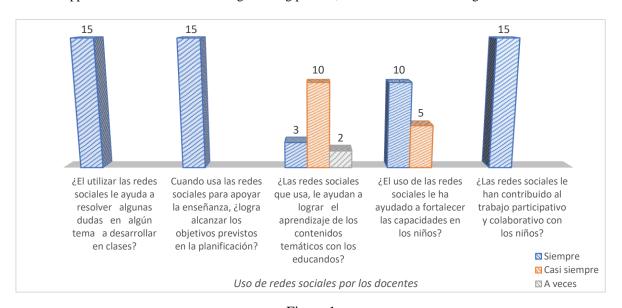


Figure 1

Use of social networks to support student learning

Note. The options almost never and never had no answers. In original language Spanish

As can be seen in Figure 1, all teachers always use social networks to resolve some doubts about topics to be developed in class, achieving the objectives set in the planning, asserting that these have contributed to participatory and collaborative work with the children. However, for a smaller number of teachers, always using social networks has helped them to strengthen children's capacities; and almost always these networks help him to achieve the learning of the thematic content with the students.

The second dimension of the questionnaire shows that social networks are used as a learning strategy in children, this can be seen in Figure 2.

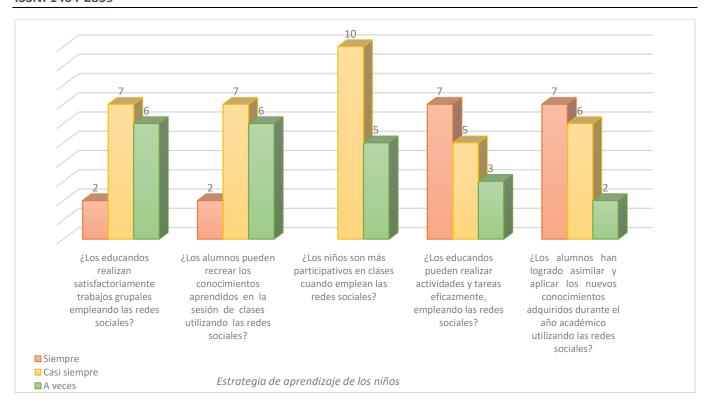


Figure 2
Social networks as a learning strategy in children

Note. The options almost never and never had no answers. In original language Spanish

As can be seen in Figure 2, of the total number of teachers surveyed, a majority (7) consider that children are always more participative in class when they use social networks, that they can recreate the knowledge learned in the class session using social networks and that they satisfactorily carry out group work when they use them; however, a representative minority (6) leaned towards the alternative, sometimes in the questions concerning the use of social networks in group work and recreation of knowledge learned in class.

On the other hand, a majority asserts that students can always carry out activities and tasks effectively using social networks and manage to assimilate and apply the new knowledge acquired during the academic year using social networks.

According to the graph, frequency is almost always the one that predominates in most of the responses, followed by the option always, which means that social networks are almost always used by teachers as a learning strategy for children in the classroom.

Figure 3, on the other hand, shows the type of educational social network and the frequency with which they are used by teachers.

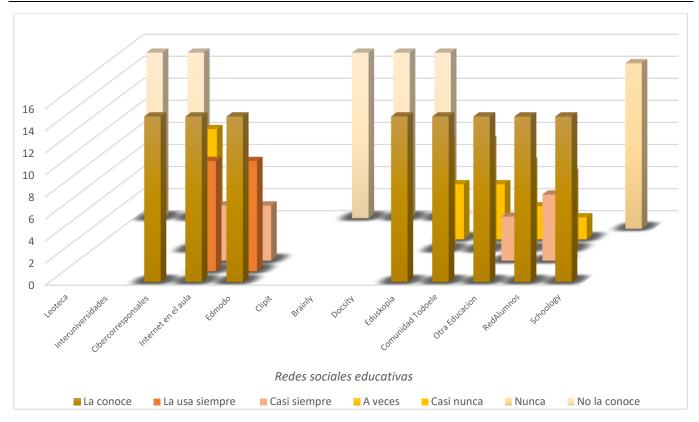


Figure 3

Type and frequency of use of educational social networks as a learning strategy

*Note.* The options are: He knows it, he uses it and he does not know it. The "use" option groups 5 sub-options: always, almost always, sometimes, almost never, never. In original language Spanish

As can be seen in Figure 2, the educational social networks known to all 15 teachers are Cibercorresponsales, Internet en el aula, Edmodo, Eduskopia, Comunidad Todoele, Otra educación, RedAlumnos and Schoology; of these 8 educational social networks, only the internet in the classroom and Edmodo are always used by most teachers as a learning strategy, sometimes they use Eduskopia, Comunidad Todoele, Otra educación and Red Alumnos, they almost never use Cybercorrespondents and never Schoology; they also do not know the Leoteca, Interuniversidades, Clipit, Docsity and Brainly networks.

Figure 4 shows the type of generic social networks that teachers use as a learning strategy and the frequency with which they do so.

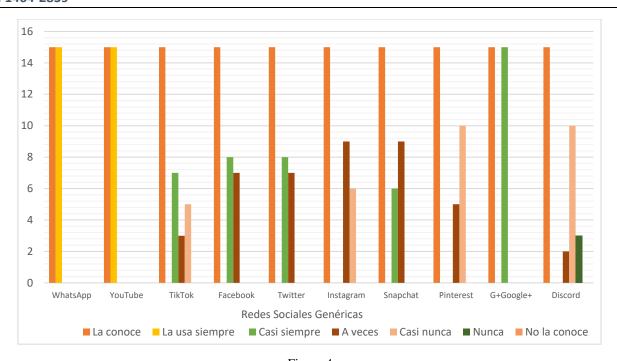


Figure 4

Type and frequency of use of generic social networks as a learning strategy

*Note.* The options are: He knows it, he uses it and he does not know it. The "use" option groups 5 sub-options: always, almost always, sometimes, almost never, never. In original language Spanish

As can be seen in Figure 4, all teachers are aware of the generic social networks of WhatsApp, YouTube, TikTok, Facebook, *Twitter*, Instagram, SnapChat, *Pinterest*, G+Google+, *Discord*, of which this total always uses WhatsApp and YouTube, and almost always uses G+Google+ as a learning strategy; while a majority of teachers almost always use TikTok. Facebook and Twitter; another majority sometimes uses Instagram and Snap Chat; this majority never uses *Pinterest* and *Discord*.

Thus, and considering the results found, an interview with the expert in educational innovation, María Eugenia Sánchez, teacher and master's degree, refers that currently using social networks in the classroom as an educational resource that offers multiple benefits to both the teacher and the student, has ceased to be an option to become a necessity that can function as a strategy to capture the attention of the student. achieve the learning objectives, give dynamism to the class, make it participatory and collaborative among peers, therefore promote their abilities for reading and writing, as well as for creativity, as a fundamental part that is developed throughout the teaching-learning process. (Sánchez, 2024)

For the professional, social networks have the characteristic of grouping many users by common interests, of different kinds, including students of different levels of training, they are a valuable instrument to enhance the communication of groups in the classroom and outside it, if it is taken into account that education requires sine qua non to communication as the starting point, as the universal solvent, as the axis of the educational process, and here is where the teacher plays the leading role, since he is the one who must teach the student to handle the networks well, to use them for their educational training and take care of their digital identity on the Internet when they enter, browse and participate in activities, therefore they must direct them towards the use of educational social networks that will provide them with greater usefulness for their educational work. unlike the others. (Sánchez, 2024)

In addition, he emphasizes age as a conditioning factor for the use of social networks by the little ones, at the level of basic training we are talking about children under 12 years of age who only use it as a mechanism of distraction, fun, but that can also lead them, when they do not have authorization or adult supervision to incur in compromising situations that involve their integrity; However, there are currently simple networks for children who already read and can be used as mechanisms to stimulate knowledge by their parents and educators, together with texts, stories, fables and similar digital resources, they can become an effective formula to enhance their learning. (Sánchez, 2024)

María Sánchez concludes by stating that, at the elementary level, teachers can use secure social networks that are free of charge, which are managed and controlled by parents, they are the ones who must set up the account and control everything they do from their mobile devices, access to the camera, the profile, their contacts, etc., Teachers can rely on these networks to carry out playful activities that promote early stimulation, cartoons and games as mechanisms of motivation and recreation, books, stories, children's fables to promote reading and writing, and videos to complement the teaching-learning of a particular topic or subject.

In the experience of Martínez and Martínez (2022) developed with students from an educational center, determined the use of commercial social networks and that none belong to those called educational. Among those identified, those with the highest implementation were, in order: *WhatsApp, Instagram, YouTube, Facebook, Spotify* and *Twitter*. The first two reach almost 100% of respondents, and the remaining are between 70 and 90%. Regarding educational social networks, these are known by less than 20%. Edmodo obtained the best result with 16.4% and there are 9 that have not been recognized by any student. Consequently, with the fact that all students use one or more social networks, no one said they did not know any social network, with YouTube being the most used as a learning tool, followed by Facebook, which have been used by more than 65% of students.

*Edmodo* was the educational social network that offers enormous potential to teachers, which lies, fundamentally, in exploiting the success that these channels, in general terms, have among young people, whose integration as a learning tool is based on the union of informal and formal channels, which motivates and awakens the interest of students. To these observations about the advantages of this type of social networks is added the fact that *Edmodo* is, among the educational ones, the best known and used by the students who are the object of the research; it is integrated as a community space in which teachers publish the exercises to be carried out, initiate conversations about their development, it answers doubts and queries and offers comments on the exercises once they have been reviewed (Martínez & Martínez, 2022).

Regarding the students, they use it to deliver their work, raise doubts and obtain *feedback* on the work presented both from the teacher and the rest of the students. This guarantees two-way communication and the active participation of students not only in relation to their exercises but also with those of the rest of their classmates, enhancing critical thinking and the formation of knowledge through collaboration and cooperation. Social networks in the academic field are of greater interest to teachers as learning tools, and it is necessary to consider the preferences of students and the theoretical foundations inherent in the benefits of educational and commercial social networks that they contribute to the teaching-learning processes and to exercise the development of a teaching practice based in part on the use of social networks (Martínez and Martínez, 2022).

The usefulness of social networks covers a wide panorama that, apart from the events that as a society is experienced day by day, extends to the world-society that influences all environments as an interdependence in all areas, economic, productive, environmental, educational, artistic, among others, serving as a mechanism that can be used to pay positive taxes as well as to cause an opposite effect.

When the student knows how to use them to develop their learning, learn new knowledge, promote their skills, the result is always positive and is equivalent to an increase in academic performance, participation, interaction, teamwork, socialization with peers, among others.

## **Conclusions**

Social networks need to be used by teachers to promote learning in schoolchildren from early childhood, basic general education and basic secondary education to achieve firm foundations of their beneficent usefulness in students of upper basic, high school and higher education, in such a way that they are used as a resource that promotes and facilitates the development of learning framed in a curricular mesh corresponding to the level of training that is being studying a certain student body,

There must be a commitment from the three actors in education; family-teacher-student, from the first years of infants' formation, which are the substantial ones to achieve an educational awareness in the strategic use of social networks to promote teaching-learning; And this is not a mere chimera, this is a reality that already occurs in some so-called developed countries, in which technology is a tool that increasingly provides resources and solutions for different needs, however, how it is used is the elementary difference that requires reflection by the educational community to begin a transcendent change. of which the beneficiaries are the most important thing from any perspective in which the education process is observed: the children.

From the skill and commitment that each teacher has for the education of children, is that social networks can be used along with training, as a mechanism of motivation, reflection and knowledge in students, which also promotes the development

of their abilities, talents and orientation towards what they want to do in the near future when they must choose a career to train as a professional. without detracting from time, since the foundations of a profession can be consolidated from the child's earliest years.

### References

- [1] Arana, B., & Segarra, M. (2017). Use of ICT in the teaching-learning process, a. *INNOVA Research Journal*, 2(8.1), 294-306. https://doi.org/10.33890/innova.v2.n8.1.2017.380
- [2] Bailey, L., Peralta, M., & Marín, J. (2021). The role of the teacher in the face of new forms of learning: ubiquitous, flexible and open. *Revista Científica Universitaria*, 10(1), 1-6. http://portal.amelica.org/ameli/jatsRepo/228/2281844006/2281844006.pdf
- [3] Baldeón, J., Betalleluz, F., Calixto, E., Gamarra, E., Guerra, M., & Silvestre, O. (2023). The empirical-analytical method in the educational field. *Educanatura*, *4*(*4*), 53-60. https://doi.org/10.26490/uncp.educanatura.2022.4.1.1769
- [4] Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S., . . . Walker, K. (2020). Purposive sampling: complex or simple? Research case examples. *Journal of research in Nursing*, 25(8), 652-661. https://journals.sagepub.com/doi/abs/10.1177/1744987120927206
- [5] Castillo, L., & & Martínez, I. (March 2023). The survey. Series: Diagnostic techniques. Guadalajara, Mexico, United Mexican States: University of Guadalajara. http://biblioteca.udgvirtual.udg.mx/jspui/bitstream/123456789/4061/1/T%C3%A9cnicas\_diagn%C3%B3stico\_Encue sta.pdf
- [6] ConectaTic. (February 10, 2024). *conectatic.intef.es*. Educational Social Media: https://conectatic.intef.es/mod/book/view.php?id=618&chapterid=2024
- [7] Duarte, M. (2023). TikTok as an educational tool for academic reinforcement in the subject Social Studies [Bachelor's thesis] . Universidad Técnica del Norte. http://repositorio.utn.edu.ec/bitstream/123456789/14988/1/FECYT%204369%20Tesis.pdf
- [8] EDUCATION 3.0. (February 01, 2024). *13 educational social networks: which one do you use?* Education3.0: https://www.educaciontrespuntocero.com/recursos/redes-sociales-educativas/
- [9] Euroinnova. (February 10, 2024). *euroinnova.ec*. Social Media in Education: https://www.euroinnova.ec/blog/las-redes-sociales-en-la-educacion
- [10] Express. (January 11, 2024). State of war in Ecuador, internal armed conflict. https://www.expreso.ec/actualidad/guerra-ecuador-conflicto-armado-interno-terroristas-masticadito-185652.html
- [11] Fraticelli, F., González, R., Uribe, A., Moreno, I., & Orengo, J. (2018). Research: Design, construction and validation of a scale to measure psychosocial factors and organic symptomatology in the workplace. *Psychological Reports*, 18(1), 95–112. https://doi.org/10.18566/infpsic.v18n1a05
- [12] Ibarra, M., González, A., & Rodríguez, G. (2023). Methodological contributions for the use of semi-structured interviews in educational research based on a multiple case study. *Journal of Educational Research*, 41(2), 501-522. https://doi.org/10.6018/rie.546401A
- [13] Internet matters. (February 8, 2024). *internetmatters.org*. Social media made for kids: https://www.internetmatters.org/es/resources/social-media-networks-made-for-kids/
- [14] Islas, C., & & Carranza, M. (2011). Use of social networks as learning strategies. Educational transformation? *Apertura*, *3*(2), 1-19. https://www.redalyc.org/articulo.oa?id=68822737001
- [15] López, V., Couso, D., & Simarro, C. (2020). STEM education in and for the digital world: The role of digital tools in the performance of scientific, engineering and mathematical practices. *NET. Journal of Distance Education*, 62(20), 1-29. http://dx.doi.org/10.6018/red.410011
- [16] Macías, T., Mera, C., Aguayo, J., Pizarro, S., & Salazar, G. (2022). Mobbing in higher education institutions. *International Journal of Health Sciences*, 6(S1), 3787–3802. https://doi.org/10.53730/ijhs.v6nS1.5642
- [17] Martínez, A., & Martínez, D. (2022). Educational social networks for the acquisition of digital skills in higher education. *Mexican Journal of Educational Research RMIE*, 27(92), 209-234. https://www.scielo.org.mx/scielo.php?script=sci\_arttext&pid=S1405-66662022000100209.
- [18] Martínez, J. (2019). The process of elaboration and validation of a documentary measurement instrument. *Educational Action and Reflection*, 44, 1-7. http://portal.amelica.org/ameli/jatsRepo/226/226955004/226955004.pdf
- [19] Medina, J. (2019). *Use of social networks in learning [Master's thesis]*. Casa Grande University. http://dspace.casagrande.edu.ec:8080/bitstream/ucasagrande/1935/1/Tesis2113MEDu.pdf

- [20] Quesada, A., & & Medina, A. (2020). Theoretical research methods: analysis-synthesis, induction-deduction, abstract-concrete and historical-logical. *Monographs* 2020. https://www.researchgate.net/profile/Alberto-Leon-6/publication/347987929\_METODOS\_TEORICOS\_DE\_INVESTIGACION\_ANALISIS-SINTESIS\_INDUCCION-DEDUCCION\_ABSTRACTO\_-CONCRETO\_E\_HISTORICO-LOGICO/links/5febd2ed299bf1408859de7f/METODOS-TEORICOS-DE-INVESTIGACION-ANAL
- [21] RD STATION. (February 01, 2024). *Everything you need to know about social media*. rdstation.com: https://www.rdstation.com/es/redes-sociales/
- [22] Reales, J., Robalino, G., Peñafiel, A., Cárdenas, J., & Cantuña, P. (2022). Non-Probabilistic Intentional Sampling as a Tool for Scientific Research in Health Sciences Careers. *Revista Universidad y Sociedad, 14(S5)*, 681-691. https://rus.ucf.edu.cu/index.php/rus/article/view/3338
- [23] Ricardo, C., Iriarte, F., Said, E., Ballesteros, B., Jabba, D., Manotas, E., . . . Astorga, C. (2017). *ICT in Higher Education: Experiences of Innovation* (First ed.). Editorial Universidad del Norte. doi:https://doi.org/10.2307/j.ctt2050wh0https://www.jstor.org/stable/j.ctt2050wh0
- [24] Rus, E. (2021). Descriptive research. *Descriptive research. Economipedia.com*. https://economipedia.com/definiciones/investigacion-descriptiva.html
- [25] Sánchez, M. (February 6, 2024). Social networks as a learning strategy. (K. Sánchez, Interviewer)
- [26] Sierra, J., Bueno, I., & Monroy, S. (2016). Analysis of the use of ICT technologies by teachers of educational institutions in the city of Riochaca. *Omnia*, 22(2), 50-64. https://www.redalyc.org/pdf/737/73749821005.pdf
- [27] Solana, R. (2021, July 01). *deustoformacion.com*. 10 Examples of Educational Social Media: https://www.deustoformacion.com/blog/redes-sociales/10-ejemplos-redes-sociales-educativas
- [28] Soriano, A. (2014). Design and validation of measurement instruments. Don Bosco University Press.
- [29] Tapia, T. (2022). Incidence of ICTs as methodological tools in the teaching-learning process. *Annual Journal of Educational Action and Reflection*, 1-27. https://dspace.ups.edu.ec/bitstream/123456789/21749/1/UPS-GT003580.pdf
- [30] UNITE. (September 02, 2020). *unir.net*. Educational social networks: what they are and how to take advantage of them in class: https://www.unir.net/educacion/revista/redes-sociales-educativas/
- [31] Velasteguí, E. (2019). The use of social networks as an educational strategy. *Cienciadigital*, 2(4), 64-79. https://doi.org/10.33262/exploradordigital.v2i4.341
- [32] Zúñiga, L., Cruz, M., Vélez, A., Macías, T., Mera, C., & Rodríguez, Y. (2021). A method for the application of project based learning in professional pedagogy. *PalArch's Journal of Archaeology of Egypt / Egyptology, 18(09)*, 1185-1197. https://archives.palarch.nl/index.php/jae/article/view/9444

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