Perspectives on Social Learning and its Operationalization from the Use of Virtual Platforms

Cesar Augusto Hernández Suárez[1], William Rodrigo Avendaño Castro[2], Audin Aloiso Gamboa Suárez[3]

[1]*Universidad Francisco de Paula Santander, Colombia, ORCID 0000-0002-7974-5560*

[2]*Universidad Francisco de Paula Santander, Colombia, ORCID 0000-0002-7510-8222*

[3]*Universidad Francisco de Paula Santander, Colombia, ORCID 0000-0001-9755-6408*

ABSTRACT

The purpose of this research is to determine the perception of a group of students on the impact of a virtual platform for interaction and social learning in the B-Learning model. It was framed in the quantitative approach, at a descriptive level through fieldwork, using a survey as a source of information collection. The sample of 131 first-semester students belonging to Bachelor's degree programs in a Faculty of Education was consolidated. In the opinion of the students, it is highlighted that the B-Learning model based on Social Learning strengthens communication and collaboration, from interactivity and the social web. It is concluded that the social learning given in the B-Learning model allows the creation of virtual collaborative work environments in the digital platform through social interaction

KEYWORDS: Competencias digitales, e-learning, b-learning, aprendizaje social.

Introduction

The daily processes of humanity are succinctly mediated by digital platforms, within which it is impossible to isolate its tendency towards social relationship mechanisms, being education a new panorama for this (Pérez *et al*., 2018; Rodríguez, 2018). Each of the educational stepping stones, processes, curricular ordering, qualification of competencies and redesign of evaluative processes, are carried out with the help of technological means (Contreras-Colmenares & Jiménez-Villamarín, 2020; Garcés-Prettel *et al*., 2014; García *et al*., 2018).

Even so, and despite every step that education has, it has been the vocational training processes and universities that have been most influenced by ICTs, since it is where knowledge is created, evolves and transformed (Ortíz-Arismendy *et al*., 2019). Furthermore, that informatics processes have qualified research processes, given that information is present in the here and now (Herrera, 2015; García *et al*., 2018). Education has migrated its scholastic and professorial paradigm towards digitalization of knowledge, with the single purpose of ensuring the formation of integral professionals from the

development of holistic skills and based on the information they can unravel (Adoumieh, 2021; Cejas *et al*., 2019).

It is there where the entry of digital and technological processes into university programs has become more qualified and sophisticated, combining traditional education with the innovation that only virtuality has managed to allow. Not in vain, from the new learning logic and the transformations that have been taking place in society itself due to health problems, the processes of technological strengthening and the integration of the digital in the daily social life of the population, the model of face-to-face education with virtual support in a synchronous and/or asynchronous way has been qualifying, being the pandemic, the temporary space where its use has increased the most (Hernández *et al*., 2021; Hernández-Suarez *et al*., 2022a; Prada-Núñez *et al*., 2022).

Accordingly, blended learning requires the consolidation of an educational and technological scenario that, according to the curricular order, incorporates learning, planning, and self-assessment strategies in a virtual learning environment (Semanate-Quiñonez *et al*., 2021; Gros, 2018), specifically through virtual classroom tools such as forums, collaborative work, among others (Martín *et al*., 2017). In addition, teacher interaction implies making time flexible so that students can manage their autonomy in learning, access content in multiple formats, interact with their peers and obtain information (Hernández-Suárez *et al*., 2022).

The above implies the redesign of the pedagogical task in a macro-structural way where the curriculum, evaluation processes, study plans, professional qualification of teachers, and training space, among others, allow the incorporation of ICT, thus ensuring the quality of education, the efficient use of technological resources, an improvement and modernization of educational processes (Román *et al*., 2011; García, 2017).

It could be thought that students entering higher education, when starting training mediated by technology, where they must use not only computing devices, but web tools, and being mostly NET or millennial generation, should be digitally competent, but many do not know to what degree they have developed it and how they apply it in their academic activities, which generates concern, because their technological training may be precarious (Ambriz *et al*., 2016; Chalela *et al*., 2016). Some weaknesses are because students may have not studied for quite some time, because they have done it in person without the help of technology, access to the Internet and technological devices and their expertise in the management of web 2.0 tools is limited, due to their social and economic status, among others, which leads to a digital divide (Vesga-Parra, & Hurtado-Herrera, 2013).

Within this framework, the Universidad Francisco de Paula Santander (UFPS), Cúcuta -Colombia, modified its institutional educational project that is supported by the incorporation of technology and one of its guidelines was the development of virtuality as a complement to face-to-face teaching processes. Thus, starting in 2016, a virtual platform called PLAD was implemented under Moodle as an interface but increased its use in the educational emergency caused by the pandemic. Some studies have been conducted on the impact of PLAD in the formative processes (Prada *et al*., 2019a; Prada *et al*., 2020), even during the pandemic, (Espinel *et al*., 2021) but none has been conducted after the return to face-to-face teaching, so it is necessary to question students about their perception of this tool, especially those who have a contact for the first time. The study by Prada *et al*. (2019b) highlighted that one of the difficulties regarding the use of PLAD was that it was not used as a learning environment, but as a simple repository of documents and information, where there was no articulation between the face-to-face and the virtual. This is because there was no curricular design that favors the Blended-Learning model.

In this sense, this study investigates the perception of a group of first-semester students of the UFPS, on the mediation of virtual learning environments generated by PLAD and the tools available to support their learning process. Because of the above, the question posed is: What is the perception of a group of students on the impact of a virtual platform for interaction and social learning in the B-Learning model?

Inquiring about this question is important to understand the impact of technology, interaction and communication developed in a B-Learning model as a tool to support face-to-face learning, especially from the students' point of view (Varguillas & Bravo, 2020; Hernández-Suárez *et al*., 2022b). In addition, from Social Learning, it is visualized how this strategy affects students' learning and how it

contributes to the understanding and assimilation of the technological tools and resources of the social web (Gil-Jaurena, & Domínguez, 2012), which allowed to have an overview of the process experienced by students in their transition from secondary to higher education.

Social Learning

Social Learning is based on the premise that the understanding of content is socially constructed through conversations and interactions with other people, about certain problems and actions (Seely & Adler, 2008). It is learned in social environments by observing and imitating the behavior of other people, through communication and collaboration, so as a didactic strategy it allows the strengthening of digital competences for work, leisure and communication (Padilla-Hernández *et al*., 2019).

The theory of Social Learning consists of incorporating the social component in virtual learning. The immediacy and accessibility to any content through the different communication tools offered by cyberspace such as videoconferencing, chats, messages, and communities, enrich social learning that walks parallel to the phenomena and tools that arise in the so-called social web (Gil-Jaurena, & Domínguez, 2012) such as social networks, wikis, blogs, among others; as a broader ecosystem in the digital context, they rely on knowledge niches to develop their learning processes (Gómez-Valderrama *et al*., 2020).

Social, as an integrating term, allows interaction, a connection between the community, collaboration and participation, offering a diverse environment from an inclusive perspective for training and pedagogical processes, content generation and the use of knowledge. For its part, the term Learning places its focus on the subject who learns, taking advantage of resources and forms, in this case through the web 2.0 (Universitat Oberta de Catalunya, 2010; Gil-Jaurena, & Domínguez, 2012).

The psycho-pedagogical basis on which social learning is based is the theory of learning by observation by Bandura, & Jeffery (1973), from the phases of attention (must attract attention), retention (must be able to be represented mentally), reproduction (put into practice) and reinforcement (motivation through effectiveness). These phases indicate the process of social learning (Bandura, 1987). Also, in Vygotsky (2009), for whom knowledge is constructed through cognitive operations and skills, which are induced through social interaction (Mejías & Sandoval, 1996). These theories added the social element to learning, where people can learn by observing others. And finally Siemens (2004) with his theory of connectivism, among other things says that learning is the process of connecting nodes or sources of information.

Social learning is key to understanding, modeling, applying and managing the learning of individuals through the resources of the social network (and mainly those that are open). However, although Open Social Learning is not a consolidated concept, an emerging one, it can be understood as an active, self-managed, non-formal or informal learning activity that takes place through the use of the technological tools of the social web or web 2.0 (Universitat Oberta de Catalunya, 2010). Finally, social learning can be combined with formal learning processes, both face-to-face and online (Aguilar & Flores, 2021).

E-learning is not a new form of education compared to face-to-face learning, since the educational purposes are the same, the only thing that changes is the channel through which learning takes place, but it does require a change in the role of the student, who moves from a linear education to an interactive one, with contents that allow him to carry his learning from his own needs and that focuses on him, and that is the teacher, tutor and guide of the process of self-training and autonomy of the student through the adoption of study habits and the strengthening of their digital skills and collaborative work (Ponce, 2016; Fajardo & Cervantes, 2020).

In recent years, and more recently due to the educational emergency caused by the pandemic, E-learning has been growing; however, planned and grounded educational proposals are not always found, because alternatives that replicate a traditional model that promotes rote and decontextualized learning proliferate. The constructivist model of sociocultural orientation in the design of virtual learning environments should be based on the three elements of the interactive triangle: student, teacher, and

content, which interact with each other to achieve a defined educational purpose, through what is called techno-pedagogical (Coll *et al.*, 2008; Coll & Monereo, 2008).

At the first level, there is the technological design, where the technological tools through which the educational process will be carried out are selected. The second level is the pedagogical design, in which the limitations and possibilities of the technological tools are contemplated in the approach to the training process.

In addition to the techno-pedagogical design, E-Learning presents a marked difference compared to the face-to-face modality (the LMS, the design of the VPA and the strategies), and the methodological approach or approaches, whether B-Learning, M-Learning or U-Learning, adopted by the institution, will optimize the teaching-learning process among the actors. For the study, the use of virtual environments has been implemented, as a didactic complement under the face-to-face modality such as B-Learning (Gros, 2018). The possibilities in which both strategies can be combined depending on the specific needs of each subject, the teacher and the students, which allows providing face-to-face training with many didactic and learning possibilities, in addition to giving flexibility.

Methodology

This research is framed within the quantitative approach. In this case, it is located at the descriptive level, since it was intended to determine the perceptions of students of the various resources offered by the PLAD platform in the development of their subjects, to determine the impact of this tool within the learning process. From this perspective, it is field research, through a survey, designed from the background on the educational use of digital platforms.

Population and Sample

For the application process of the survey, the parameters of inclusion were determined as all first-semester students of the Bachelor's Degree programs of the Faculty of Education, Arts and Humanities of the UFPS, who are taking for the first time the subjects that use the PLAD as a complement to their face-to-face education. Of the corresponding sample, an invitation was sent to 145 students in total, of which 131 students responded, being a sample made up of 42.3% male and 57.7% female, with an average age of 20.9 years and a standard deviation of 0.9. The students were asked, via institutional e-mail, to answer the online survey individually, anonymously and voluntarily. The period for completing the survey was one month from the date of receipt of the e-mail.

Data collection instruments

A survey with 39 items was proposed as an instrument to investigate the students' perception. The first part of the instrument requested socio-educational information. For the dimensions under study, a series of scales were designed, under a matrix of affirmation-choice of response. In the part of access to technological resources and the use of digital educational tools (items 1-12), they are valued on a dichotomous scale of YES and NO. The following dimensions Virtual learning environments and PLAD platform (items 13-23), Teacher management for the development of competencies (items 24-31) and didactic strategies on PLAD activities for learning (items 32-39) are assessed according to a Likert scale with 3 values (1 = slightly agree, 2 = moderately agree, 3 = agree). The reliability and consistency of the survey were assessed using Cronbach's alpha, resulting in a score of 0.95, which according to Ruíz (2002) corresponds to high reliability. The survey was applied online following the model described by Martínez (2011).

Information processing and analysis

The data obtained were tabulated and statistically analyzed using the tools of the SPSS 25 statistical program. The information is presented and organized by categories, grouping the questions that make up each category.

Results

The following is the analysis of the answers to the questions of the questionnaire applied to the students; the 39 items are organized in 4 dimensions.

Access to technological resources and the use of digital educational tools

This category includes 12 items that seek to identify the students' perception of access to technological resources and verify the use of digital educational tools for virtual learning environments.

Table 1
Percentage of YES responses on access to technological resources and the use of digital educational tools for learning in virtual environments

Access to technological resources and the use of digital educational tools for learning in virtual environments	%Yes
1. Has a technological device such as a computer, tablet or smartphone to access the web resources.	97,2%
2. Has connectivity to access web tools.	96,1%
3. Has access to social networks	95,6%
4. Before entering the University, they knew how to manage and use web resources such as forums, wikis, blogs, and web pages, among others.	51,9%
5. Have used social networks for their formative process	79,6%
6. Have consulted and/or participated in educational blogs	58,0%
7. Has consulted and/or participated in educational wikis.	48,1%
8. Participated in virtual forums	76,8%
9. Has made queries in web search engines	95,6%
10. Has taken MOOC type courses	37,6%
11. You have taken virtual courses	43,1%
12. Have used educational applications	65,7%

According to the data in Table 1, it is highlighted that the vast majority of students have some technological device (97.2%) and connectivity to access digital tools (96.1%), which favors their training in virtual environments, but it is observed that about half (51.9%) know the management and use of web 2.0 resources such as forums, wikis, blogs, web pages, among others, before entering the university. Wikis have the lowest participation (48.1%). Web search engine queries and access to social networks stand out as the digital tools most used by students (95.6%), but in the case of social networks, their use decreases when used for the training process (79.6%). Concerning virtual courses or MOOCs, these are close to 40% of participation.

Likewise, it allows observing how students interact within the formative process in terms of the use of digital resources, from the social component that emanates between items 5 and 8 respectively. Because of this, it can be affirmed that B-Learning is a constant reality within the formative process given the interaction of the students with the technological devices, but without skimping the social component that emerges from there in terms of collaborative work and the use of forums, social networks and others within the school reality.

Virtual learning environments and PLAD platform

This category poses 3 questions that seek to identify the students' perception of the expectations and facilities of virtual learning environments, as well as to recognize the availability, clarity and usefulness of the contents, activities and resources available in PLAD.

Table 2
Virtual learning environments and PLAD platform

Virtual learning environments and PLAD platform	Slightly agree	Moderately agree	Agree
13. Working in a virtual learning environment is easy.	17,1%	36,5%	46,4%
14. Virtual training in PLAD meets your expectations.	14,4%	28,2%	57,5%
15. The information provided by the University is sufficient and relevant for PLAD management.	12,7%	24,9%	62,4%
16. The information provided by the teacher is sufficient and relevant for the academic adaptation of the student in the PLAD.	13,3%	27,1%	59,7%
17. The student has the time available to carry out his/her PLAD activities.	11,6%	31,5%	56,9%
18. The usefulness, clarity, and timeliness of the material available in the PLAD allow for its comprehension.	18,8%	29,3%	51,9%
19. The material available in the PLAD is coherent with the activities proposed.	10,5%	30,9%	58,6%
20. The material available in the PLAD is up to date, innovative and creative.	17,1%	17,1%	65,7%
21. The material available and the activities in the PLAD such as documents, videos, links, among others, are easy to access and navigate.	30,9%	26,5%	42,5%
22. The activities proposed in the PLAD can be developed individually or in groups.	16,6%	21,5%	61,9%
23. The resources and tools offered by PLAD favor learning	12,7%	22,1%	65,2%

According to the results of Table 2, it can be observed that about half of the students (46.4%) think that training in virtual learning environments is easy, compared to 36.5% who consider it moderately agrees and 17.1% who do not consider it so, possibly because although many students have had experiences with aspects close to virtual training, as evidenced by some studies, many students had psychosocial effects such as stress, anxiety and others in the training process due to confinement by the covid-19 (Gamboa *et al.*, 2020; Prada *et al.*, 2020; Hernández *et al.*, 2021).

Concerning virtual training in the PLAD, more than half consider that they agree or moderately agree with the expectation generated by this learning modality (82.9%). This result is corroborated by similar percentages when it is observed that 87.3% of the students state that the information provided by the university is sufficient and relevant for the management of the PLAD, and this is complemented by 86.7% regarding the information provided by the teacher for the academic adaptation of the students to this platform, The above shows that the PLAD has been well received by the students and that the institutional effort to position it as a complementary tool to the formative process has been satisfactory, but the ideal would be to achieve greater acceptance and reception, for which reason it is necessary to

work with the students who are in little agreement, close to 15%. It seems that the satisfactory results of the previous items motivate the students, since it is evident in the fact that they have the necessary time to study under the virtual modality (88.4%), which shows a good availability and flexibility of the PLAD platform.

Concerning the study material and activities available in the PLAD, the students respond that they agree about its coherence with the proposed activities (89.5%), that it is updated, innovative and creative (82.9%), and that it is understood based on its usefulness, clarity, punctuality and expectation (81.2%), that it is easily accessible (69.0%) and that the activities can be developed individually or in groups (83.4%), which favors the student's learning (87.3%). These results show that the materials, activities and use of web tools contained in the PLAD have been under the adaptations requested in the micro-curriculum of the subjects.

It is important to take into account that item 22 shows a great similarity between the relationship between E-learning and social learning since it clearly shows the possibility that virtuality has generated advances in the qualification of group work. Although a distinction is made between the individual and the collaborative, it can be affirmed that 61% of the sample agrees that the relationship between the group, the didactic process and the technological devices become a propitious scenario for the promotion of meaningful learning of the students.

Teacher management for the development of competences

This category is made up of 8 items where students can identify how the formative process carried out in the PLAD is significant for their learning, through the activities proposed in the virtual platform. In this sense, teacher support is a priority for students to achieve their learning in the virtual environment.

Table 3
Teacher management for the development of competencies

Teacher management for the development of competencies	Slightly agree	Moderately agree	Agree
24. The activities proposed in the PLAD have enhanced the student's independent work.	11,0%	17,1%	71,8%
25. The activities proposed in the PLAD Platform have favored the development of competencies such as information search and processing.	9,4%	23,2%	67,4%
26. The resources and contents in the PLAD allow the construction of new knowledge.	7,7%	19,9%	72,4%
27. The activities and resources of the PLAD allow strengthening communication skills among students.	11,6%	18,8%	69,6%
28. The activities proposed in the PLAD have strengthened the competence of collaborative work.	12,7%	24,3%	63,0%
29. The teacher's support in the PLAD is frequent.	31,5%	15,5%	53,0%
30. The teacher's feedback on the activities proposed in the PLAD is timely and constructive.	30,4%	14,9%	54,7%
31. The teacher's response time to the activities set out in the PLAD is adequate.	31,5%	14,9%	53,6%

From the information provided in Table 3, students indicate 71.8% agree that the activities proposed in the PLAD have enhanced their independent work. Similarly, 67.4% state that this activity has favored the search and processing of information on the web, as well as the perception of students regarding the construction of new knowledge with the resources and contents of the platform is higher (72.4%).

On the other hand, 69.6% of the students agree that the activities and resources allow for strengthening communication skills. Regarding collaborative work in a virtual learning environment, 63.0% of the students agree that the activities enhance it. In this sense, communication is one of the necessary competencies for collaborative learning in virtual environments.

Likewise, 53.0 % of the students agree that the teacher accompaniment in the PLAD is frequent. The previous result goes hand in hand with the percentage of agreement with the teacher's feedback (54.7%). The feedback is a form of communication between the teacher and the students and this is evidenced in the time of response by the teacher is adequate which has an acceptance of agreement of 53.6%.

Although these percentages are higher than 50%, it is necessary to improve teacher accompaniment to strengthen the strategies that allow students to develop competencies for learning.

It should be noted that the competencies in which the learning process is focused on group or collaborative work are supported by the direct accompaniment of the teacher. There, items 27 and 28 respectively, where the emphasis is placed on the teacher's projection and accompaniment of group work supported by technological tools, are strengthened in terms of general communication in 69% and group participation in the different activities mediated by the teacher from 63%. All this ratifies that the teacher has managed to advance in the establishment of strategies according to the formative process of the students from the accompaniment, the collaborative work and the continuous and significant communication.

Didactic strategies on PLAD activities for learning

This category is composed of 8 items where the purpose is to identify the level of acceptance of the didactic strategies for learning in the PLAD by the students.

Table 4
Didactic strategies on PLAD activities for learning.

Didactic strategies on PLAD activities for learning	Slightly agree	Moderately agree	Agree
32. The didactic methodology used in the PLAD, attends to their learning style.	13,3%	22,1%	64,6%
33. The didactic methodology used in the PLAD motivates them to learn and to follow up their learning process.	7,7%	22,1%	70,2%
34. The project-based learning that is carried out for the activities proposed in the PLAD favors their learning.	15,5%	32,6%	51,9%
35. The learning by problems that are carried out for the activities proposed in the PLAD favors their learning.	22,1%	38,7%	39,2%
36. The debates that arise from the activities proposed in the PLAD favor spaces for discussion.	13,3%	23,8%	63,0%
37. The use of graphic tools such as mind maps, concept maps, and synoptic tables among others that are used for the activities proposed in the PLAD favor their learning.	11,6%	27,1%	61,3%
38. Working in teams for the activities proposed in the PLAD favors their learning.	10,5%	22,7%	66,9%
39. The written reports such as essays, syntheses, and summaries, among others, for the activities proposed in the PLAD favor their learning	16,0%	29,8%	54,1%

According to Table 4, regarding the didactic methodology used in the PLAD, 64.6% agree that it meets their learning style. Teamwork is the most accepted (66.9%), which ratifies collaborative competence. On the other hand, the one with the lowest acceptance is problem-based learning (39.2%), followed by project-based learning (51.9%). It can be said that the strategies work sufficiently in terms of communication and student collaboration, but it is necessary to improve those such as problem-based learning and projects that allow significant learning.

Even so, it is important to highlight at a percentage level and in the framework of the relationship between group work and the mediation of PLAD as a digital tool that, in item 36, it can be observed that 63% of the students are satisfied with the processes of objective and thematic discussion within the group formative process that is mediated by the platform itself, which shows an increase in confidence in the scenarios of debate and agreement of ideas. On the other hand, if item 38 is reviewed in detail, 66.9% of group work is strengthened by the use of the PLAD as a mechanism for social relations within the formative process.

With all this, it is possible to affirm that, in short, E-Learning and social learning have become a scenario of qualification of the formative process of the students, so it is necessary to redesign strategies that bring together the tools, the didactic processes and the students. In addition, the teacher's participation has not only been left behind in the teaching process only but it has been qualified and has become the anchor point of a knowledge network from the constant communicative processes with the group from the digital.

Discussion

Regarding the Blended Learning model at UFPS, students show a very favorable perception concerning the use of PLAD, since students express that the virtual component allows them to clarify doubts regarding concepts described in the classroom, that is, an environment that allows self-learning or autonomous learning is generated (Maliza *et al.*, 2020), as well as constituting a means of communication that allows collaboration and interaction among them (Islas, 2015; Quitián & González, 2021), without the limitations of time and space. In other words, there is a coherence between the content of the virtual environment and the face-to-face class, which is evident in the micro-curriculum of the subjects. This evidences the trend that the virtual complement the face-to-face for a Blended-Learning model to be effective (Varguillas & Bravo, 2020), where learning takes place at any time and in any place. With the ubiquity of learning resources, the act of learning becomes a more distributed experience in time and space (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2017). In addition, the possibility is offered to practice or repeat the activities, if necessary, as many times as you want, until you achieve satisfactory completion or move to higher levels of complexity (Sulmont, 2020), as evidenced in research such as that of Álvarez (2017).

Respondents affirm that the activities in the PLAD allow evaluating the knowledge acquired with feedback among the students themselves, which helps to identify weaknesses and strengths in the mastery of a topic, thus favoring collaborative learning. This is in line with Ruíz *et al.* (2015) who state that collaborative learning in virtual environments opens the possibility of generating collective processes of knowledge construction, favoring learning based on collaborative learning strategies, developing communication and interaction skills, as well as creating learning communities.

The other change generated by the implementation of PLAD is the way knowledge is socially managed. The activities in the PLAD encourage interaction among peers both in and outside the virtual classroom. In this way, it is understood that the students surveyed achieve knowledge as a result of social interaction, since the PLAD as a learning environment allows them greater social interaction by freeing them from space-time barriers, more possibilities to act and better mental functions, where the activities are carried out in group form, motivating in them a transforming experience in the social sphere. In this sense, virtual education is not limited to the fact of facilitating access to information but lies in its communicative and interactive potential, it fosters new possibilities that allow for improving learning and teaching processes, offering a body of knowledge that favors the transformation of interpsychological and intrapsychological processes, especially from the Piagetian and Vygotskyan approaches (Salmerón *et al.*, 2010). And one of its most significant characteristics, is the social interaction between students, changing the nature of the underlying network where the nodes are now

people instead of computers (Gros, 2018), very much in line with the connectivist theory of Siemens (2004) and Downes (2014).

For the students under study, PLAD is a useful tool for meaningful learning, as almost all students expressed that the various resources and activities generate in them a different and attractive way of integrating new knowledge into the pre-existing knowledge obtained in the classroom. This allows verifying Ausubel's theory, where he states that a virtual learning environment is effective when it generates meaningful learning, and not rote learning (Moncini & Pirela, 2021).

In general terms, it can be said that more than half of the students entering the University have access to technological resources and the use of digital educational tools, which should favor learning in virtual environments, this result is because many of the students come from educational institutions that were forced to use technological mediations remotely and virtually. It is the students and the teacher who transform the virtual environment, since in this case the PLAD platform is only the place, and the interaction of the students with the different resources and materials is what generates the learning environment.

Among the elements to be enhanced, there are some tools and techniques such as forums, wikis among others, which depend on the dynamics and significance of the teacher in the management of these activities (Buil *et al.*, 2012; Prada-Núñez, *et al.*, 2020) to generate greater active participation of students and more interaction in their use (Hernández, 2011), due to the asynchrony of these techniques (Castro *et al.*, 2016).

Finally, the educational reality today is very different since the ways of learning have changed thanks to technology. Traditional education does not motivate the student, and, on the other hand, the web displays a range of diverse content that allows them to better assimilate the knowledge that has been generated in the classroom (Hernández, 2019), thus overcoming the limitations of this model, allowing social and collaborative learning, and generating a transformative education (Díaz-Barriga, 2013). Although it is clear that during the last millennium knowledge was based on books and master classes, currently there are more diverse options of sources of knowledge, with greater dynamism, speed, and attractiveness. Therefore, the educational process is currently complemented with easily accessible content available on the web, and within this, learning is based on more visual, flexible, dynamic and interactive elements that allow the development of skills (Morado & Ocampo, 2019), which ensures the student's attention and facilitates long-term memory to create their knowledge (Sierra, 2012). The above evidences a transformation of the didactic materials adapting them to the new experiences and expressive forms of the digital society (Area & González, 2015).

Conclusions

It can be concluded that, according to the perception of the first-year students of the Bachelor of Education programs of the Faculty of Education, Arts and Humanities of the UFPS, the contribution of the PLAD in the learning process is satisfactory, since the virtual environment generated is a space to learn and interact under the guidance of their teacher. The PLAD is a fundamental tool in the learning process, given the advantages of asynchrony, interaction, collaboration and communication. In addition, it gives the student the possibility of flexibility and autonomy, facilitating independence of time and place, which allows constant feedback in the development of learning as a result of social interaction. In this context, the PLAD is an environment that enables and favors learning, as long as they have an organization, arrangement and logical distribution of the different didactic resources, which is obtained through social construction, interaction and collaboration.

Likewise, Social Learning affects how students learn from the access to collaborative work, systemic thinking and the proximity to new forms of learning from innovation supported through didactic tools, thus improving the educational quality of students. With this, it is possible to stipulate elements of analysis that have an impact on the educational panorama that allow to know what to do with the information and to convert it into knowledge for their benefit.

In this sense, it was possible to establish the relationship between the group and social work together with the application of digital devices. This has a significant impact on how the preponderance of the students' use of PLAD was observed, in addition to showing how other resources outside the platform,

such as social networks, were a resource used significantly by the students. These networks and other applications used within the pedagogical process at individual and group levels are undoubtedly the opportunity to optimize learning processes, taking advantage of their ease, dynamism and collaboration generated among users.

It is observed from this study, how the interaction of students for the generation of knowledge in a social space, allowing the use of resources strengthened in digital tools, have helped to improve the academic condition of students who participated in this work, in terms of knowledge generation, criticism, search and analysis of sources as an exercise from the individual and group, being the second, an open door to understanding the generation of continuous knowledge from the classroom.

Finally, opportunities for constant improvement are observed for the university as a result of the analyzed results, which strengthen communication and collaboration skills, the teacher's support and the frequent use of synchronous and asynchronous communication resources offered by the social web. In the same way, it is identified that, although the PLAD presents a pleasant design and for the institution its pedagogical design is adequate, it must improve in the creativity and innovation of its contents, aspects that are directly related to knowledge management, as a point of constant feedback given the constant change that digital and technology can promote.

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