The use of Facebook as a Collaborative Knowledge Construction

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Abstract— *The present research aimed to verify the effectiveness of the use of Facebook in education, as well as to verify the possibilities of using this application to knowledge construction, making the teaching-learning process provoking and motivating. A case study with emphasis on qualitative and quantitative research was applied in order to investigate the acceptance of the use of Facebook as a collaborative teaching-learning support for integrated high school students, through a questionnaire for first grade students from Instituto Federal de Educação, Ciência e Tecnologia do Sertão Pernambucano (IFSERTÃO-PE), from Campi Petrolina and Petrolina Zona Rural, totaling 66 students, that sought to consider the acceptance of students regarding the use of Facebook as a support for learning in a collaborative way. The readings of André (2017), Lakatos (2008), Lorenzo (2013), Moran (2013), Spadaro (2013) and others were relevant to the theoretical basis of the research. It was concluded that, despite the low use of social networks by teachers in the classroom, students believe that Facebook presents itself as a resource with great educational potential and that stimulates more active participation of students in their learning, favors generation and sharing of information, and also improves the interaction between teacher, students and parents.*

Keywords— ***Education, Teaching-Learning, Teaching Practice, Social Networks.***

I. INTRODUCTION

The traditional models of education, as well as teaching practice, are being rethought, to account for the transformations resulting, among other factors, from economic modernization, the strengthening of citizenship rights and the dissemination of information technologies. The school needs to break with the curriculum models centered on the hierarchical organization of static content under the command of the teacher and be attentive to society's practices, stimulate the students' critical sense and build their curriculum from the local context, valuing the collective construction and knowledge sharing.

Technologies have been modifying daily life in an extraordinary way. Cell phones, tablets, computers and other devices are responsible for living in a network and constantly connected. It is a fact that this technological revolution has already reached the school environment so that the teaching-learning process can no longer be exercised as it used to be. Learning activities and methodologies can be used differently with the help of new technologies. Learning by being together in distant places, without the need to always be together in a room for this to happen (MORAN, 2013).

The advances in information and communication technologies and the emergence of social networks, which are increasingly interactive and collaborative, have been influencing social relationships, creating new patterns of behavior and greatly interfering in school practices.

With the use of a collaboration space, such as social networks, the teacher in turn will have the opportunity to check aspects that are often difficult to identify in a classroom, such as the ability to write texts, improve development in writing, research on a subject, the presentation of an opinion and the debate among students. (LORENZO, 2013, p.30)

The educational potential of social networks, especially Facebook, is enormous, as it favors the sharing of information, develops more dynamic and interactive, open and creative teaching and learning strategies, enabling student participation in the construction of knowledge, the use of resources and more mobility of information and knowledge.

The use of digital technologies in the classroom is still a topic that requires a lot of discussion and still faces some resistance; however, we cannot ignore the fact that social networks are the habitat of the new generation that we receive today in schools. For this reason, keeping up with technological advances seems to be a sine qua non condition for maintaining proximity to our students.

It is essential to emphasize that technologies are not necessarily created to be used in education, but nothing prevents them from becoming educational instruments.

Digital technologies bring transformations to the classroom, causing changes in the teaching-learning process in such a way that it is flexible, pluralistic, diversified. Thus, it is perceived the importance of the insertion of technologies in an environment of knowledge exchange, either as mediators, moderators or amplifiers of the same.

Once connected, in possession of digital technologies and free for interaction, students stop being mere recipients of information and become actors in the construction of their knowledge. In a network of contacts, it is possible to exchange ideas, as well as share knowledge, provide a differentiated form of learning through collaboration between individuals with common interests. In this context, the teaching-learning process can alternatively benefit from this tool, aiming to stimulate collaborative learning and foster the construction of collective knowledge.

In this sense, the present study aimed to investigate and reflect on the acceptance of the use of Facebook as a collaborative teaching and learning environment by students in the 1st grade of integrated high school at Instituto Federal de Educação, Ciência e Tecnologia do Sertão Pernambucano (IFSERTÃO-PE).

II.   SOCIAL NETWORKS

It cannot be denied that currently the internet is part of the daily lives of individuals and from their immersion in this environment, a new way of communication has gained prominence: social networks. It is worth mentioning that the concept of social networks is not directly linked to the internet, since the most remote times we have lived in a network, since we interact, exchange, share and communicate. The emergence of social networks came from the need for man to share with others and create social bonds based on the affinities between them.

When social interaction goes online, we have the digital social network. Digital social networks occupy an increasing space in people's lives, especially with the popularization and diversification of the ways of producing and sharing knowledge, which can be used in the most varied contexts, such as entertainment, communication, teaching, research, interaction and obtaining information.

Franco (2012, p.117) defines social networks as "a socialization process, some type of collective and social interaction, in person or virtual, which presupposes the sharing of information, knowledge, desires and interests". Thus, we think of social networks as groups on the Internet, which share data and information, in different ways and through them it is possible to post different files,

texts, photos, images, videos, among others. It should also be emphasized that the use of social networks had as main objective the relationship between friends or people with unusual interests, however with the rapid expansion, these networks have come to have a distinct role in society, in politics, in the media and also, On education. Thus, we verified that social networks are collective and collaborative spaces for communication and exchange of information that favor the development of educational practices.

These virtual communities have asserted themselves as an important alternative to learning and traditional organizational contexts and, being supported by technologies, they have become more visible today. They represent intellectual, cultural, social and psychological environments that facilitate and sustain learning, while promoting interaction, collaboration and the development of a sense of belonging of its members (MOREIRA and JANUÁRIO, 2014, p.74).

Understanding virtual environments as innovative possibilities for creating learning communities implies recognizing the primordiality of thinking about new learning contexts, causing teachers to promote interaction and collaboration, using social networks, especially Facebook, as a teaching environment and learning.

According to Lorenzo (2013), some institutions have found useful applications of social networks in Education and, currently, they have become important teaching and learning tools. According to the author, through networks, it is possible to share information on topics studied or proposed in the classroom, as well as to strengthen the involvement of students and teachers, through a new communication channel, making it an efficient option for building the relationship between students and teachers.

With the use of a collaboration space, such as social networks, the teacher in turn will have the opportunity to check aspects that are often difficult to identify in a classroom, such as the ability to write texts, improve development in writing, research on a subject, the presentation of an opinion and the debate among students (LORENZO, 2013, p.30).

We found that it is possible to share with the students a multitude of materials related to subjects to be worked on in the classroom, such as multimedia, news from newspapers, videos, music, excerpts from films, etc. In addition, teachers can use social networks in different ways in the teaching and learning process. According to Pechi (2013, p.01) "Taking advantage of the time that students spend on the internet to promote interesting debates on everyday topics helps students to develop

critical sense and encourages the most timid to express their opinions".

We believe that the use of social networks has become indispensable for a transformative teaching proposal. However, the traditional educational process must be respected, since the use of technological proposals through information and virtual communication is not to replace it, but to serve as a complementary instrument to teaching practice. Currently, there are several types of social networks, the most known and used have been Facebook, Twitter, Instagram, LinkedIn and Blogs.

2.1 FACEBOOK AND THE EDUCATIONAL CONTEXT

Facebook was created in 2004 by Mark Zuckerberg and a group of students at Harvard University at the time, whose initial project was to network students' profiles at this university. The success of this network was so fast, that in 2006, the network was opened to all people who had completed, at least 18 years of age, or were studying higher education, with the basic idea of connecting students and socializing them. (SPADARO; 2013).

It is an application that allows people to connect through the web and choose those who will participate in their group of friends, allowing them to view and share all their publications. Thus, for Spadaro, "The ability to connect people is, therefore, the strength of Facebook" (2013, p.95). This is configured as an effective tool for the teaching and learning process due to the large number of resources available and its power to connect people.

Facebook adds a significant amount of resources, functionalities and applications that allow interactive actions on the web, having become, nowadays, an innovative space in which interactions, sociability and learning are created and developed, these collaborative in network, through dialogue and the collective construction of knowledge (EDUCASE, 2007).

According to research by Llorens and Capdeferro (2011), the main pedagogical potentialities of Facebook for collaborative learning are: favoring the culture of virtual community and social learning, as this is based on values around a common goal that generates feelings belonging and social learning; allowing innovative approaches to learning, given that the construction of knowledge and the development of skills, supports lifelong learning and professional updating through the collaboration of peers; and the possibility of presenting content using "real" materials. The information that is transmitted may come from the members of the social network. With videos, multimedia products, links to documents and blog articles, etc.

This application allows some alternatives of activities that can be used by the teacher to make the classes more thought-provoking and motivating, to quote, the creation of groups with the students of the class to post information, activities, curiosities and reactions. Groups can favor a new type of interaction between the class; creating pages or events can be an excellent opportunity to share information and bring teachers, students and parents together; referral from other sources of research can serve to expand the student's learning horizon and use Facebook to encourage students to share their productions, creating a practice of mutual enrichment.

For Bettio et al. (2012), when using Facebook, it is also possible to create a profile by class, and groups by discipline, where it is possible to assist the activities carried out by teachers, and also add and encourage the involvement of companies related to the course area. For these authors, teachers can still ask questions of students, publish lists of exercises, monitor and evaluate works, publish an activity schedule, among others; it is possible for students to ask questions of the teacher, communicate with other students, share knowledge through groups, expose their curriculum, among others.

The software in question provides some basic tools that contribute to the construction of a stimulating learning space:

- Mural - space for communication and discussion of texts, videos, images and comments;
- Groups - online spaces created with the particular objective / interest that stimulate work in a collaborative way;
- Links - allow connections to pages outside the application;
- Events - used to remember deadlines, meetings, seminars, courses, etc.;
- Messages - an important communication channel that makes it possible to send and receive information;
- Pages - allow interaction among its members, allowing the sharing of links;
- Notes - allow small notes;
- Comments - allow the socialization of opinions about the issues in question.
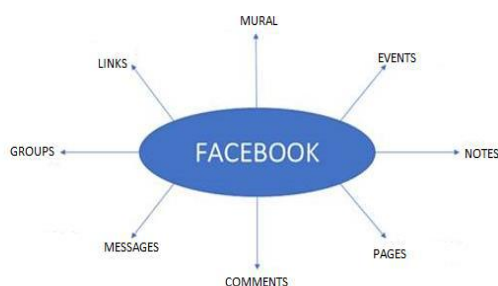
Basic learning tools on Facebook
Source: Alessandra Latorre and Adriana Santana (2019)

Institutions and educators have increasingly used Facebook, in order to improve the educational process and communication with students, because, according to the author, "There are countless ways to use the most popular network in the world in the classroom". (LORENZO, 2013, p.73). All in all, it turns out that Facebook is an available tool, with enormous pedagogical potential and quite valuable for the teaching-learning process.

III. METHODOLOGY

3.1 STUDIED LOCATION

The field research was carried out at Instituto Federal do Sertão Pernambucano in Campi Petrolina and Petrolina Zona Rural, in the period from February to March 2017, where a questionnaire was applied containing eight questions that sought to verify the acceptance of students regarding the use of Facebook as support for collaborative learning. The questionnaire was answered by students aged 14 to 17 years, students of the 1st grade of integrated high school, totaling 66 students. Of these, 31 are from high school integrated in agriculture and 35 from high school integrated into buildings, resulting in 100% of the questionnaires answered.

The methodological path defined was the case study, as it is a valuable instrument that makes it possible, through the researcher's direct and prolonged contact with the investigated events and situations, to describe actions, behaviors, capture meanings, analyze interactions, understand and interpret languages, study representations, without detaching them from the context and circumstances in which they manifest themselves. Thus, they allow us to understand not only how these phenomena arise and develop, but also how they evolve over a given period of time (André, 2013).

Stake (1995), cited by Creswell (2007), clarifies that in the case study, the researcher extensively studies a fact, phenomenon or activity with one or more individuals,

seeking accurate information from the diversity of procedures during a given time.

For data collection, the quantitative approach was chosen, where "(...) the researchers use large samples and numerical information (...) 'and qualitative whose purpose is "to provide a more detailed analysis of the investigations, habits, attitudes, behavioral trends, etc. (MARCONI, LAKATOS, 2008, P.269).

3.2 CASE STUDY

This work is the result of a case study with an emphasis on qualitative and quantitative research, which investigated the acceptance of the use of Facebook as a support for teaching-learning in a collaborative way for students of integrated high school.

The study was based on the following hypotheses:

- Hypothesis 1: the student's knowledge and use of the application;
- Hypothesis 2: students would approve the use of Facebook, given the innovative nature of learning;
- Hypothesis 3: Facebook would prove to be effective as a support for classroom support;
- Hypothesis 4: the use of the application would contribute to the construction of knowledge in a collaborative way.

The choice of Facebook as a research tool was due to its functionality, the possibility of creating groups with common goals, the interaction and familiarization of young people with this application.

IV. RESULTS AND DISCUSSIONS

The results showed that 97% of the students participating in this research know the Facebook application and that they use it 4 to 7 times a week, which means that young people are connected, exchanging information, generating knowledge, learning and interacting at all moment (Graph 1).

*Graph 1 – Weekly Frequency use of Facebook*
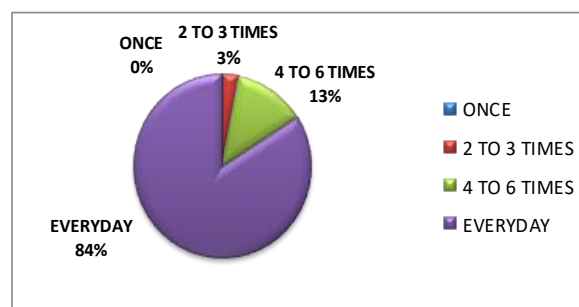
Source: Alessandra Latorre and Adriana Santana (2019)

It was found that the main purpose of using Facebook is to read the posts, followed by posts of photos and texts, information sharing, chats and exchange of messages (graph 2). Still, 26% of students stated that they use the application for other purposes such as: sharing memes, watching videos, participating in groups, following websites of higher education institutions.

Graph 2 - Facebook's utility pattern for users
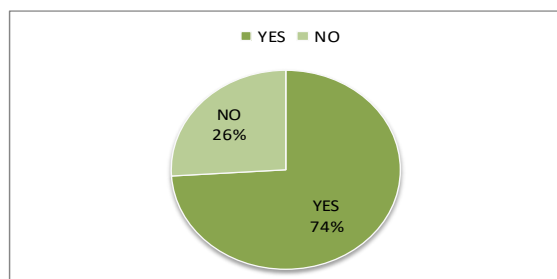
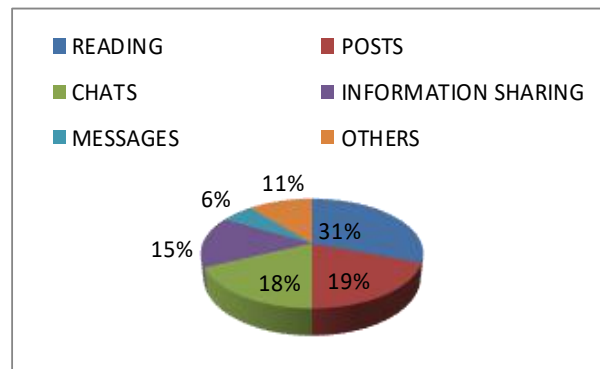Source: Alessandra Latorre and Adriana Santana (2019)

Technologies are making people more connected by providing new ways to learn and teach. The use of Facebook as a learning environment allows the teacher to reframe his teaching practice, in a more interactive, participatory and collaborative context. 71% of students consider that the discussion in a non-formal space like Facebook can contribute positively to their learning (Graph 3). This result indicates that students believe in Facebook as an educational platform that allows them to resize, streamline and add meaning to learning. Lima (2010) says that the practices of reading and writing in these virtual environments, in the context of teaching-learning, multiply social interactions and provide changes in the behavior of the actors involved.

The applications used on Facebook assist and enhance the teaching work, working as stimulating didactic resources for the teaching-learning process. 74% of participants believe that the use of technology makes classes more profitable and motivating.

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Graph 3 - Impact of technologies to motivate classes.

Source: Alessandra Latorre and Adriana Santana (2019)

The use of technologies is a reality at school, however, a large number of teachers are not prepared to insert these technologies in their classes. This fact was confirmed in the students' responses, when they declared that 37% of teachers do not use Facebook or other social networks as a learning tool and 60% sometimes use these resources (Graph 4). Silva and Vieira (2010) say that "technology does not underestimate neither the educator nor the student, it only modifies the relationships between those involved, and thus providing a new environment for sharing knowledge where the domain over the machine and cyberspace is makes it essential". The use of social networks in the school context still faces some resistance, either because it is a relatively new technology and still not understood as a didactic environment or due to the lack of investments in the training of teachers by the institution to deal with this new reality.

Graph 4 - Use of Facebook by teachers as a learning environment
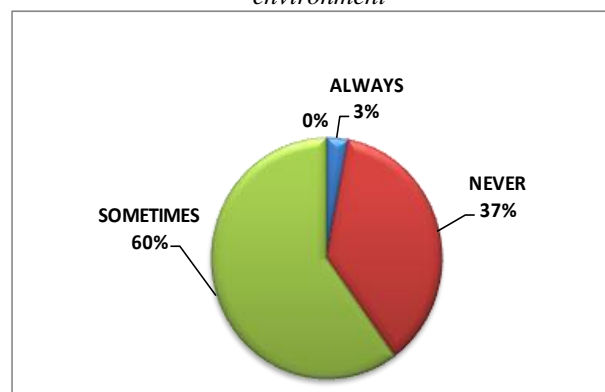
Source: Alessandra Latorre and Adriana Santana (2019)

When asked how the use of Facebook could contribute to their learning, IFSERTÃO-PE students participating in the research, in their majority, declared that: online activities could occur with communication between students and teachers; teaching should take place in a contextualized way, working with facts and daily news; pages should be created to share stories, with texts, images and videos; programs to assist learning could be developed; groups for discussion and sharing of information could be created; the Facebook space called "did you know" should be used and, finally, the environment should be used to answer questions and obtain an explanation of the contents in real time, through chats; make posts regarding the content; talk to people from other countries to learn other languages.

V. CONCLUSION

The results demonstrated the great influence of Facebook in the students' lives. Of the interviewees, about 97% know the Facebook application, making use of it 4 to 7 times a week. The main purpose is to read the posts, followed by posts of photos and texts, sharing information, chats and exchanging messages. The vast majority that totaled 71% of students consider that the discussion in a non-formal space such as Facebook can contribute positively to their learning, however there is still a percentage of 37% of teachers who still do not use Facebook or others social networks as a learning tool and 60% sometimes use these resources.

Technology, by itself, will not be able to carry out the necessary transformations to streamline the teaching-learning process. The school needs to go hand in hand with technological advances. We know that the use of social networks as a learning environment has intensified in recent years, as it is a resource with immense pedagogical potential that favors collaborative and interactive teaching; and because they stimulate in the student an active subject posture that builds their knowledge in a network culture. Thus, the insertion of technologies in the educational environment, using social networks, specifically Facebook, as a pedagogical tool to innovate teaching practice requires a change in the way of thinking and doing education.

Educating is a complex process, which requires significant changes, investment in teacher training, to master the communication processes of the pedagogical relationship and to master the technologies. Only then will we be able to move faster, with the awareness that, in education, it is not so simple to change, because there is a connection with the past, which is necessary to maintain, and a vision of the future, which we must be aware of. (MORAN, 2012, p. 168).

It is increasingly clear to educators that the knowledge belongs to everyone, not just the teacher. It is essential to adapt to the new reality. There is no more space to work with young people today in structures where they do not recognize themselves and do not have the feeling of belonging. Buildings, playgrounds, classrooms, auditoriums, laboratories and even knowledge itself, there is no point in using structures from an era, which fit in a time when human beings and the world were something they are no longer.

In this context, Facebook is configured as an environment rich in possibilities of use to make classes more meaningful and attractive, as it favors the connection between network participants, allows content to be organized in us for quick and easy access shared collaboratively and participatively.

Education is inconceivable without the use of technology. The insertion of these in the classroom does not only refer to the use of technologies that are too innovative or directed to some discipline, but it is also about reinventing, adapting to the school reality that needs to be rethought.

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