VIRTUAL EDUCATION AS A STRATEGY TO STRENGTHEN SOCIAL SKILLS AND IMPROVE SCHOOL COEXISTENCE

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Abstract

Every day in school classrooms, conflicts reveal behaviors that hinder students' coexistence and alter their interpersonal relationships. In this sense, schools must promote strategies to strengthen social skills; based on these reflections, this research seeks through virtual education to strengthen the social skills of tenth-grade students belonging to the departmental rural educational institution Adolfo León Gómez of the municipality of Pasca, Cundinamarca - Colombia. Methodologically, this is a mixed study, with a descriptive approach and comparative design, with which it is expected that students appropriate social skills in such a way that school coexistence and interpersonal relationships improve significantly.

Keywords: Pedagogical strategy, Virtual education, Social skills.

INTRODUCTION

School coexistence allows the integral development of children and young people in their integration into social life, in responsible participation in civic life and in the development of their life project. Therefore, addressing convenience at school as part of the formation of the subjects who teach-learn enables the development of personal and social competencies to learn to be and to live together, which are transferred and generalized to other contexts of education and human development.

The coexistence of human beings is already socially given, but coexistence must be built and includes, among many other factors, a teaching-learning process. In this regard, Jiménez Romero (2005) refers that coexistence is an art that involves learning. For the author, coexistence involves two or more people who are different in their relationship, in which others always intervene and which is also subject to ongoing changes.

Coexistence requires adapting to others and the situation. The operationalization of coexistence includes establishing rules and emphasizing respect and tolerance for what is different and what unites people in which they converge: a space, a time, tasks, responsibilities, and resources. They include a change of attitudes, the regulation of conflicts and the identification of people with the group or collective coexistence, besides the difference between people is a fact, but the real human wealth is not the difference; on the contrary, it is the similarity (Berra Bortolotti and Dueñas Fernández,1999,p.5).

The fact that the coexistence model is proposed as an ideal situation for human development does not imply denying the existence of non-coexistence as a model of hostility and violence or of the coexistence model as an intermediate situation between the two (Jiménez Romero, 2005).

All societies and cultures have elements of these three models as moments of transition and social change, which are reflected in the various social institutions, whose main function is the socialization of their members, especially in the family group and in formal or non-formal educational centers.

School coexistence for the Ministry of Education of Chile (2014) is understood as the process of interrelation between the different members of an educational establishment. Therefore, it is not limited to the relationship between people. However, it includes the forms of interaction of the different strata that make up the educational community, so it is a collective construction and responsibility of all members and actors.

For Ortega (1998), the educational center should be seen as a community of coexistence in which different social microsystems are inscribed: the student, the teachers, the families, or the external social community itself. This systemic perspective allows us to take a global and comprehensive view of the educational community, considering the actors and factors affecting school coexistence.

The interaction of the different human contexts that, as educational subsystems, configure the social dynamics can be analyzed by the patterns of activity, roles and interpersonal relationships that each person experiences (Bisquerra,2001).

School coexistence is framed in two planes, that of interpersonal relationships and the plane of activity, the confluence of both planes give meaning to human coexistence with cultural and social significance (Ortega, 1998).

The level of interpersonal relationships refers to the interaction of the different contexts of education and human development (mainly school and family) where the processes of communication, emotions, values, roles, status and power in the interaction of the different subsystems are analyzed in the development of social skills in the school space. On the other hand, the activity level, that is, the analysis of the tasks that each of the educational actors performs to fulfill the intentions of the school curriculum, does not only imply an instructive activity in the knowledge and practice of scientific knowledge but also learning to live and coexist with other human beings (Ortega, 1998, p.20).

It is important to reflect that school coexistence implies not only the organization and functioning of the institution but also the establishment of general coexistence guidelines that are reflected in the interpersonal relationships in the classroom, in the promotion or not of social skills that transcend the school walls to manifest themselves in the different spaces of life of the students (the street, home, work and the community in general). At the same time, coexistence projects as a didactic tool make possible preventive intervention proposals benefiting many aspects of the teaching-learning task, as well as the personal, school, family or professional well-being of all educational actors, mainly through the development of social skills (Xesus, 2006).

In this sense, educational centers must promote social skills to improve school coexistence and interpersonal relationships among education subjects. Based on these reflections, this study arises to strengthen social skills to improve school conflicts, interpersonal relationships and school coexistence of students in the tenth grade of secondary education at the Adolfo León Gómez Educational Institution in Pasca through the implementation of a pedagogical strategy mediated by ICT and framed in virtual education.

ACQUISITION AND DEVELOPMENT OF SOCIAL SKILLS

Social skills are the basis of human relationships; therefore, it is crucial the learning that infants acquire in their early years because from this, they can configure good functioning in society, and in later ages, such as adolescence, the use of socially skilled behaviors is demanded, which allow reaching socialization that in the words of Carrillo Guerrero (2015) is cataloged as a process through which the human being throughout his life integrates a series of behavioral patterns, values, norms, beliefs, attitudes and routines immersed in his social and cultural context under the influence of experiences and significant social agents (p.43).

One of the researchers who describe the acquisition of social skills is Bandura (1978), who, from his studies, incorporated cognitive elements as mediating factors between the individual and the environment. Mischel (1981) also states that the most relevant principle of the model of the

acquisition of social behaviors is modeling, although the value that the individual places on reinforcement and the expectations of self-efficacy are also important.

Similarly, Kelly (1987) studied the development of social skills, finding that they develop in a natural environment in which they evolve through mechanisms; in this regard, the author classifies them into:

- **Direct reinforcement:** refers to the ability of human beings to reinforce behaviors acquired throughout life, particularly children from their first years acquire certain behaviors, and over time these are reinforced.
- **Nature of situations in accordance with direct reinforcement:** This mechanism shows that the subject must select the most appropriate behavior in situations where he has not been able to learn the most appropriate behaviors. Mischel (1981), throughout his research, indicates that when a subject is confronted with new situations that he believes are similar to those he has already lived, he tends to imitate behavior patterns similar to the experiences already lived, but with the possibility of acting erroneously if he does not have a high ability of social perception to adapt to the situation.

The author argues that social skills are truly attained and appropriated by an individual only when they are consistently reinforced, and this is not always the case, so if an individual's first attempts to act assertively are not positively reinforced, he or she is likely to give up further attempts, which can lead to behavioral situations from which phobias, for example, derive.

In summary, Bandura (1987) concludes that there are conditions for observational or modeling learning to occur, among which are:

- **Observational learning** is a mechanism for developing social skills; its essence is centered on modeling learning behaviors that are expanded and perfected throughout life.
- **Age of the model:** For children, the first model to imitate are their parents and relatives; as they grow up, this model is replaced by their peers, which capture the child's attention, as he/she tends to imitate them and be like them.
- **Sex of the model:** Generally, there is a tendency to imitate people of the same sex; in the case of children, they want to imitate their father if it is a boy or imitates their mother if it is a girl.
- **Model kindness:** An individual tends to imitate people who are more affectionate and to repel those who are aggressive or treat him badly.
- **Perceived similarity:** imitation of models is more likely to occur among people who are similar.
- **Observed consequences of the model's behavior:** whether it has been positively or negatively reinforced.

Finally, Bandura argues that social skills are also acquired through feedback, which he calls feedback. Kelly (1987) indicates that feedback is the information through which a person communicates his or her reaction to the behavior manifested by others.

Social skills at school

One of the central axes of the school is the appropriation of knowledge by students; therefore, for a long time, the idea has prevailed that educational centers must fulfill this task; However, Cappadocia and Weiss (2011) indicate that the student should not only be trained from the cognitive part but that the social and emotional health of students and the promotion of their social adaptation should be strengthened, from the development of various studies it has been shown that social behavior plays an essential role in the ability of learners to improve school environments and that they can adapt to the closest social contexts.

In this regard, Losada Vicente (2015) states that interpersonal relationships, peer acceptance, adjustment to the demands of the school situation, and emotional health are related to greater social competence. Research development shows that social skills are a critical component in the development of schoolchildren, as they are related to academic success, peer relationships and school coexistence; in this sense, students who present few difficulties in the social and academic environment develop better social competencies such as assertive communication, decision making, conflict resolution, better critical thinking, adequate management of emotions, decision making and therefore their interpersonal relationships will be less affected or deteriorated. In the opposite case, the

lack of social competence is directly linked to behavioral problems that turn into adverse outcomes in the future, such as poor academic performance and delinquency. (p.55)
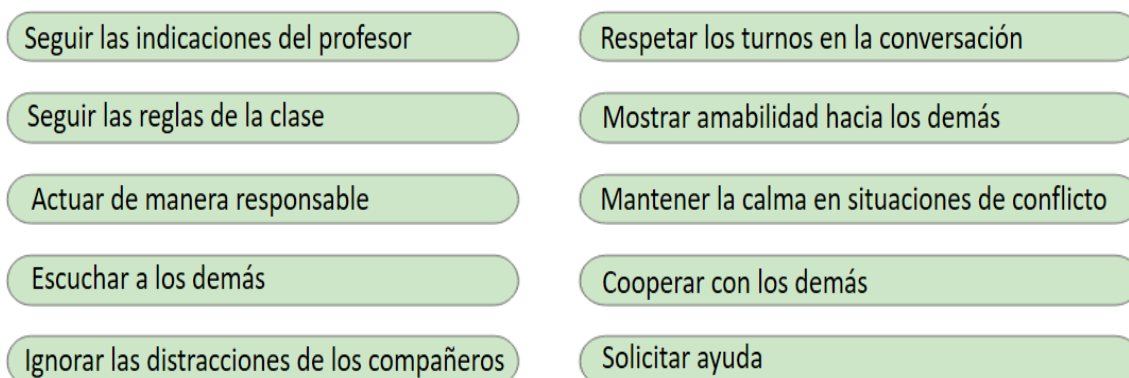
Cook et al. (2008) posit that students with poor social skills are at risk for internalizing and externalizing behavior problems and difficulties in academic success. Other negative consequences of lack of social competence are school failure, school dropout, delinquency and social rejection, attention deficit and hyperactivity disorder, and conduct and emotional disorders (Walker & Severson, 2002).

Anaya (2002), based on the development of his research in the school context, establishes that two areas of interaction can be differentiated in which the social skills of students are involved; specifically, these skills are dyadic since they occur in the teacher-student relationship and among their peers.

Throughout school life, students are permanently in contact with educators and classmates; such contact demands the use of social skills because it is from there that the human being is integrally formed, the exchange of knowledge, argumentation, criticism and reflection of different academic and personal issues contribute to the configuration of the personality of the learner, the social nature makes contact in interpersonal relationships makes sense in the life of any person.

In this regard, Elliott and Gresham (2007) conducted studies on the social skills of students in school and proposed an intervention program in social skills for school, "Classwide Intervention Program" this program identified the skills that are important for school success after surveying eight hundred educators, the skills proposed by the authors were ten so it is known under the name of "Top 10", among which are located:

Figure 1. "*Top* 10" of social skills for the school

Seguir las indicaciones del profesor	Respetar los turnos en la conversación
Seguir las reglas de la clase	Mostrar amabilidad hacia los demás
Actuar de manera responsable	Mantener la calma en situaciones de conflicto
Escuchar a los demás	Cooperar con los demás
Ignorar las distracciones de los compañeros	Solicitar ayuda

Source: (Elliott and Gresham, 2007)

Therefore, school success is linked to the teaching and developing of social skills from good behavioral practices, which can be strengthened by implementing programs that support students in learning them. García Sáiz and Gil (1992) indicate that the process of learning social skills begins with the observation of behaviors in those people who perform them adequately and also implies: subsequent practice, correction, perfection in the execution of the behavior, reinforcement after adequate execution, and continued practice in varied and real situations (p.50).

Virtual education in Colombia

For this study, it is relevant to review the evolution of virtual education in Colombia, given that the pedagogical strategy to be developed will focus on one of the modalities of this type of education, precisely Blended Learning, which is learning that combines e-learning (asynchronous meetings) with face-to-face meetings (synchronous), taking the advantages of both types of learning, which implies the use of new elements of technology and communication and new pedagogical models.

Virtual education in Colombia has its origins in the 1950s. Due to the distance of some populations that could not access educational institutions located in urban areas of municipalities or cities, some educational processes were developed through correspondence courses. Institutions were created for people to receive "lessons" by mail through modules and primers. This process consisted of

developing the activities proposed in guides, workshops or tasks sent again by correspondence for their respective evaluation; days later, people received corrections and the respective grades and certificates. This mode of interaction was considered the first generation in distance education (Arboleda, 2013, p.52).

Taylor (2001) indicates that, in the early days of virtual education in Colombia, known as distance education, people took courses ranging from technical education, such as mechanics, electricity and household appliance repair, to formal processes, such as secondary education for adults.

Subsequently, as some means of communication, such as radio or television, made inroads into society and, given the need to link a larger population in rural contexts to the educational system, a series of exclusive courses were implemented to use these media. For example, with radio, a new generation of distance education was born: people received the activities by mail and, through local or national radio programs, a teacher-oriented the classes according to the modules and programs designed for courses in mathematics, natural sciences, language, religion, among others. These means of disseminating information allowed more receivers to participate in this way in educational processes. These characteristics were considered the second generation of courses developed at a distance (Arboleda, 2013,p.54).

This second generation designed a system of a reception organized in community groups where "the plan for open learning was centered on five curricular components: health, alphabet, arithmetic calculation, notions of economy and work and spirituality" (Arboleda, 2013, p.53) and, in this way, this plan responded to real needs and interests of individuals and the community. Thus, courses and educational programs called open and distance education were created in Colombia in local, regional and national contexts.

It is pertinent to point out that between the 1970s and 1980s, different distance education programs and institutions were created both nationally and internationally; for example, the Open University in the United Kingdom in 1970; the Distance Education University UNED in Spain in 1970; and, likewise, in countries such as Germany, France, China, Japan, Brazil, Venezuela, Chile, among others, where postal mail, radio and television were the main means of communication involved in these educational processes at the time.

In the national context, especially in the government of Belisario Betancur Cuartas (1982-1986), the creation of distance courses was promoted by different universities in the country; for example, in 1983, the Open and Distance University (UNAD) was created and is currently active in this modality; likewise, educational policies were created in which distance education was a flagship program. Given the above, it can be interpreted that, as the media became more popular, the way educational programs were developed changed, impacting society with new ways of accessing educational services and generating other alternatives for developing and producing knowledge.

In the context of higher education, Arboleda (2013) states that the Universidad de Antioquia was the first institution in Colombia to offer distance education programs. Through the Faculty of Education in 1973, it offered degree programs in education in mathematics, biology, chemistry and Spanish, aimed mainly at teachers in isolated municipalities in the department of Antioquia. In these programs, "didactic modules for self-study" were designed, consisting of books with instructions for students to carry out activities and workshops and to prepare for evaluations; other media, such as audio and video recordings, supported these texts. In addition, the tutors interacted with the students during the weekends by telephone, providing advice and clarifying doubts and questions the students.

With the advances in technology in the last two decades and the use of the Internet, the possibility of new forms of interaction and learning supported by different media has opened up, as Facundo (2004) mentions, "The range of communication technologies is wide and growing, and these applications are generically referred as virtual education or e-learning" (p.170), allowing the passage to the third generation and the creation of the so-called "virtual distance education".

In this sense, Zapata (2002) states that, with the Internet, a new relationship between knowledge and technology was established and that this new way of communicating would become a way of life, that is, a natural context of our current society. He also states that "the new technologies have

dematerialized and globalized information and therefore the waiting times between sender and receiver have produced significant changes in the living conditions of human beings" (p.13). Given the above, it can be interpreted that the incursion of technological media, such as the Internet, has generated new interaction processes and new ways of developing learning processes.

Taking into account the advances in technology and the changes in the dynamics of current societies for the use of technological media in education, Zapata (2002) states that "educational institutions must respond following these transformations and prepare themselves to assume the changes occurring in society, revise their structures and teaching and learning methods until they find the model that today's world requires" (p.14). Therefore, it is considered necessary to develop studies that account for social changes and respond to the demands of these changes in educational processes mediated by technologies. Likewise, critical studies are needed on the teaching and learning processes that are using the new interfaces or media currently in transformation.

For this study, the independent variable virtual education becomes relevant since its incidence on the development of social skills of tenth-grade students will be studied, for which virtual learning environments will be used through multimedia resources, virtual communication tools (forums, e-mails), video conferences, education by competencies and project work.

MATERIALS AND METHODS

According to Johnson, Onwuegbuzie and Turner (2007), the research developed consists of a nested type of study, given that: "It is the type of research in which the researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques)" (p. 123).

Regarding the approach of the study, it is descriptive. Danhke (1989) states that in this type of study, the researcher's goal is to describe phenomena, situations, contexts and events; that is, to detail how they are and manifest themselves. Likewise, descriptive studies specify the properties, characteristics and profiles of persons, groups, communities, processes, objects or any other phenomenon subjected to analysis. In other words, they measure, evaluate or collect data on various concepts (variables), aspects, dimensions or components of the phenomenon to be investigated. In a descriptive study, a series of questions are selected and information is measured or collected on each of them to describe what is being investigated.

Finally, the design of the study is oriented from the comparative method, which allows reaching the fundamental constant of a social phenomenon, which in this case is the learning of social skills by students; according to Sartori (1994), the method of comparative research allows confronting one thing with another and comparing implies assimilating and differentiating in the limits, thus the advanced study seeks to compare the learning of social skills in two moments of the research, the stage of diagnosis or analysis for the stage of intervention.

General Objective

Strengthen social skills (assertive communication, empathy, interpersonal relationships and conflict resolution) in tenth-grade students in Adolfo León Gómez by developing an online pedagogical strategy to improve their school coexistence.

Hypothesis

"Hypotheses indicate what is sought or attempted to prove and are defined as tentative explanations of the phenomenon under investigation, formulated as propositions" (Hernández et al., 2007, p. 122). In this sense, for this research from the approaches of Espinoza (2018), the type of hypothesis to be used is correlational. Therefore, the hypotheses formulated are:

Null hypothesis:

Hi: By working on the theme of social skills mediated by ICT through virtual education, better interpersonal relationships among students are achieved, thus improving school coexistence.

The alternative hypothesis Ho was also proposed:

Ho: By working on social skills mediated by ICT through virtual education, interpersonal relationships among students do not improve, and therefore, school coexistence does not improve either.

Study variables

The variables used in this study are as follows:

Table 1.
Operationalization System of Variables

AMBITO	VARIABLES	INDICATORS	QUESTIONS	INSTRUMENT
CONCEPTUAL	**DEPENDENT:** Learning social skills	Knowledge of social skills	What is the tenth-grade students' knowledge of social skills?	Diagnostic test Opinion poll Observation Participatory
		Conceptualization, interpretation and application of social skills in the educational context.		
RESEARCH	**INDEPENDENT:** Use of ICT: Use of online resources framed in virtual education to strengthen social skills learning.	Relationships of didactic teaching resources and social skills knowledge.	How do the students of the experimental group participating in the study perceive the use of ICT to strengthen the learning of social skills?	Final knowledge test Opinion poll On the use of ICT to enhance learning
		Significant improvements in the knowledge, interpretation and application of social skills in the educational context.		

Note: The table shows the variables estimated in the study.

Population / Sample

For this study, the type of sample is non-probabilistic or directed, which according to (Hernández et al. 2007), the choice of groups (courses or grades) does not depend on probability but on causes related to the characteristics of the research or of the person making the sample. Here the procedure is neither mechanical nor based on probability formulas, but depends on the decision-making process of a person or group of people, and of course, the selected samples obey other research criteria (p. 241).

Based on Hernández's approach, in this research, no statistical formula was applied to determine the sample, the institution and participating subjects were selected by the researcher, taking into account the criteria of the method that suggests taking all the people in the chosen group, which is equivalent to 100% of the students, with which the learning of social skills in the area of Social Sciences in the tenth grade will be oriented.

Thus, in this research, a field study was developed and no statistical formula was applied to determine the researcher selected the sample, the institution and participating subjects; the census was used in which all the elements of the chosen population were taken, which was configured by the students of the tenth grade of secondary education, in the Adolfo León Gómez school of the municipality of Pasca - Cundinamarca, which are equivalent to 100% of the school grade.

Table 2. *Population/sample.*

Item	Characteristic (attribute)
Genre	Women: 15 Men: 9
Average age	Ages: 14 to 18 years
School context	Rural
Economic Stratum	1 y 2
Level of access to ICT	Low only when they are inside the educational institution.

Note: The table lists the population under study.

Stages of the study

The study was structured in three stages that allowed us to meet the proposed objectives:

- **First stage**

This stage of the research is related to the first and second specific objectives proposed:

- To diagnose the social skills of tenth grade students in the daily life of the school context, identifying possible causes that affect their school coexistence.
- To establish students' knowledge concerning social skills and how they influence school coexistence.

As a starting point for the study, an informed consent form was sent to the parents requesting the approval of the student's participation in the study. When the participation of the students was approved, a diagnostic test was applied to fulfill the proposed objective, through which the student's knowledge of social skills was assessed. Likewise, an opinion survey was applied to determine aspects related to school coexistence, and an opinion survey was administered to interpret the opinion of educators regarding school coexistence and the social skills of tenth-grade students. In summary, the instruments designed for the diagnostic phase are oriented to identify the difficulties presented by the students in social skills, and their elaboration is supported by the theoretical references related to the study.

- **Second stage**

Based on the results of the diagnosis, we proceeded to design and implement a didactic strategy from the integration of virtual education, particularly the use of a wiki collaborative learning site, thus fulfilling the third specific objective proposed: To design and implement an online didactic strategy mediated by ICT, to strengthen the learning of social skills of students and improve their school coexistence.

The proposal was designed according to the didactic sequence format established by the Colombian Ministry of National Education, the didactic planning was based on learning theories integrating constructivism and meaningful learning, and collaborative learning was selected as the model or methodology for developing the didactic sequence.

The didactic sequence also integrates the standards, achievement indicators and Basic Learning Rights related to social skills, and different digital resources were selected from which activities were designed to strengthen these skills in the sample students.

The didactic sequence was presented to the students from the collaborative learning site www.habiliaddessocialesdecimo.wikidot.com in which the students approached the different activities. During the development of the activities, the teacher made systematic records in field journals to establish the students' progress or difficulties in strengthening their social skills and also took into account their opinions, suggestions and reflections concerning the educational experience carried out.

- **Third stage**

This phase of the study is closely related to the fourth specific objective: to determine whether students' knowledge concerning social skills and school coexistence show significant changes after the development of the didactic strategy.

In this sense, a final test (**post-test**) was applied to the participating students, to verify the development of their social skills in order to compare and contrast the results with those of the diagnostic phase and determine if there are significant improvements from the development of the didactic strategy articulated from virtual education and the use of the wiki as a didactic strategy.

Likewise, at the end of the total development of the didactic strategy, an opinion survey was applied to the students in which they were able to give their opinions, perceptions and reflections about the didactic innovation strategy.

After collecting this information, it was tabulated, and the results of the different tests were analyzed to draw conclusions and present results, determining the project's impact.

RESULTS

The study results are oriented to the development of each stage referred to in the methodological design.

- **First stage: Diagnosis**

In the diagnostic phase, to determine the level of knowledge that students have regarding social skills, an initial test was applied, which was estimated through the rating scale referred to in Table 3.

Table 3. *Adolfo Leon Gomez Educational Institution*

Qualitative qualification	Quantitative qualification
Under	1.0 a 2.9
Basic	3.0 a 3.7
High	3.8 a 4.4
Superior	4.5 a 5.0

Note: The table shows the rating scale used to estimate the level of knowledge of the students regarding their social skills.

The results of the social skills diagnostic test are as follows:

Figure 2. Results of the diagnostic test for social skills.
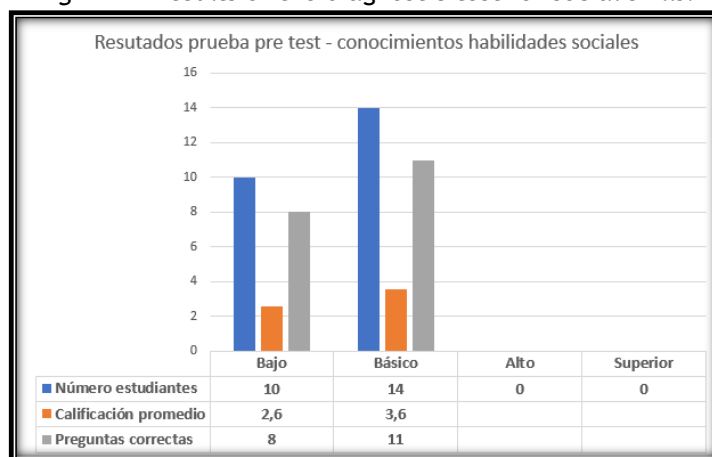
Note: The graph shows the results of the diagnostic test applied.

Based on the frequency graph, it can be established that the student's knowledge of social skills ranges from low to basic, since 41.6% of the students obtained an average score of 2.66 points on a scale of 1.0 to 5.0, and 58.3% reached a basic level of knowledge with an average score of 3.66 points, and no student reached a high or higher performance level in the diagnostic test.

The average score of the group of students participating in the study was 3.1 points; therefore, it is affirmed that the performance in social skills is basic. Likewise, an opinion survey was applied to the

sample students; the realization of the corresponding coding processes through the qualitative research software Atlas Ti 7.0 made it possible to determine the emerging categories of which the corresponding analysis is presented.

- **Disrupted school coexistence**

Based on the opinion survey applied to the students participating in the study in the diagnostic phase, it could be established that aggressive behaviors are present among students, which influences their school coexistence, sometimes, students attack each other physically and verbally. Likewise, they refer that they do not have full knowledge of the coexistence manual, that teachers do not carry out actions that lead to reducing the aggression situations that occur among students, there is a lack of strategies to improve school coexistence, sometimes only the coordinators try to maintain school environments framed in dialogue, cooperation and ethical values to strengthen interpersonal relationships between teachers - students, students - peers, students - family members.

- **The practice of ethical values absent**

The students affirm that, in the school environment, most of the time, ethical values are not put into practice; some classmates do not use expressions such as: do me a favor, thank you very much, good morning, how have you been, with pleasure, among others, classmates are very impulsive, they need to acquire good habits and forms of behavior. In addition, they affirm that bad behavior and disorder do not allow them to attend classes, which influences their academic performance.

- **Second stage: Didactic intervention**

The development of the pedagogical intervention was carried out through the mediation of ICTs articulated with virtual education. During the process of carrying out the proposed activities, systematic records were kept in field diaries to establish the students' progress and/or strengths or the difficulties they presented.

Among the results evidenced in this stage, it was found that the students were mostly motivated by the use of ICT in their learning process, showing pleasure in developing each of the proposed activities.

Concerning social skills, based on the resources provided in the online course, it was possible to establish that the students appropriated the conceptual foundations of social skills: empathy, assertive communication, interpersonal relationships and conflict resolution, the treatment among them through virtual communication channels improved, since between the talks and discussions of the topics addressed, they took place in a climate of friendship and respect.

With the development of the pedagogical strategy, orality was strengthened through the development of activities oriented to the creation of audiovisual productions, particularly the students made audiovisual productions to reinforce the knowledge acquired on social skills.

Finally, the development of the pedagogical strategy framed in using ICTs allowed strengthening four social skills in the students under study. First, virtual education it was evidenced improvements in cognitive processes such as creativity, critical thinking, and the ability to the association, analysis of information among others, also, It was also possible to establish that students can use other communication channels different from the conventional ones since communication is not only verbal, but through new technologies, they can use channels such as forums, chats, Whatsapp and various resources that allow them to communicate and develop social skills that allow them to have better interpersonal relationships.

- Third stage: Comparison of academic performance and social skills.

With the comparison of academic performance inherent to social skills: empathy, assertive communication, interpersonal relationships and conflict resolution, the authors sought to establish the effectiveness of the pedagogical proposal and its influence on improving these skills.

It starts with a diagnostic test, contrasted with a final test, to establish the difference in means between the scores obtained by the students. Initially, the Shapiro-Wilk test is applied to establish whether the pre-test and post-test results present normal distribution and, based on this, to establish the parametric or non-parametric test to be applied from the inferential statistics to compare the difference in the average scores.

The data of the student's grades were taken from the registration form kept by the teacher, scores that are the result of the application of a test of knowledge in social skills, the development of the proposed activities and the systematic record of the participatory observation in field diaries, these results are shown in Table 4, based on the results achieved by the students, the normality test is applied, whose results are recorded in Table 5.

Table 4. *Initial and final social skills test results*

Item evaluated	initial test	final test
Social skills: Empathy, assertive communication, interpersonal relations and conflict resolution.	3.1	4.2

Note: The table shows the results achieved in the initial and final test applied to the students to assess their level of knowledge in social skills.

Table 5. Shapiro - Wilk test results

Item evaluated	initial test	final test
Social skills: Empathy, assertive communication, interpersonal relations and conflict resolution.	8.557e-05	2.036e-06

Note: The table shows the results of the data normality test applied to the initial and final social skills test.

It was possible to conclude that the initial and final test scores do not present a normal distribution because the p-value < 0.05.

Based on this, we proceeded to select the type of statistical test to compare the means of the scores. As a result, it was established that the scores of the initial social skills test and the final test do not have a normal distribution, and it is also said that the samples are relational, which is why the statistical test to be applied corresponds to the Wilcoxon test.

Social skills

Taking as a reference the application of the normal distribution test, it is found that the data of the initial and final tests, recorded in the teacher's report card, do not present a normal distribution. Therefore, the Wilcoxon statistical test should be applied in order to validate the assumption that the test results of the initial (diagnostic) phase differ from those of the intervention phase or final test.

The following hypotheses are used as a starting point for applying the test:

Null hypothesis:

Hi: By working on the theme of social skills mediated by ICT through virtual education, better interpersonal relationships among students are achieved, thus improving school coexistence.

The alternative hypothesis Ho was also proposed:

Ho: By working on social skills mediated by ICTs through virtual education, interpersonal relationships among students do not improve, and therefore, school coexistence does not improve either.

Test statistics:

V = 0.001 p-value = 7.751e-08

Decision: Ho is rejected since (p-value < α ; 7.51e-08 < 0.05).

Conclusion: With a significance level of 5%, and a confidence interval of 95%, there is sufficient statistical evidence to determine that the scores obtained before and after the ICT intervention are not the same in the performance achieved by the students for their social skills.
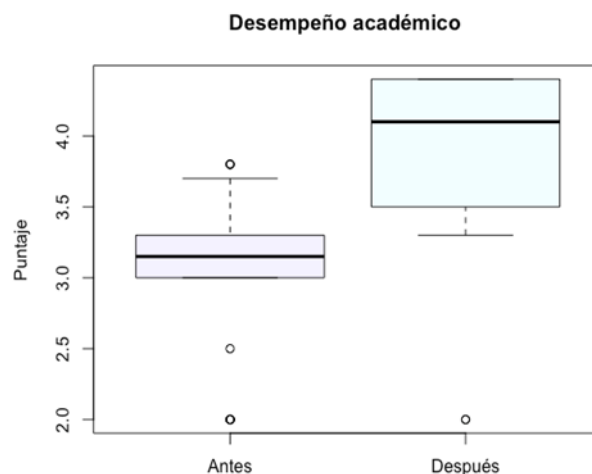
Figure 3. Difference in social skills performance means.

Note. The graph shows the difference in students' school performance for their knowledge of social skills.

It can be established that the average grade in social skills achieved by the students during the diagnostic stage was 3.1 points on a scale of 1.0 to 5.0, while after the integration of ICT, particularly virtual education, the average in the final test of social skills was 4.2, which establishes that the level of performance in this skill went from basic to high, the difference in averages is 1.1, that is, the performance of the students increased by 36%.

DISCUSSION

Social skills are part of the educational process; in any space or scenario, students must socialize with their peers or teachers through the exchange of information and ideas, which is why it is up to the school from the first school level to formulate strategies to strengthen these skills.

In the modern world, human beings are confronted with the interpretation of different forms of communication, so it is necessary to strengthen social skills to interpret and understand the social mechanics of expressing ideas, feelings, emotions, and manifestations.

Social skills influence student's formation process during the school life cycle is relevant since the student's ability to relate to people in their social, family and school environment depends on them. Several studies have found that the lack of development and strengthening of social skills can influence the student's ability to understand their peers, put themselves in their place, solve everyday conflict situations and, of course, relate to other people and achieve the goals or achievements proposed in their lives.

From this reality, schools must redefine the teaching of social skills and seek strategies conducive to its strengthening, so this study sought to contribute to this problematic situation from the integration of ICT articulated through virtual education, identifying significant improvements, including the leading change in the roles of teaching-learning, On the one hand, with the development of the pedagogical strategy, the students left aside their role of simple receivers of information and became proactive and intervening subjects in their learning process; on the other hand, the teacher no longer had the leading role where he is only the one who speaks and transmits information; he became a guide and counselor in the students' training process.

It is worth noting that the social skills of students were strengthened by using other learning environments that differ from the traditional teaching method; it was found that the use of ICT through virtual education to act as a teaching strategy allowed students to stay motivated during their learning process, it was identified that these technologies play a key role in the formation of students, It was identified that these technologies play a fundamental role in the training of students

since this process should not only be approached from the academy, but from the development of cognitive processes, among which are creativity, argumentation, reflection, among others, theoretical and rote learning is no longer relevant or meaningful, in the modern world it is the student who creates, innovates, researches, dialogues and exchanges information, which contributes to strengthening their social skills and to have a better school coexistence.

The development of the educational experience ratifies that ICT are strategies that motivate students in their learning process and allow them to achieve the learning objectives and goals; in this study, this assertion is evidenced, given that the contrast of the diagnostic phase in which the pedagogical strategy had not yet been applied, compared to the final phase after the application of this. This is why it can be affirmed that it is an innovative study, which can be implemented in other disciplines of knowledge and replicated in other educational scenarios in which students present controversial situations inherent to the appropriation and implementation of social skills.

CONCLUSIONS

The conclusions emerging from the development of the research process are oriented to the fulfillment of the proposed objectives and the development of the stages of the methodological design. Specifically, the study sought to strengthen social skills: assertive communication, empathy, interpersonal relationships and problem-solving, since these are the basis for the integral formation of students and will be used throughout their lives, with the development of a didactic strategy framed in the use of virtual education, it is concluded that:

-       Due to their social nature, human beings must be in contact with other people daily. Therefore, it is essential that they appropriate and put into practice different social skills that allow them to live harmoniously with their fellow human beings.

Throughout life, we must interrelate with a large number of people, assertive communication, good treatment with others, and interpersonal relationships depend on social success; friendly and cordial treatment with others will be the key to achieving the projects and goals that a person draws for his life; therefore, it is essential to know what are the social skills and how they can be put into practice to achieve our purposes.

-       It is necessary to train and educate students to recognize social skills and put them into practice in the family and school settings.

Life in peace and harmony is the desire of all nations of the world, but this can only be achieved when education is provided within the framework of social and life skills, from which good habits and values are put into practice that allows understanding each human being as a being with qualities and virtues, but also with defects, no one in the world is infallible, and everyone makes mistakes, but these can be transformed and for this social skills allow human beings to rethink their way of life and change those actions that do not allow them to emerge or succeed.

-       In the educational scenario, virtual education enhances dialogue and communication between teachers and students, which is vital in developing social skills.

Undoubtedly, social skills have their origin in dialogue and communication, so educational contexts must integrate strategies and methodologies that provide channels or opportunities for students to socialize and exchange ideas, knowledge and opinions. One of these are the channels or virtual means of communication (chat, forums, among others); several studies have concluded that the use of virtual means of communication allows a student to build their knowledge from the development of information exchange activities and joint construction of knowledge through forums, debates, among others, which undoubtedly are based on communication and dialogue participation. This situation undoubtedly favors the development of social skills, which leads to better interpersonal relationships and school coexistence.

This was particularly evident in the study since, through the development of different activities framed in virtual education, friendship bonds between students were strengthened, student-teacher and family relationships improved significantly, students appropriated the conceptualization of different social skills, and even more, they put into practice what they learned; therefore, the educational experience carried out is innovative and relevant for research in the field of social skills.

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