


## Collaborative learning: a strategy that humanizes education

*Aprendizaje colaborativo: una estrategia que humaniza la educación*


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**Summary:** The investigation had the purpose of verifying the influence of the collaborative learning strategy on the achievement of cognitive, procedural and attitudinal performance and learning. Being the quasi-experimental study oriented to the study of cause relationships between the variables in question and thus describe and explain the phenomena found. To support the research, an explanatory quantitative methodology was used that allowed us to conclude that collaborative learning positively influences the achievement of cognitive, procedural and attitudinal learning. The results show that 85.18% of students increased their scores for unit II compared to unit I. It is a strategy that contributes to the humanization of the educational system and with it would banish the concept of "academic solitude". However, an individualistic education that removes the human sensitivity of the students, what it sees is the stratification of groups that elitize and dehumanize education. Well, the idea of meritocracy and competitiveness generates in the apprentices the idea of "as long as I am well, the rest does not matter".

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**PALABRAS CLAVE**

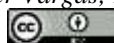
Aprendizaje colaborativo, amistad académica, equipos de aprendizaje, humanización, logros de aprendizaje.

**Resumen:** La investigación tuvo el propósito de verificar la influencia de la estrategia del aprendizaje colaborativo en el logro de los desempeños y aprendizajes cognitivos, procedimentales y actitudinales. Siendo el estudio de tipo cuasi experimental orientada al estudio de relaciones de causa entre las variables en cuestión y así describir y explicar los fenómenos hallados. Para dar sostenimiento a la investigación, se utilizó una metodología cuantitativa explicativa que permitió concluir que el aprendizaje colaborativo influye positivamente en el logro de aprendizajes cognitivos, procedimentales y actitudinales. Los resultados evidencian que el 85.18 % de estudiantes incrementaron en sus calificaciones de la unidad II con respecto a la unidad I. Es una estrategia que aporta en la humanización del sistema educativo y con ello desterraría el concepto de “soledad académica”. No obstante, una educación individualista que quita la sensibilidad humana de los estudiantes, lo que ve es la estratificación de grupos que elitizan y deshumanizan la educación. Pues la idea de meritocracia y competitividad genera en los aprendices la idea de “mientras yo esté bien, el resto no importa”.

## 1. INTRODUCTION

In today's education, especially at the university level, we allow ourselves to enter creative learning communities (Stoll, 2012), each teacher selects the appropriate strategy that allows the development of the teaching and learning process according to the current educational system. In Peru, the (individualistic) educational system directs students to an “academic solitude” caused by the overestimation they give to their qualifications, forgetting the importance of academic coexistence in learning teams that from a humanistic perspective education. In this way, the educational system would be reinforcing existing inequalities, instead of overcoming them, since it assigns teachers inversely to the need (Guadalupe, *et al.*, 2017).

In the educational field, from regular basic to higher, teachers only give concrete answers without activating the interaction in the students, causing dehumanization; although these ways of understanding education are wrong, because from them you also learn (Stoll & Temperley, 2009). However, it is necessary and important to speak of an academic solidarity in the student, that is, collaborative learning that allows us to focus on student experimentation in what we call learning teams; the same that influences the achievement of learning with its respective factors such as cognitive, procedural and attitudinal. Factors that are developed through educational strategies that promote critical thinking, creativity, decision making and communication skills. It even allows the development of emotional and social skills such as autonomy, responsibility and self-control in learning (Martin & Boeck, 2002).



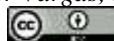
On the other hand, it should be noted that today collaborative work in the classroom should be prioritized. That the student cares about his partner (humanize education), an education that promotes student affectivity, emotions and feelings intrinsically related to empathy (Moreto, *et al.*, 2018).

In our society in which dehumanization is showing more and more every day, it is necessary to ask the question What is happening in schools and universities? Why is it difficult to worry about another human being who does not belong to our family? And against this, does collaborative learning influence the achievement of learning? Various investigations have shown that sociocognitive activities applied in the educational context, such as cooperative learning, stimulate students to clarify, elaborate, reorganize and reconceptualize information. (López & Acuña, 2011), which was reflected in the cognitive, procedural and attitudinal achievements.

Collaborative learning is work in heterogeneous groups, small groups that promote dialogue. It is not spontaneous because there must be an intention to achieve the objective. They must solve a problem individually or jointly allowing them to develop interpersonal skills where each one is responsible for their own learning, but at the same time for the others (Lillo, 2013). The Institute of Technology and Higher Studies of Monterrey considers it as a philosophy of interaction and a personal way of working. The fundamental premise of collaborative learning is based on the consensus built from the cooperation of group members and from equal relationships in work meetings and committees, with community and social groups, within the family, and in general, as a way of life and coexistence with other people (Monterrey, 2000). However, the literature of the studies indicates a minority of students in the development of empathy.

Furthermore, there is increasing evidence that collaborative research and other forms of social learning have a deeper impact on teaching and student learning. (Timperley *et al.*, 2007). Researchers play an important role in supporting collaborative research by educators, contributing their researchers' findings and theoretical insights, and making constructive criticisms that challenge current thinking (Stoll, 2009). Now, getting students involved in a collective education depends on the roles assumed by the team members, however, the students refuse to participate in a cooperative group or do not know how to contribute to the good development of group work (Johnson *et al.*, 1994), circumstance that is something very frequent in our individualistic education system.

In England, Teaching Schools, professional development institutes that train teachers, train leaders, support low-performing schools, and promote research and development; are responsible for promoting and coordinating collaborative research and development at affiliated campuses



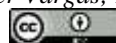
(Stoll, 2010). Local, state, and national leaders can support educators in the design and implementation of collaborative learning, including instructional visits led by supervisors, to develop theories and strategies for self-action (City, Elmore, & Teitel, 2009). Also, people who learn from mistakes are more likely to create a collaborative school environment and to see greater willingness of teachers to try new ways of doing work (Stoll, 2009), It is this type of foundation that allowed us to implement the collaborative strategy that, from our perspective, can contribute to building a more humane education.

Collaborative learning is based on the fact that knowledge is generated socially through the consensus of knowledge of group members, for this, people dialogue with each other, reaching an agreement on the subject (Lillo, 2013); is the construction of knowledge through social interaction to generate scientific knowledge (Almeida *et al.*, 2011); For this reason, generating an education that allows student solidarity, camaraderie and academic friendship allows the development of the cognitive in a positive way; therefore, the didactic use of small groups in which students work together to maximize their own learning and that of others ( Johnson *et al.*, 1999) get better results.

Meanwhile, cooperative learning and collaborative learning are closely related; however, different authors state that cooperative learning has an emphasis on "procedures that can be formulated and elicited by the teacher in favor of student learning as a fundamental goal", while the collaborative supports more self-management where the teacher" leans on suggested learning structures "(Suárez, 2004).

Collaborative learning guides the development of knowledge integrated into humanization in the process carried out by teachers ; whereas in cooperative work, the teacher has his own influence in the same process, since the students are in a formative stage and it is necessary for the teacher to have the answer to the questions, while in the collaborative, as university students, they seek greater self-control and autonomy in their learning; therefore, the teacher plays a more guiding role, emphasizing dialogue and the agreements or disagreements that the group may find and present their findings in class. (González & Díaz, 2005). More emphasis should be placed on the essential transformation of school practices, promoting the development of collaborative projects (García, *et al.*, 2014), where students can understand the importance of another human being to achieve their happiness.

Collaborative Learning seeks to generate capacities for an autonomous study in the university student, their participation in the groups is voluntary, they participate holding their point of view (reasoning), but he also learns to accept other points of view (he questions), this

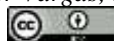


rearrangement of concepts in which his convergent and divergent points of view form his new conceptual framework to generate new knowledge (González & Díaz, 2005). Their implementation is fundamentally based on learning to live together, that is why they are categorized into five dimensions: the first refers to positive interdependence, then individual and team responsibility, then the fourth one related to stimulating interaction, also the fourth dimension of internal team management and to conclude we talk about the internal evaluation of the group (García & Suárez, 2011).

On the other hand, the learning guides (Universidad Politécnica de Madrid. Vicerrectorado de Ordenación, 2009) y Hederich & Camargo (2000) they categorize as “learning achievements” the result that the student achieves in the educational system, these achievements are stated in the form of objectives. The results of this “achievement” must be observable, both in terms of knowledge, as well as attitudes and skills, and it is necessary to develop instruments to demonstrate and contrast the results through the so-called achievement indicators. The different grades, evaluations and scores obtained in the research were weighted in a unique way, because these results are measured individually through value judgments or evaluation during the teaching-learning process, the same that is regulated by our educational system (Hederich & Camargo, 2000).

Thus we have the learning level of Latin American students that is far below that of Europeans and Asians (Benavidez, 2010), and the Peruvian educational level that is in the last positions in Latin America makes us ask ourselves the following question Does our current educational level have as factor the individualistic model that we have? The answer is positive, because not knowing how to work as a team in a "competitive" society like the contemporary one, makes us find ourselves at a disadvantage compared to other educational, social and economic realities. It should be understood that it does not only refer to developing a topic and then answering the questions that are posed, it means synthesis of knowledge, decision making and justification of assumed options (Hawes, 2007), attitudinal achievements that are represented by moral and civic values, their ability to feel, to live together which is the emotional affective component of the student's personality (Ortíz, 2015).

Whatever the strategy applied, what is transcendental is its formative value, which allows students to integrate knowledge, skills and attitudes into diverse professional competences, to solve problems and to facilitate the transfer of what they have learned to new increasingly complex realities. Therefore, the objective of the present study was to verify the influence of the collaborative learning strategy on the achievement of cognitive, procedural and attitudinal performance and learning.



## 2. METHOD AND MATERIALS

In order to achieve the objectives, the quantitative approach and method were used, which allowed the theory to be consolidated and patterns of behavior of a studied population to be accurately established (Hernández et al., 2014). The design was quasi-experimental oriented to the study of cause relationships between the variables in question and thus describe and explain the phenomena found.

### *Population*

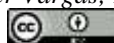
The sample participants were chosen according to the easiest circumstances Ñaupas *et al.*, (2014), It was made up of the students of the sixth cycle of the Professional School of Primary Education of the Faculty of Education Sciences of UNAP with a total of 27 students, equivalent to 100% of those enrolled in the curricular component of theories and approaches of psychomotor training in Primary Education.

### *Data collection techniques and instruments*

The variables for the study were: application of the collaborative learning strategy and learning achievement. For the study of the first variable, the characteristics were considered: positive interdependence, individual and team responsibility, stimulating interaction, internal team management and internal group evaluation (Johnson & Johnson, 1994; Johnson, *et al.*, 1994; Johnson et al., 1999; Ruíz, *et al.*, 2015 & Ramírez, 2017). The dimensions of the second variable were cognitive achievements, procedural achievements and attitudinal achievements (Taipe, 2017 & Ramírez, 2017).

The data collection instruments met the essential requirements (Hernández *et al.*, 2014). The elaboration of the items that were included in the instruments was carried out using the method proposed Hernández *et al.*, (2014). In addition, estimation scales, evaluation rubrics, written tests, attendance records, registration of participations, assessment cards, among other materials that allowed the investigation to be carried out, were used.

The formation of the learning teams was by units. In unit I, a written test, the exposition, the works commissioned, the strategy of the word day and others were applied individually where the cognitive, procedural and attitudinal achievements were verified in the traditional way (individual qualifications). In unit II the same evaluations mentioned were applied, but the qualifications were group or in work teams (collaborative learning, a strategy that contributes to the humanization of the educational system and thereby banishing the concept of "academic



solitude") always with the accompaniment and constant monitoring of the teacher. The class design for collaborative learning was based on the syllabus of the course.

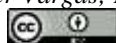
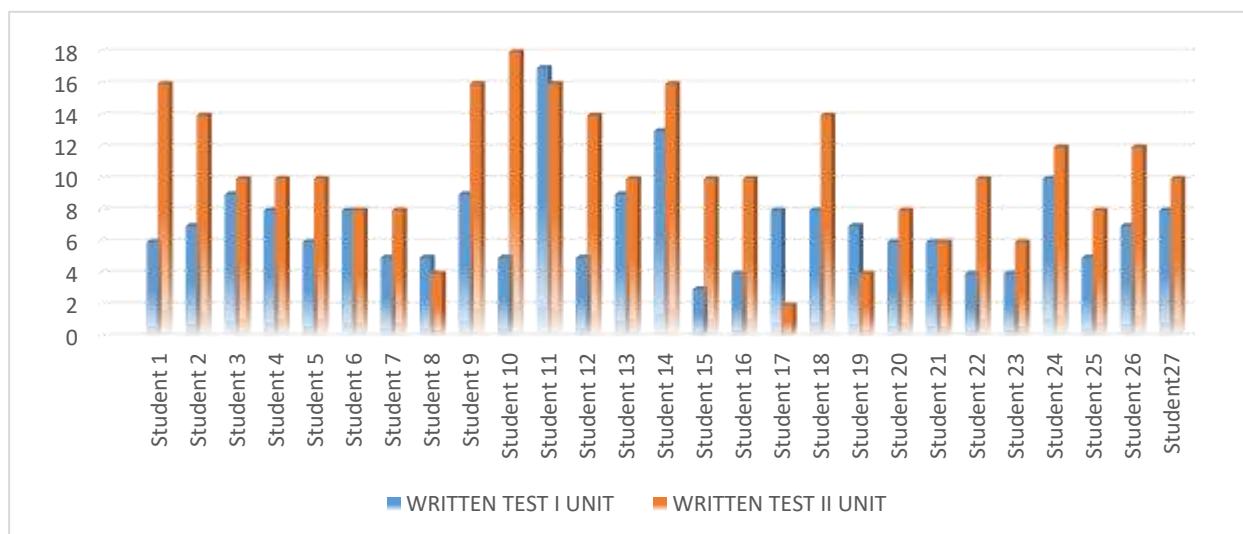
The actions of the present investigation were synthesized through the choice, observation, intervention, experimentation, analysis and systematization, allowing us to manipulate or control the independent variable and observe the dependent variable to look for a concomitant variation with the manipulation of the independent variable (Kerlinger, 1988).

Collaborative learning as a strategy allowed knowing the valuable influence on learning. The analyzed dimensions confirmed that education can be humanized. That students can work supporting, helping and collaborating for a common goal and putting into practice “each one is responsible for their own learning, but at the same time for the others”.

### 3. RESULTS AND DISCUSSIONS

In general, the analysis of the results obtained shows a favorable evaluation regarding collaborative learning versus the achievement of academic performance and vice versa.

The results show that the dimensions of the Collaborative Learning variable: positive interdependence, individual and team responsibility, stimulating interaction, internal team management and internal evaluation of the group, in the curricular component called "Theories and approaches of psychomotor training in Primary Education" They are easier to work for most of the students and it was difficult to work as a team, especially for the students who are at the top of the academic record.

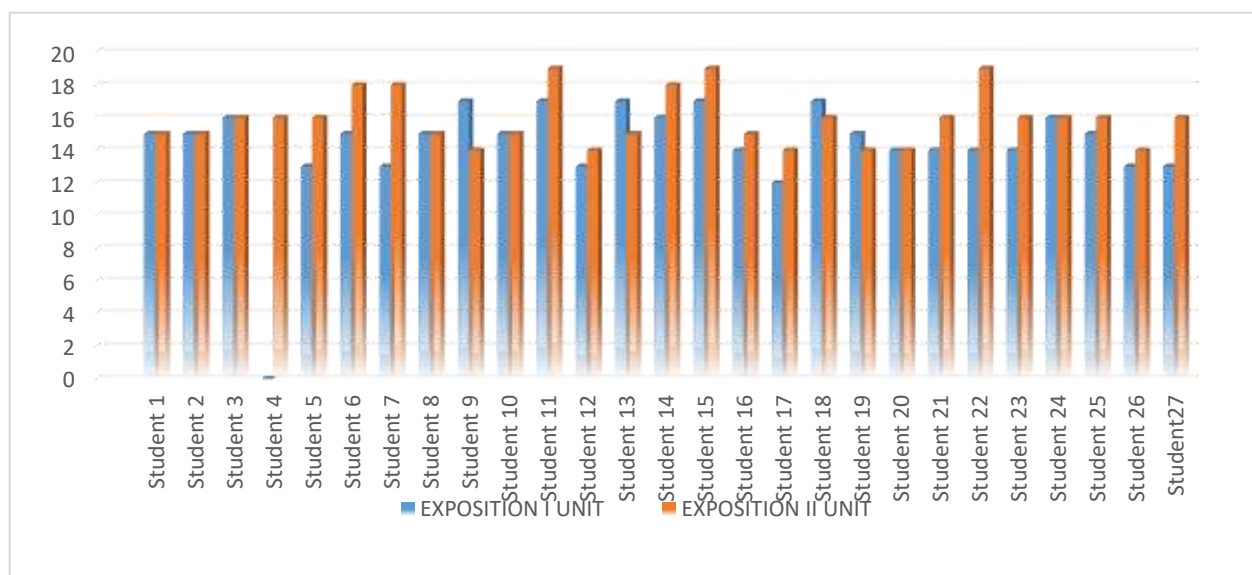


**Figure 1.** Cognitive achievements

Figure 1 shows that in the written test for unit I, more than 80% of students find averages from 05 to less than 11 and in the written test of unit II, 77.7% of the students significantly improved in the cognitive achievement dimension (academic performance) and the apprehension of information. This, by applying collaborative learning as a strategy.

Results consistent with Lillo (2013) students must develop interpersonal skills where each one is responsible for their own learning, but at the same time for the others. And the teacher plays a more guiding role by emphasizing dialogue and the agreements or disagreements that the group can find and present their findings in class (González & Díaz, 2005).

Likewise, for the development of a dense and deep cognitive discourse on thematic contents, on the one hand, the presence of positive expectations and the establishment of goals about the task at an early stage of the collaborative process are necessary, and on the other, the presence of constant monitoring of the task (Niño, *et al.*, 2019), because collaborative learning is an alternative to promote cognitive development in students, favor group work, a sense of belonging and their autonomy, and in this way meet the academic demands promoting the individual and group development of the student (Aranda, 2015).



**Figure 2.** Procedural achievements

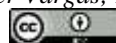
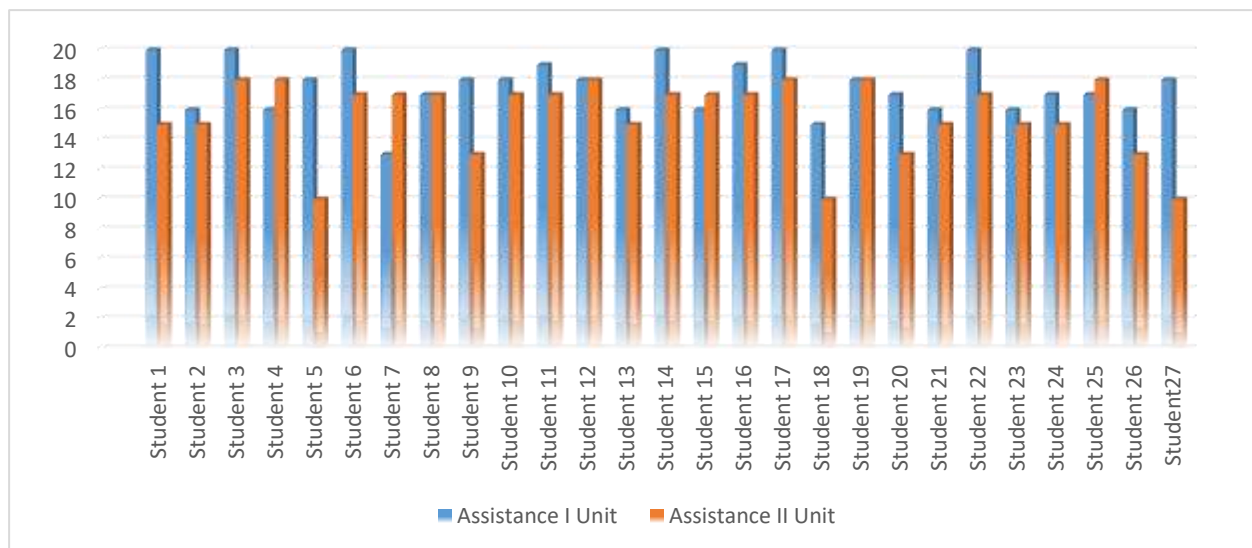




Figure 2 shows the procedural achievements that emerged from the realization and manifestation of knowledge through the execution of presentations and debates. It is evident that 56% of students improved their grades markedly compared to Unit I this when applying collaborative learning. The work in learning teams consisted of the members who have different strengths or aptitudes compared to the academic aspects and in this particular case, satisfactory mastery of the procedural aspect of running an exhibition should help your colleagues who have certain complications in the development of the exhibition. So by not assisting their colleagues with weaknesses it will affect not only one of the team members, but the group in general.

Because the task of teamwork is that the outstanding members in different academic aspects collaborate, help and teach the other members of the group and as a consequence help themselves because what you want is for all students to work together and to share the workload equitably as they progress to the expected learning outcomes (Barkley, *et al.*, 2007) and so all team members are responsible for learning (Lillo, 2013), In this way, Collaborative Learning is part of the achievement of competences because it helps to develop intellectual, functional, personal, interpersonal, communication skills, etc., (Ramírez, 2017).



**Figure 3.** Attitudinal achievements

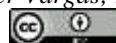
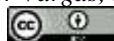


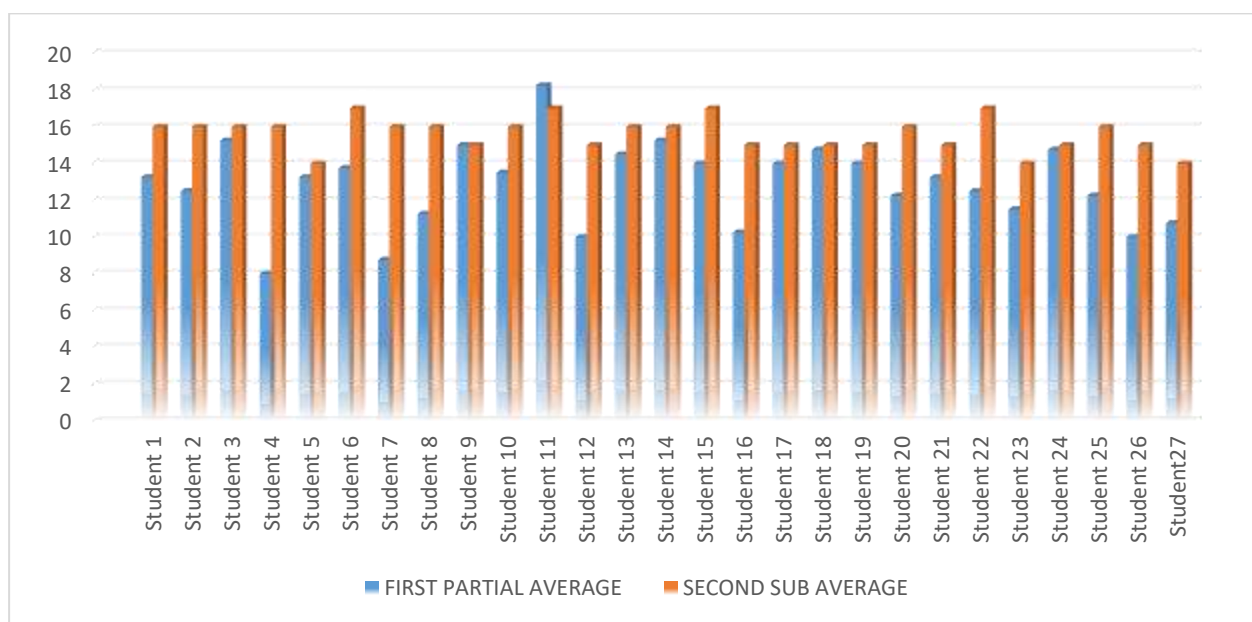
Figure 3 shows the results of the students' attitudinal achievements. Results that reveal once again that attitudes as well as love are more complex to educate. The findings show that 11.11% of students in unit I obtained outstanding marks such as 20, 18 and 18 respectively. However, in unit II they rated 15, 10 and 10 respectively. These effects note that attitudinal achievement is more difficult to achieve compared to cognitive and procedural achievement. Only 14.81% of students exceeded the qualifications for attitudinal performance compared to unit I. These are the ones who achieved scores of 10 and 13 respectively in Unit I and when they applied the collaborative learning strategy they exceeded 30% and 20%. And in 74.07% the expected satisfaction was not achieved. One reason is the current educational system, aimed at an elitizing and individualistic education. That is, each one thinks of oneself, of winning, being the best without caring about the rest.

Collaborative learning aims to implement fundamentals such as cooperation, collaboration, academic friendship and learning teams, to give a more humanistic vision to this current system that is involving.

In relation to the present investigation, there are some educational programs with the intention of developing attitudinal learning, although the results do not register significant changes in students related to growth in empathy (Christianson, *et al.*, 2007). However, it is necessary to develop an education that promotes student affectivity, emotions and feelings intrinsically related to empathy (Moreto, *et al.*, 2018). In this case, a relevant result was evident. As the mere fact that one of the members of the learning team tells the other, *to study, to attend classes, to arrive early*, changes the student's attitude, the humanistic objective was achieved to a great extent.

Likewise, this strategy manages to develop social skills competences that allow them to solve problems and conflicts in personal relationships. And being endowed with optimal social skills requires the student to develop empathy, active listening, respect and collaboration with the rest of the group members (Guerra, *et al.*, 2019).



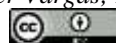


**Figure 4.** Final average of units I and II.

Figure 4 shows the final averages of units I and II. These results reveal that 85.18% increased in the final weighted average of unit II. This confirms the positive influence of collaborative learning on learning achievement.

It is pertinent to mention that this strategy allowed to notice that the students who were in the first position of merit ranking in unit I, for unit II they decrease in their score. This is explained as a result of the application of the strategy that focuses on helping and collaborating with students who have difficulties in the learning process, allowing to level and stabilize teamwork through collaborative learning and risking the individual score for the score of the team. Another case is of the students who obtained grades from 08 to 10 respectively in unit I and for unit II the qualifications exceeded between 25% to 40%. Once again this collaborative learning strategy effectively influences the achievement of learning, being notable the cooperation and support to those who find themselves with learning difficulties, leaving aside individualistic and traditional work, even affecting human relationships.

This study shows us valuable information, the first a negative but necessary data, which shows how complicated it can be to work as a team, how difficult it can be to depend on a collective, how intricate it is to care about another human being (attitudinal achievement dimension) and the second one refers to the good that is linked to the positive influence of collaborative learning in the achievement of learning, similar results with those of Ramírez (2017),



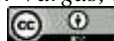
where an improvement of 2.59 points was obtained (from 13 to 15.59) comparing the qualifications of the first and second unit and, improves learning in the area of mathematics (Aldana, 2012), generating in the students expectations in the course and the achievement of meaningful learning (Higa, 2011).

The results of this research are similar to those of Aldana and Higa because they show that working in learning teams allows students to assimilate the importance of the concept of "academic friendship", because each team participant had to understand that their qualification depended on the group. What makes us understand that the current educational system can be transformed, but we are part of a selfish, elitist, discriminating educational system, that is, a dehumanizing system. The competency-based approach that excludes, separates and generates rivalry in students is doing a lot of harm to the members of our society, since this idea of "competition" brings with it the dispute to reach the goal that generates winners and losers. Strategies like collaborative learning generate hope to get out of this contemporary educational system that is harmful to humanity. Is that students with this strategy find more ways to undertake and solve a problem thanks to teamwork and the progress made in their training process from collaborative work, even increasing self-confidence (Areiza, 2014).

However, it contradicts the research that was intended to measure cognitive load, group intervention and learning outcomes in a group and individual way through collaborative learning, from which no conclusive result was obtained (Gutiérrez, 2013), that contributes to strengthening this form of academic occupation that allows us to humanize our academic mold.

The contemporary generation presents problems when working as a team, and if it does, it is only because that collective work will bring them a benefit. The teams formed in the investigation that we carried out, in many of the cases did not act out of altruism but were only part of their group so that they were not affected in their qualifications.

On the other hand, in collaborative learning an active learning style is promoted that mobilizes the commitment of the actors and the collaborative commitment structures student work groups to mobilize their individual and collective competences in the midst of the exchange of knowledge and practices (Lizcano, *et al.*, 2019). In fact, the monitoring and evaluation of the work in collaborative groups allows intervening and supporting the groups, aimed at improving (Marrero, *et al.*, 2019) .



Even now, with the implementation of technology in the educational field, Computer Supported Collaborative Learning arises (ACSC) that seeks to promote learning through collaborative effort between students, which enlivens and enriches the process, where the student is a member of a group and interacts with other collaborators to solve different problems, thus generating a learning environment that enhances knowledge (Argañaraz & Calo, 2014).

#### 4. CONCLUSIONS

The implementation of the collaborative learning strategy positively influences the achievement of student academic performance. The 85.18% of students increased the weighting of their final average.

Collaborative learning contributes efficiently to students' cognitive achievement. This is evidenced by the ascension of the qualifications from the first unit to the second unit, with an increase of 3.33 points in activities that were developed individually. Efficiency that is demonstrated by the effective, positive and active participation between students, teachers and their context.

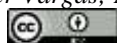
Likewise, the results of the investigation show positive effects in the achievement of procedural learning. This is demonstrated by the increase of 01.63 points between the first (14.26 points, delimited in an individual grade) and the second note (15.89 points) group grade.

Furthermore, this strategy contributes to the humanization of our educational system and thereby banishes the concept of "academic solitude". However, an individualistic education that eliminates the human sensitivity of students, elitizes and dehumanizes education does not contribute to the desired goal: quality education.

Finally, the research process showed us that learning attitudinal achievement is more complex to achieve compared to cognitive and procedural achievement.

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