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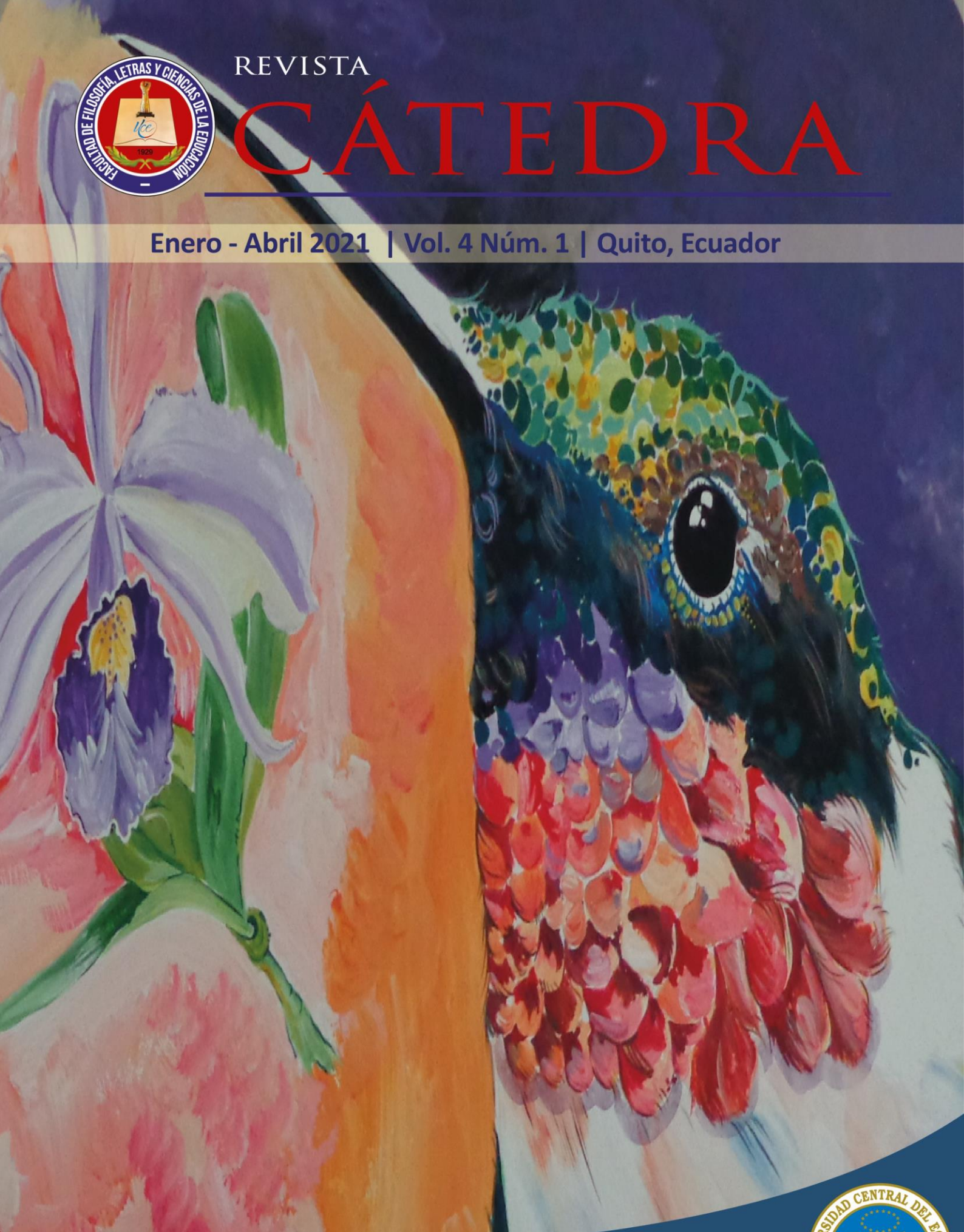

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Facultad de Filosofía, Letras y Ciencias de la Educación

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OBJECTIVE
To disseminate multidisciplinary scientific unpublished articles, elaborated under the parameters of the research methodology, written with academic rigor and based on the teaching practice.

TOPICS
The topics covered are the theoretical bases of the Education Sciences in its different specialties and levels of the educational system.

TARGET
The Revista Cétedra is directed to all the national and international researchers interested in publishing quality works that contribute to the improvement of the educational process.
From its origins, the Revista Céetdra was published in printed format. It is currently published in electronic format, using virtual environments to align to the needs of the revista s users and editors.

MISSION
The Revista Cétdra, of Universidad Central del Ecuador, Faculty of Philosophy, Letters and Education Sciences, disseminates scientific articles on diverse areas related to the Education Sciences, supported in the methodology of educational research and community service.

VISION
To be promoters in the publication of high-quality scientific articles oriented by a research and from different areas of knowledge to constitute in the most prestigious reference in the comprehension and improvement of the educative process.

FOCUS AND SCOPE: Revista Cátedra has as theoretical bases the Education Sciences in its different specialties and levels of the educational system. It disseminates scientific-academic articles written under research parameters. It is open to national and international writers interested in contributing significantly to the solution of current educational problems.

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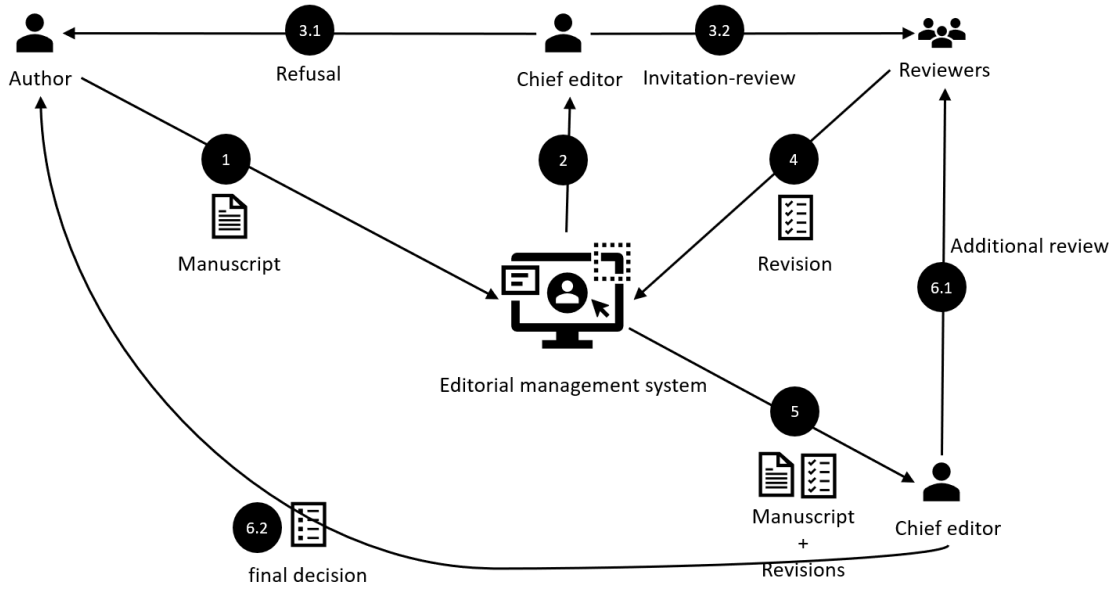

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- **Time for publication:** The periodicity of the journal is quarterly; therefore, editors are the guarantors of the fulfillment of time limits for revisions and publication of accepted works.

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EDITORIAL

It is a pleasure for the Revista Cátedra to present volume four, number one in the electronic version. The thematic developed has its theoretical bases in the Educational Sciences in its different specialties and educational levels; this is how some relevant aspects are exposed, such as education and technology.

The contents presented in this new issue are characterized by being elaborated under the parameters of research methodology. In addition, they are built with academic rigor and based on teaching practice.

The issue consists of five approved articles:

The first article, entitled Teaching styles: a descriptive study from the teaching practice, was authored by Pablo Burbano-Larrea, Mirian Basantes-Vásquez and Isabel Ruiz-Lapuerta. The manuscript aims to determine the teaching styles of teachers in an educational institution. The authors use a methodology with a quantitative and descriptive approach, being a cross-sectional study. In their conclusions, they point out that most of the teachers' teaching style is dynamic. When integrating the results between the analytical and systematic styles, they found that most teachers have characteristics of rather traditional styles. They also found that in teaching practice, combined styles such as analytical-systematic and dynamic-practical are observed. Among the teachers investigated, they state that women have a prevalence of the dynamic teaching style, while men mostly have an analytical teaching style.

The second article entitled Innovation of relational-communicative contexts for a transforming education, by Maritza Crespo-Balderrama and Diego Tapia-Figueroa, was written by Maritza Crespo-Balderrama and Diego Tapia-Figueroa. The manuscript arises from the question of how to generate transforming processes in educational contexts, taking into account that education in Ecuador is still marked by the hierarchization of knowledge and relationships that seek homogenization and standardization. For the process an innovative perspective was chosen, the social-relational constructionism, which looks at care and education as creative, assertive and proactive appropriation of everything that happens to us in life: links, jobs, relationships and meaningful encounters; whose permanent learning processes need spaces for reflection and accompaniment. The authors conclude by indicating that the study carried out shows that freedom, dialogue, curiosity, critical reflection and respect for difference and relational ethics enhance educational contexts and generate transformations that contribute to a dignified life and to the construction of possibilities and common well-being.

The third article entitled Challenges and achievements of the implementation of interactive groups in a learning community, authored by Bolívar Villarreal-Yazán, Verónica Maila-Álvarez, Helen Figueroa-Cepeda and Elizabeth Pérez-Alarcón. The manuscript arises from the need to evaluate the achievements and challenges regarding the implementation of a new educational methodological strategy proposed in Ecuador. This work is descriptive and qualitative, and considers as a case study the Antisana Educational Unit, an institution located in a rural context in

Ecuador. According to the authors, the main achievements were egalitarian dialogue, transformation and solidarity, as principles of dialogic learning, in addition to student leadership and empowerment of the zone of proximal development. Difficulties were noted such as empowerment, superficiality of instrumental activities and low participation of some students, teachers and volunteers. Finally, it was pointed out that it is necessary to propose collaborative activities and integrate other social actors as volunteers. Aspects that will strengthen inclusion and social cohesion.

The fourth article, entitled The approach to virtual education from a holistic perspective in the face of the COVID-19 pandemic, was written by Dina Inga-Lindo and Felipe Aguirre-Chávez. The manuscript emerges from the empirical experience and the review of various scientific papers that approach their studies from a panoramic view of people, in order to determine to what extent the virtual education approach complies with imparting holistic learning in university students. The results according to the authors were analyzed statistically indicating the reliability of the instrument applied to five dimensions with their respective items, in a high range of 0.933, they affirm that the tests were satisfactory. They conclude by indicating that the virtual education provided has a holistic vision due to the positive effects of satisfaction found in university students. They emphasize that it is necessary to use digital tools in an intelligent, multidimensional, flexible and disciplined manner that promotes active learning, based on the asynchronous and synchronous system.

The fifth article, entitled Use of Kahoot as a motivating element in the teaching-learning process, was authored by Juan Rojas-Viteri, Alex Álvarez-Zurita and Diego Bracero-Huertas. The manuscript arose from the need to generate in the researched students the desire to learn while having fun. The general objective of the research was to analyze the use of Kahoot as a motivating element in the teaching-learning process. The methodology used by the authors in structuring this work was empirical-analytical and descriptive. In addition, quiz-type questionnaires were used throughout the 2019-2020 school year to reinforce the topics covered in each class, which allowed them to statistically measure the students' preference for the use of Kahoot. They point out that the results revealed that the students investigated showed to be motivated at the moment of learning, as well as at the moment of being evaluated, since they felt no pressure to respond. Finally, it was demonstrated that Kahoot is a digital tool that motivates students to attend classes and participate more actively in the classroom.

Revista Cátedra thanks to all the authors and reviewers of the articles that have made possible the publication of this issue. It extends an invitation to the national and international academic community to present their research papers related to Educational Sciences in their different specialties and educational levels.

Directors/Chief Editors

REVISTA CÁTEDRA

Estilos de enseñanza: un estudio descriptivo desde la práctica docente

Teaching styles: a descriptive study from teaching practice

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Resumen

En las instituciones educativas participan personas que cumplen distintos roles: autoridades, docentes, estudiantes y padres de familia. Los docentes en su ejercicio profesional desarrollan un estilo que les distingue por la manera cómo enseñan y cómo evalúan buscando consolidar los aprendizajes de sus estudiantes. Conocer cuáles son los estilos de enseñanza de los docentes de una institución permite caracterizarla y desarrollar estrategias para alcanzar los fines académicos. Esta investigación tuvo como objetivo identificar los estilos de enseñanza que se encuentran presentes entre los docentes de la Facultad de Filosofía, Letras y Ciencias de la Educación de la Universidad Central del

Ecuador. Tuvo un enfoque cuantitativo y un nivel descriptivo, siendo un estudio de tipo trasversal. Las conclusiones señalan que, los docentes en su mayoría tienen como estilo de enseñanza definido el dinámico. Al hacer una integración de resultados entre el estilo analítico y el sistemático se halló que la mayoría de docentes tienen características de estilos más bien tradicionales. También se encontró que en la práctica docente se observan estilos combinados como el analítico-sistemático y el dinámico-práctico. Entre los docentes investigados las mujeres presentan prevalencia en el estilo de enseñanza dinámico, mientras que los hombres en su mayoría cuentan con un estilo de enseñanza analítico. Parece ser que el semestre en donde se imparte cátedra también determina el estilo utilizado, pues se ha encontrado diferencias entre los niveles de educación superiores y los inferiores.

Palabras clave

Docentes, estilo-enseñanza, estudio descriptivo, prácticas didácticas.

Abstract

The educational institutions involve people in different roles: authorities, teachers, students and parents. The teachers in their professional practice develop a style that distinguishes them by the way they teach and how they evaluate, seeking to consolidate the learning of their students. Knowing the teaching styles of the teachers in an institution allows us to characterize it and develop strategies to achieve academic goals. The objective of this research was to identify the teaching styles that are present among the teachers of the Faculty of Philosophy, Literature and Educational Sciences of the Central University of Ecuador. It had a quantitative approach and a descriptive level, being a transversal study. The conclusions point out that the majority of the teachers have a defined dynamic teaching style. When integrating the results between the analytical and systematic styles, it was found that the majority of teachers have characteristics of rather traditional styles. It was also found that in teaching practice, combined styles such as the analytical-systematic and the dynamic-practical are observed. Among the teachers researched, women show prevalence in the dynamic teaching style, while men mostly have an analytical teaching style. It seems that the semester in which a professorship is given also determines the style used, since differences have been found between higher and lower levels of education.

Keywords

Descriptive study, style-teaching, teachers, teaching practices.

1. Introduction

The process of teaching and learning is nuanced by various factors that participate in the development of activities and the achievement of the goals of education. This process must be studied in a holistic manner, avoiding reducing it to isolated moments or stages. In this complex dynamic, the importance of carrying out profound analyses of the participating variables and the relationships among them is noted. One of these variables is "the teacher" and the set of actions he or she undertakes with the purpose of contributing to the learning of his or her students.

According to what Ventura points out, the investigation of these variables at a higher level has led to the realization of political and curricular efforts that have as a purpose to reach the so longed for quality in education. In addition, the importance of didactic practices is highlighted, but the difficulties in transferring theory into practice are also evident. The

importance of deepening the study of the fundamental elements of the teaching and learning process is also emphasized (Ventura, 2011, pp. 143-144).

One of the fundamental elements of study is the set of didactic practices that characterize a teacher, which is known as teaching style. Chiang et al. (2013) mention that the definition of teaching style "implies establishing criteria to categorize teaching behaviors: that the teacher shows them habitually and continuously; that they are based on or have their origin in personal attitudes that are inherent to them; and that they come from other behaviors abstracted from their academic and professional experience" (p. 63).

The objective of this research is to identify the teaching styles present among teachers in the School of Philosophy, Letters and Educational Sciences at the Central University of Ecuador. The study considers the careers to which they belong, their gender, and the training units in which they teach.

In relation to the relevance of the study, it is worth noting what Isaza and Henao (2012) point out: "the teaching style created and used by the teacher determines his or her entire educational act, and therefore the achievement of high academic performance" (p. 140). Therefore, having information on teaching styles at the individual level offers elements for further reflection in the search to harmonize student learning styles and academic results. Knowing which is the predominant teaching style at the collective level facilitates the identification of the characteristics that shade a particular collegiate body, and guides training processes. This allows professionals to enhance their particular style and integrate their own methodological elements, thus enriching their professional work.

The validity and pertinence of the results of this research process is based on the fact that they allow a deeper analysis of the reality of education careers, increasing knowledge about the pedagogical practices of their teachers. As Laudadío and Da-Dalt (2014) point out, "the analysis of teaching practices necessarily involves the search for effective practices" (p. 486). This contributes to the decision-making necessary for the continuous improvement of such practices in the search for quality training for future teaching professionals. This work is unprecedented, since no previous research has been done on this variable in the aforementioned population. The findings presented based on evidence strengthen the theoretical and scientific framework around the role of university teachers. This study is just a first step that will guide future efforts to analyze the influence that university teachers' teaching practices can have on the professional practice of future high school teachers.

The present article is structured as follows, in section 2, the review of the literature; that is, the contents related to teaching styles. Section 3 refers to the methods and materials used in the present research; in addition, it was contrasted with research carried out by other authors. Section 4 details the findings found after the application of the respective instrument. Section 5 details the discussion of results and section 6 describes the relevant conclusions

2. Literature Review

2.1 Teaching

Teaching was defined as the action of instructing, indoctrinating or training with norms; in fact, from the Socratic vision it was considered as a procedure and a methodology of giving education. "It would be an action whose purpose would be to systematically present a reality" (Renés and Martínez, 2016, p. 227). Teaching can also be defined as "presenting and making students acquire knowledge that they do not possess" (Cousine, 1962, p. 6). In this

regard, Fortoul points out that the term teaching has been understood as "transmission of knowledge", a concept that is even shared by an important segment of teachers and student teachers. This vision shares the leading role of the teacher and the passive role of the student, with clearly differentiated roles. The complexity of dimensions that participate in learning is left aside, perceiving learning as the result of the teacher's work (Fortoul, 2008, pp. 81-82). Certainly, these definitions show an action concentrated in the teacher or who takes this role. Over time, the conceptualization of teaching has been revised, seeking to overcome the passive role of the subject who learns and to make visible the intentional meaning on the part of the teacher.

"Teaching goes beyond the merely technical application in the classroom of a set of strategies designed by others" (Fortoul, 2008, p. 79) in order to achieve learning. It also includes the intention, attitudes, and personality characteristics of the teacher. "One cannot speak with singularity of teaching if the fact of teaching does not imply intentionality and reflexive perception" (Chiang, et al. 2013, p. 63). The intentionality of the one who teaches and the reflective perception of the one who learns, is what precisely frames the study of teaching styles, seeking to enrich the debate on the characteristics of the student and teacher relationship in the classroom. The ultimate purpose is the highest achievement of learning results in students.

Within the university context, La Ciudadío and Da-Dalt consider that, in the formation of professionals, teachers cannot be mere transmitters of disciplinary knowledge, but can become true vocational mentors. Teachers impact their students in the development of attitudes and skills proper to their profession (Laudadío and Da-Dalt, 2014, pp. 488-489). It is important that university teachers not only have the knowledge of the professorship they teach, but also a series of pedagogical and didactic skills, and that they know which teaching features characterize them.

In the study of the pedagogical styles of the university teachers Callejas and Corredor recommend to consider the four knowledges that structure and guide their practices. Initially, the knowledge, understood as the set of theories and conceptions that guide their actions. Know-how, as the application of the theories in the interpretation of reality. Knowing how to communicate, which implies dynamic interaction with others in a space of permanent dialogue. And finally, knowing how to be, which is evidenced in the commitment of the teacher in the development of his or her students (Callejas y Corredor, 2002, pp. 64-66). "Understanding styles allows teachers to understand the choices they make and the results they obtain, the relationships with the institution and with people" (Callejas and Corredor, 2002, p. 66).

2.2 Teaching style

In relation to the conceptualization of teaching style Laudadío and Da-Dalt (2014)

> We find two positions: on the one hand, those who consider teaching styles as mere dichotomous decisions between strategies and dimensions that are taken in isolation; on the other hand, those who discuss teaching styles in terms of a relatively more complex profile of the simple use of strategies (p. 495).

For the purposes of this research and closer to the second posture, they are defined as the set of behavioral traits that teachers express in their interaction with students, guiding their

teaching practices. It is characterized by being constant over time and is presented in the learning scenario.

The teaching styles cannot be catalogued as positive or negative in themselves, only different according to González-Peiteado, for which reason it is indispensable to respect the characteristics of each teacher in his or her educational work. The presence of one style or another is determined by an infinite number of variables such as: the sex of the teacher, the students' learning styles, the educational level, the students' evolutionary characteristics, and even the subject being taught (González-Peiteado, 2013, pp. 64-66).

Martínez-Geijo (2009) points out that "each teacher does not have pure Teaching Styles" (p. 5). That is, teachers do not have a defined teaching style, but rather present a combination profile where one or two are predominant depending on the frequency of their behavior. This justifies structuring combination styles as long as they are complementary and not antagonistic. In this regard, Laudadío and Mazzitelli (2015) recognize the existence of a variety of styles that imply a multiplicity of factors in the teaching and learning process. This diversity is related "to a perception of the educator's reality, the characteristics of teaching, the congruence between his behavior, his representations, and his teaching beliefs" (p.16). De León (2005) points out:

> that the criteria used by different authors to define and classify the teaching styles are very varied, even so, making an effort of synthesis there is coincidence in the following general criteria: (a) Interaction between teacher and student; (b) Orientation towards learning achievement; (c) Role of the teacher; (d) Relationship with the context; (e) Teacher's conception of the training purpose; (f) Role of the student; (g) School management (pp. 86-87).

Alvarez (2004) presents a dichotomous classification of styles into verbal and non-verbal and points out that "it would be interesting, at this time, to examine whether verbal/non-verbal teaching styles and learning styles are related to each other and affect performance" (p. 29). In this regard, Aguilera refers that a relationship and even influence has been found between teaching styles and students' learning styles (Aguilera, 2012, p. 84). This relationship becomes more noticeable according to Chiang in students belonging to education careers (Chiang, et al, 2016, p. 19).

Renés and Martínez (2013) present a classification of teaching styles based on the learning styles of Alonso, et al. According to the authors, they consider the following classification:

> Open: teachers work with content not necessarily present in the programming, promote teamwork and innovate in methodological strategies.
> Formal: teachers are characterized by generating detailed planning of classroom activities, encouraging analysis and individual work by their students.
> Structured: teachers stick to strict programs, prefer a controlled climate in the classroom and always based on rigorous theoretical content.
> Functional: teachers emphasize procedural content including examples applicable to daily life (pp. 7-10).

The classification previously reviewed presents conceptual coincidences with each of the four teaching styles presented in the Portilho/Banas test by Perochena, et al. This questionnaire constituted by 40 items in Likert's scale classifies the styles in: dynamic, analytical, systematic and practical.

> Dynamic: teachers tend to be more flexible, seeking to generate spaces for discussion and student participation, not strictly adhering to the curriculum or planning.
> Analytical: teachers are oriented towards established programs, trying to comply with them in their entirety, giving space for reflection by students and ensuring the understanding of the contents.
> Systematic: teachers promote debate, seeking to generate informed interventions in their students, they like planning and structures at work.
> Practical: teachers give space to experimentation, and through experiences they test the theoretical contents, transferring the knowledge to daily environments (p. 76).

Another classification to consider is that used by Rendon (2010) who presents three teaching styles:

> Mastery: teachers are the center of the academic process and the student takes a passive role, with thematic teaching focused on content.
> Tutorial: teachers encourage the application of theoretical content in daily life, centered on the student and the development of skills.
> Mediational: teachers deepen and promote interpersonal relationships and collaborative work (pp. 9-10).

In the analysis of the various classifications, coincidences are observed in the set of features that characterize the styles. It is frequently found that despite the diversity, an exercise can be carried out to integrate some of the teaching styles with features that complement each other and others that are clearly antagonistic. Therefore, it is possible to relate these characteristics in two styles: "traditional and innovative" (Centeno et al, 2005, p. 5) or with the terms: "formal or liberal" (Bennet, 1979, p. 7).

3. Methods and Materials

This study was framed in a quantitative research approach, considering that the results obtained are expressed in numerical values and their processing was done through statistical analysis. Just as it was tried to explain a phenomenon of reality; the results taken from a sample are susceptible to be generalized to the population part of the study.

The level of this research corresponded to the descriptive one, since it characterizes a pedagogic facet of the teaching body through statistical analysis. The findings presented the distribution of teaching styles through frequencies and percentages, which have been enriched with an argument based on the theoretical and scientific framework. It was contrasted with results of other researches, trying to raise conclusions based on evidence. The study is of a transverse type considering that it was carried out to a certain population in a specific moment. The application of the instrument was carried out between April and June 2020.

The study population corresponds to 145 full-time teachers. After applying the corresponding statistical formula with a 5% error and 95% reliability, a sample of 110 participants was obtained by carrying out the operations indicated in equation 1. In this way, all elements of the population were given the opportunity to participate, and the possible intervening variables were distributed equally to maintain the internal validity of the study. Finally, we worked with a participating sample of 85 teachers who agreed to give the corresponding informed assent after data cleaning.

$$\frac{k^2 \cdot p \cdot q \cdot N}{\left(e^2(N-1)\right) + k^2 \cdot p \cdot q}$$

Ecuación 1

Where:

K: Corresponds to the 95% confidence level, 1.96

p: is the proportion of individuals in the population that possess the study characteristic, 0.5

q: s the proportion of individuals who do not possess that characteristic, i.e., it is 1-p, 0.5

e: the acceptable error 5%.

N: is the size of the population or universe, 145

The main technique used was the survey with the use of the Portilho/Banas questionnaire, which consists of 40 items divided into 4 groups of 10 items. Grouped in such a way that four teaching styles can be determined: dynamic, practical, systematic, and analytical. This instrument has works of international validity and was submitted to a process of reliability through a pilot study applied to 17 teachers, exceeding 10% of the total population under study. It was obtained a Cronbach's alpha of 0.90 indicating a high level of reliability.

The questionnaire was transcribed and applied virtually through the Google forms tool. The same tool that allows online surveys, obtaining a link, the same that was sent by institutional emails to teachers for their participation. This mechanism of application responded to the limitations and social distance in view of the health emergency that the world is experiencing due to the effects of Covid-19.

The information was organized by means of tabulation, then the original base underwent a process of codification and validation of the data obtained from the instrument, using an Excel spreadsheet. It was necessary to carry out a categorization analysis of the variables. The frequency distribution was established, obtaining the relative and absolute frequency. The results were presented in tables with their respective interpretation, at the faculty level, by careers, by gender and by training unit.

When it was found that a part of the sample of participants present two predominant complementary teaching styles with equal scores, the combined styles were generated; analytical-systematic and dynamic-practical. In order to enrich the interpretation of the results, they were grouped in two of the antagonistic categories; traditional styles relating to the analytical, systematic and combined analytical-systematic styles. In addition, the innovative styles were related to the dynamic, practical and the combined dynamic-practical styles.

4. Results

In table 1 it can be seen that the most important percentage of participants present majority features in the dynamic style, which is characterized by using novel strategies, they are not established in the planning and develop their class through spontaneity; they prefer to support students in the search for solutions close to reality. It is followed by the analytical style where teachers use previously planned strategies, avoid improvisation and prioritize the achievement of objectives presented in class. The systematic style is not so different and is identified with activities, with specific planned objectives and likes to strengthen the students' use of reflected arguments for problem solving. The less predominant style is the practical one with teachers who exemplify the contents for a better understanding, giving more importance to practical activities and learning experiences. As for the results of combined styles, it is found that 8.24% correspond to the analytical-systematic style. 2.35% to the dynamic-practical style

Defined teaching style	**Absolute frequency (fi)**	**Relative frequency (hi)**
Dynamic	28	32.94%
Analytical	22	25.88%
Systematic	17	20.00%
Practical	9	10.59%
Combined teaching style		
Analytical-Systematic	7	8.24%
Dynamic-Practical	2	2.35%
TOTAL	**85**	**100%**

Table 1. Teaching Styles - Teaching Styles Questionnaire Portilho/Banas

In table 2 it is established that the majority of surveyed female teachers possess the Dynamic Teaching Style oriented to build discussion spaces to encourage collaborative work and allow the student to experiment with content and its subsequent application in the resolution of daily life problems. On the other hand, a lower percentage of them have the analytical teaching style characterized by a greater structuring of the content and teaching strategies that allow them to motivate the investigation and argumentation of the students on the contents treated.

Teaching style	**fi**	**hi**
Dynamic	12	41%
Analytical	3	10%
Systematic	6	21%
Practical	3	10%
Combined teaching style		
Dynamic-Practical	1	3%
Analytical-Systematic	4	14%
TOTAL	**29**	**100%**

Table 2. Teaching styles (women). Teaching styles questionnaire Portilho/ Banas

Table 3 shows the results obtained among the participants by sex, particularly those found in male teachers. The highest percentage present the analytical teaching style, characterized by promoting research and reflection on content in a more organized way. With less student participation and a more leading role for the teacher. While a lower percentage of male

teachers, reflect the style of practical teaching oriented to collaborative work, through the construction of spaces for discussion and experimentation seeking its application in solving problems of reality.

The results by defined styles are corroborated when grouping the data of the analytical and systematic styles that show traditional features of teaching among the majority of teachers. In the same way, when integrating the data of the dynamic and practical styles, a lower percentage of teachers with innovative characteristics in their didactic practices is found.

Teaching style	**fi**	**hi**
Dynamic	16	29%
Analytical	19	34%
Systematic	11	20%
Practical	6	11%
Combined teaching style		
Dynamic-Practical	1	2%
Analytical-Systematic	3	5%
TOTAL	**56**	**100%**

Table 3. Teaching styles (men). Teaching styles questionnaire Portilho/ Banas

Table 4 presents the distribution of the results of the teaching styles that characterize teachers by career. In the careers of Commerce and Administration, Plurilingualism, Educational Psychology and Orientation, most teachers share the Dynamic, Practical and Combined Dynamic-Practical Styles, which induce students to generate ideas without any formal limitations, with activities that consist of learning techniques that can be applied in diverse situations. These careers are in the process of extinction with students only in higher semesters of training.

On the other hand, the findings allow us to determine that a significant number of teachers in the careers of Pedagogy of History and Social Sciences, Early Education, Pedagogy of Language and Literature, Pedagogy of Experimental Mathematical and Physical Sciences; identify with the analytical, systematic and combined analytical-systematic teaching styles. These styles are characterized because the contents are taught in a precise, planned and coherent way, prioritizing the adequate time for the student to reflect on the information. Research is also used to encourage debate and the construction of meaningful knowledge.

Finally, in the careers of Pedagogy of the Foreign Language, Pedagogy of Experimental Sciences Computer Science, Psychopedagogy, Pedagogy of Experimental Sciences Chemistry and Biology; the number of teachers is distributed equally in each of the teaching styles. The fact is that there is no predominance of one style over another.

Career	**Dynamic**	**Analytical**	**Systematic**	**Practical**	**Dynamic or Practical**	**Analytic Systematic**
	hi	**hi**	**hi**	**Hi**	**hi**	**hi**
Commerce and administration	100%	0%	0%	0%	0%	0%
Early Education	33.3%	16.6%	33.3%	0%	0%	16.6%

Pedagogy of history and social sciences	30.7%	30.7%	15.3%	8%	0%	15.3%
Pedagogy of the English foreign language	50%	50%	0%	0%	0%	0%
Language and Literature Pedagogy	37.5%	25%	37.5%	0%	0%	0%
Pedagogy of experimental sciences in computer science	37.5%	25%	12.5%	12.5%	0%	12.5%
Pedagogy of the experimental sciences mathematics and physics	7.1%	42.8%	21.4%	21.4%	0%	7.1%
Pedagogy of the experimental sciences chemistry and biology	37.5%	0%	37.5%	12.5%	12.5%	0%
Multilingual	40%	40%	0%	0%	20%	0%
Educational psychology and counseling	80%	0%	0%	0%	0%	20%
Psychopedagogy	18.2%	18.2%	27.2%	27.2%	0%	9%

Table 4. Teaching styles by career. Teaching styles questionnaire Portilho/ Banas

Table 5 presents the results organized by training unit. The basic training unit in the curriculum corresponds to the first three semesters or academic cycles. 45.8% of the total number of teachers surveyed carry out their activities at these levels. The results corresponding to the unit of professional training, that is, fourth, fifth, sixth, seventh and eighth semesters are concentrated in 54.2% of the total participants.

Training Units		**Fi**	**hi**
Basic		39	45.8%
Professional		46	54.2%
	TOTAL	**85**	**100%**

Table 5. Distribution of teachers by Units of Curricular Training

Table 6 shows that the majority of professionals who teach in the Basic Training Unit, corresponding to the first semesters of their careers, use traditional strategies, in accordance with analytical and systematic styles. A smaller number of teachers show innovative characteristics in their didactic actions in the classroom, that is, they have practical and dynamic teaching styles.

Teaching Style	**Fi**	**hi**
Dynamic	11	28%
Analytical	9	23%
Systematic	10	26%
Practical	3	8%
Combined teaching style		
Practical Dynamics	1	3%
Systematic Analysis	5	13%
TOTAL	**39**	**100%**

Table 6. Teaching styles (Basic training unit). Teaching styles questionnaire Portilho/ Banas

Table 7 shows that most of the teachers working in the professional training unit show a set of innovative teaching practices, corresponding to dynamic and practical teaching styles. They are characterized by promoting student participation, seeking to build knowledge from experimentation and without adhering rigorously to planning. While a smaller number of teachers are located in more conservative styles linked to theoretical, reflexive and structured processes, that is, analytical and systematic styles.

Teaching Style	**fi**	**hi**
Dynamic	18	39%
Analytical	12	26%
Systematic	7	15%
Practical	6	13%
Combined teaching style		
Practical Dynamics	1	2%
Systematic Analysis	2	4%
TOTAL	**46**	**100%**

Table 7. Teaching styles (Professional Training Unit). Teaching styles questionnaire Portilho/ Banas

5. Discussion of results

According to the objective set in the research, it was found that among the participating teachers the teaching style with the highest prevalence is the dynamic style. This result coincides with Rendón's (2010) research on teaching styles at the University of Antioquia, who found that "teachers in the School of Education mostly have a high school teaching style" (p. 1). The same that, due to its characteristics, corresponds to the dynamic style. In the same study presented by Rendón (2010), "the responses of the teachers in the School of Education indicate that they are very mediational and not very masterful" (p. 13). This result contradicts the findings of the present work, where the analytical teaching style is the second in prevalence, considering that the analytical style corresponds in accordance with its characteristics to the magisterial style.

It was found that a part of the teachers do not define themselves in a unique style of teaching, presenting combined styles. This supports what was pointed out by Agudelo (2015) in his research titled Characterization of teaching styles in Higher Education", who concludes that the proposals of differentiating categories in the conception of teaching styles, is not absolute. According to this author, "it is not possible to talk radically about a predominant style in teachers, but it is necessary to talk about mixed styles, since teachers present features of all teaching styles" (p. 18).

Most of the teachers researched show traditional characteristics in their teaching practices corresponding to the styles (analytical, systematic and combined analytical-systematic). These findings contradict those presented by Diaz, et al. (2013) in the article Validation of the Teaching Styles Questionnaire (SQC), an instrument for the higher education teacher where "the results show that the 'high preference' is for the Open and Functional styles" (p. 10) which correspond to the dynamic and practical style of the present study. On the other hand, it was found that fewer teachers present innovative practices in their teaching corresponding to the styles (dynamic, practical and combined dynamic-practical). This does not coincide with what is reported by Chiang, et al. (2013) "while in the 'low preference' are located the structured and formal styles" (p. 9) corresponding conceptually with the analytical and systematic styles of this research.

In relation to teaching styles according to the gender of the teachers, the results explain that most of the female teachers identify with the dynamic teaching style. The highest percentage of male teachers present an analytical teaching style. These results contradict what Martinez-Geijo (2009) found in his research entitled Teaching styles: conceptualization and research (according to the learning styles of Alonso, Gallego and Honey) who points out that "women tend to prefer a formal teaching style over the open teaching style presented by men" (p. 14).

The present study points out that teachers of the Pedagogy of Experimental Mathematical and Physical Sciences career identify with the analytical teaching style. This shows agreement with the study carried out by Rendón, where it was found that "in the career of the degree in Mathematics and Physics, teachers present the Magisterial teaching style" (Rendón, 2010, p. 14) that conceptually corresponds to the analytical style. It was also found that the teachers of the History and Social Sciences Pedagogy Career show mainly traditional features of teaching corresponding to the styles (analytical, systematic and combined analytical-systematic). This coincides with the study carried out by Rendón, which indicates that "teachers of the Social Sciences Pedagogy career predominantly present the Magisterial teaching style" (Rendón, 2010, p. 14).

In this same sense, teachers of the career of Experimental Sciences Chemistry and Biology Pedagogy present predominantly innovative teaching characteristics, evidenced in the styles (dynamic, practical and combined dynamic-practical). Similar results are found (Rendón, 2010) "Tutorial Style: In this style the similar percentages seen in the degree in Natural Sciences should be exalted. Almost as many students think that their teacher has a tutorial style, as the teachers themselves do" (p. 14), which conceptually corresponds to the practical style.

In the Early Education Career, teachers present teaching practices mainly corresponding to traditional styles (analytical, systematic, and combined analytical-systematic). These results are in contrast to what Rendón has stated, who points out that "teachers in the Infant Education career mainly use the mediational style" (Rendón, 2010, p. 14), which conceptually corresponds to the dynamic style.

When reviewing other similar research on Teaching Styles, no work was found that included the analysis by training units corresponding to the initial and advanced semesters within different careers. This highlights the importance of continuing to deepen this field of research.

6. Conclusions

The teachers of the Faculty of Philosophy, Letters and Education Sciences of the Central University of Ecuador are distributed in the four teaching styles according to the questionnaire (Portilho/ Banas). The most prevalent teaching style is the dynamic style.

Upon finding that a percentage of participants presented an identical final score in predominance in two teaching styles, we proceeded to present results in combined styles, since the literature reviewed supports that teachers usually show a teaching profile that includes all styles. It was found that most teachers present characteristics in their teaching practices corresponding to the traditional styles (analytical, systematic and combined analytical-systematic). It is evident that teaching practices focused on programming, content, structure and teachers prevail. Among the teachers researched, women show prevalence in the dynamic teaching style. Male teachers mostly have an analytical teaching style.

It was found that the teachers who belong to the careers in process of extinction, Educational Psychology and Orientation, Commerce and Administration, and Plurilingual, present predominantly the innovative styles (dynamic, practical and combined dynamic-practical). This can be explained considering that the careers in process of extinction, only have the last semesters of formation where the subjects of professionalization are concentrated.

The teachers belonging to the careers of Pedagogy of History and Social Sciences, Initial Education, Pedagogy of Language and Literature, Pedagogy of Experimental Mathematical Sciences and Physics show didactic practices typical of the traditional styles (analytical, systematic and combined analytical-systematic). The results show that there is an equitable distribution among the four teaching styles present in the teachers of the careers of Pedagogy of Foreign Language, Pedagogy of Experimental Sciences Computer Science, Psychopedagogy, Pedagogy of Experimental Sciences Chemistry and Biology.

The teachers who carry out their teaching activities in the higher levels corresponding to the vocational training unit; that is, from four to eight semesters, mostly present the dynamic teaching style. This may be due to the fact that the subjects taught at these levels seek to apply knowledge through case studies related to professional practice.

When integrating the results, the teachers who participate in the first, second and third semesters of all the careers present predominantly the traditional styles (analytical, systematic and combined analytical-systematic). At this level of basic training, teachers provide the theoretical foundations necessary for the professional training of students in a systematic and planned manner.

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REVISTA CÁTEDRA

Innovación de contextos relacionales-comunicacionales para una educación transformadora

Innovation of relational-communicative contexts for a transforming education

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Resumen

La investigación que se describe surgió de la pregunta ¿cómo generar procesos transformadores en contextos educativos?, teniendo en cuenta que, todavía, en el Ecuador la educación está marcada por la jerarquización del conocimiento y relaciones que buscan la homogeneización y estandarización. Para el proceso se eligió una perspectiva innovadora, el construccionismo social-relacional, el cual mira al cuidado y a la educación como apropiación creativa, asertiva y proactiva de todo lo que nos sucede en la vida: vínculos, trabajos, relaciones y encuentros significativos; cuyos procesos permanentes de aprendizaje necesitan espacios de reflexión y acompañamiento.

La investigación relacional contó con la participación de docentes, autoridades, padres de familia, y otros miembros de contextos educativos, a lo largo de 4 años, y tuvo como escenario la implementación del proyecto "Cuidando al cuidador" para instituciones

educativas y de protección a la niñez y adolescencia en Tungurahua-Ecuador, entre los años 2016 y 2019.

El propósito de la investigación es comprender cómo desde las prácticas colaborativas-dialógicas y el enfoque generativo -como maneras de ser y de hacer- se crean nuevas condiciones relacionales que ponen en el centro la apertura hacia lo diverso, lo distinto y lo local y en las cuales los estudiantes construyen sus propios recursos creativos, emocionales y relacionales. El resultado permite evidenciar que la libertad, diálogo, curiosidad, reflexión crítica, respeto por la diferencia y ética relacional potencian los contextos educativos y generan transformaciones que contribuyen a una vida digna a la construcción de posibilidades y bienestar común.

Palabras clave

Construccionismo social-relacional, contextos educativos, prácticas colaborativas-dialógicas, posibilidades, transformaciones relacionales.

Abstract

The research described here arose from the question of how to generate transformative processes in educational contexts, taking into account that, in Ecuador, education is still marked by the hierarchization of knowledge and relationships that seek homogenization and standardization. An innovative perspective was chosen for the process, social-relational constructionism, which looks at care and education as a creative, assertive, and proactive appropriation of everything that happens to us in life: links, work, relationships, and meaningful encounters; whose permanent learning processes need spaces for reflection and accompaniment.

The relational research involved teachers, authorities, parents, and other members of educational contexts, over 4 years, and had as its scenario the implementation of the project "Caring for the Caregiver" for educational and protection institutions for children and adolescents in Tungurahua-Ecuador, between the years 2016 and 2019.

The purpose of the research is to understand how from the collaborative-dialogical practices and the generative approach - as ways of being and doing - new relational conditions are created that put in the center the opening towards the diverse, the different and the local and in which the students build their own creative, emotional and relational resources. The result shows that freedom, dialogue, curiosity, critical reflection, respect for difference, and relational ethics enhance educational contexts and generate transformations that contribute to a life of dignity and to the construction of possibilities and common well-being.

Keywords

Collaborative-dialogic practices, educational contexts, relational transformations, social constructionism, possibilities.

1. Introduction

At the present time, in which immediacy prevails, there are few spaces in which raising useful questions to reflect constructively on the teaching-learning processes becomes indispensable. It is necessary to raise questions that generate sustainable transformations, linked to local contexts, that allow for the eradication of abuse, mistreatment, violation of

rights, as well as homogenization that rejects difference, all of these common aspects in Ecuadorian social environments.

The present article shows the results of the implementation of innovative perspectives for the Ecuadorian context (sustained in the social-relational constructionist epistemology), on how to conceive other styles of relationships in educational spaces. It describes the implementation of a process of relational co-research whose methodology invites the protagonists to a reflective pragmatics.

Social-relational constructionism and collaborative-dialogical practices and the generative see care and education as a creative, assertive and proactive appropriation of everything that happens to us in life. Affective bonds, works, relationships and meaningful encounters; as well as existential crises, successes and failures are part of the constitution of people and their relationships. Anderson (2013) proposes this position as:

> a philosophical stance - a way of meeting, reflecting together, and talking with the people a teacher works with. It is a posture characterized by an authentic, spontaneous and natural way of acting. Through this attitude, tone and position, one is saying to the other: 'I respect you', 'You have something valuable to tell me' and 'I would like to hear it' (p. 64).

The process described is based on asking reflective questions to the protagonists of the educational contexts (students, teachers, parents and institutions) about their being, doing and knowing. This makes it possible to verify that in the Ecuadorian reality there is still space for sustainable transformations. Furthermore, it allows for the assumption of co-responsibility in the maintenance of hierarchical relationships that make abuse, mistreatment and exclusion possible.

It is necessary to recognize that the critical discourse on education in Latin America has an important tradition. In this regard, Freire (1972) points out that:

> No one educates anyone - no one educates himself - men educate each other with the mediation of the world (...) Education as the practice of freedom, contrary to that which is the practice of domination, the reflection it proposes, because it is authentic, is not about this abstract man, not about this world without man, but about men in their relations with the world (pp. 61-63).

The experience and research presented here are based on the idea that educational spaces must be constituted in contexts of the exercise of freedom and the participatory construction of relationships, which will be significant throughout life. These spaces refer, in the words of Anderson (2019):

> (...) to the metaphorical space and the polyphonic process in which the transformation is generated. In other words, the transformation occurs in the dynamics of the relationship and the conversation. The essence of the collaborative relationship implies how we are oriented to be, act and respond 'with' another person, so that the other person joins us in shared commitment and joint action (p. 23).

These are spaces in which all participants actively contribute and all learn together, and a position that overcomes the hierarchy imposed on traditional education is fundamental.

In the following section, a brief theoretical description is made of how social-relational constructionism, which is the epistemology that guides the co-research carried out, takes collaborative-dialogical practices and the generative model as methodological elements to contribute to the relational transformation of educational spaces. Finally, the conclusions reached by the co-researchers are presented, as well as how these derive into new ways of understanding the relationships between students and teachers, between colleagues and between all the members of the educational communities.

2. Review of literature

2.1. Contributions from social-relational constructionism for a transformative education

This research is approached from the perspectives of social-relational constructionist theory and collaborative-dialogical practice and includes the reflective positions of Andersen, 1991, dialogical in Bakhtin, 1997, collaborative in Anderson, 1999 and generative in Fried-Schnitman, 1998. These positions focus on building relationships and help to understand their value in the professional practice of teachers and authorities and their contribution to the well-being of Ecuadorian families.

Social-relational constructionism "is concerned more with networks of relationships than with individuals and questions the position of transcendent superiority claimed by those who act according to the traditional scientific mode" (McNamee and Gergen, 1996, p. 21). This means participating in a transformative dialogue as opposed to a monologue, the dialogue implies being changed by the process itself.

Gergen, one of the most relevant theorists of this epistemology interviewed by Robyn Stratton-Berkessel (2015) for her podcast, states that:

> The possibility is this orientation of Social Construction, which is neither a belief nor a truth, it is an invitation for us to enrich our relationships. (...) The social constructionist perspective is the reverse of the modernist Western tradition of converging on a single vision. The possibility is to value differences and enrich relationships by valuing multiple perspectives
>
> (...) The constructionist work depends on the discourse. We need to talk. What other realities can we take into account? If you broaden your sensitivity to who you are, you broaden your perspectives. We are multi beings. We carry with us a myriad of perspectives. Let us listen to all the voices.

When talking about education, what is relevant is to offer the student: empathy; acceptance (respect for his or her being); confidence, coherence, curiosity and a safe and reliable space to develop meaningful learning. The educational system can encourage relational processes so that through narratives the different and the diverse contribute to develop a new style of being with oneself and with others.

A new relational perspective implies contributing to the transformation of the person's being by emphasizing conversations. Through language and meaning each human being enters into a relationship with others, thus building their own identity or inner voice. Every idea, every concept is born from social exchange mediated by language.

In this framework, social-relational constructionism finds in the collaborative-dialogical practices ways of being and doing that put in the center of the relations the opening towards the diverse, the different and the local in contrast with the homogenization that implies the positivist -traditional- logic that hierarchizes the univocal knowledge.

It is a matter of creating new relational conditions within which students can generate their own resources, that is, their relational capacities, resilience, respect, innovation and creativity. In the words of Fried-Schnitman (1998)

> The proposal is to explore the conditions of possibility, so that the questions of these times become instruments for creativity. Action planning implies putting into play the visions that are held about change -and its conditions of possibility-, of "reality", of time, as well as the conception about the role of those who plan the construction of the "desired future" (p. 450).

Morin allows us to broaden the horizon of these reflections and to look for new alternatives in the context of the teaching-learning process when he points out that complex thought is that which is located in a moment and in a time; that is to say, that it is always linked to the local space. This author affirms that complex thought recognizes that there is uncertainty and this makes it escape from the dogmatism that is characteristic of non-complex thought. In the same text, Morin points out:

> But complex thought does not fall into a resigned skepticism because, operating a total break with the dogmatism of certainty, it courageously launches itself into the uncertain adventure of thought, thus joining the uncertain adventure of humanity from its birth. We must learn to live with uncertainty and not, as we have been taught for millennia, to do anything to avoid uncertainty (Morin, 1998, p. 440).

For his part, McNamee asserts that the social constructionist perspective holds that relationships are built in conversation, this means talking to the other, without trying to convince or defeat them. The purpose is to understand each other, not to agree. Conversation has no other objective than itself and, being free, is one of the pleasures of existence (McNamee, 2016, para. 3).

To be "understanding" is to coordinate one's actions with those of another; it is to be a certain kind of person in relation to the other. The kind of conversations we have with others tell of the quality of life we choose to build.

The relationship that is built in the educational system represents the establishment of a new coordination that will be developed from the resources that both the teacher and the student put into the relationship. The main question is whether the conversational resources generated in the educational relationship are feasible to put into practice, that is, outside this context.

Anderson's proposal is that teachers should make an honest analysis of their pedagogical traditions: of how they relate to people, of how they think about, talk to, act toward, and respond to their students. The author states that, if students question the teaching work in some way, they could listen to the invitation to pause and reflect instead of hearing the questioning as a condemnation (Anderson, 2013, p. 63).

Social-relational constructionism invites to think from another position the relationship that occurs in educational processes, a position that transcends the hierarchy imposed by the supposed scientific knowledge to approach the other valuing his difference. More than information and cold data, what students ask from their teachers are questions:

What is brought to the relationship? What relationship is valued? Who are the teachers? Are they experts? Teachers? Friendly advisors? Moral guardians? And, in any case, how do we become who we are?

2.2 Education: sense and meaning

The meaning of life is to achieve what the philosopher Montaigne proposes: "everything I do, I do with joy" (Montaigne, trad. in 2007, p. 588). Joy is an approval of existence. To ask oneself about the meaning and significance of education remains current, the answers are multiple and do not exhaust themselves.

The verb "to educate" is taken in the context of this process of co-research, as posed by the social constructionist epistemology, that is: to contribute to bring out the best in a person, to mobilize his resources, potentialities, to recognize and value the positive of his being, of his contributions and questions. It is about emphasizing positive resources rather than deficits. As we understand it, it is to accompany children and young people so that they become sensitive, honest, humane and intellectually contribute with their proactive, creative and critical participation to social change.

When you are part of a relationship in the educational context "the fundamental thing, in every human relationship, is gentleness, which means: speaking gently, listening gently, asking gently, explaining gently, dealing gently" (Andersen, 2013, p. 80). The teacher has the responsibility to contribute to the children and adolescents becoming more and more autonomous and independent, to be able to discern, think with criteria, reflect and express; to question, to contribute to the respect for others and, above all, to tune in with empathy, both with themselves and with others.

It is about providing children and adolescents with daily: joy, true acceptance, legitimization of their being and feelings, authentic affection, sincere respect, trust, human limits, which contain and guide. The alliance, the bond of trust and security between teachers and students is what makes it a meaningful relational and educational process.

The best teachers at personal criteria are those who with their sensitivity, empathy, creativity, imagination and intelligence manage to infect students with the taste, passion and pleasure for the subjects they teach. They are the ones who contribute to the inner wellbeing of the child and the adolescent.

The well-being of the students is based on the fact that, in the first instance, the teacher recognizes that he or she loves doing what he or she does (being a teacher), that he or she enjoys sharing that teaching-learning space, that he or she accepts and values it as a human being by the mere fact of being, of existing. What strengthens is not the capacity to submit and oblige, but the ability to see things with good eyes, to laugh, to mobilize one's resources, to invent solutions, to expand one's resilience.

In this context, to educate is to build a different relational ethic and a deep intimacy, it means to open oneself totally, in a transformative dialogue, to the "truth" of the other and that this be transformative. Ethics is present in people's actions, in their conduct and their relationship with others and with themselves.

2.3 Relational Intelligence

Relational intelligence translates into the ability to be happy, not to be dominated by adversity, to take control of one's life and to establish harmonious relationships with others. According to Anderson, it is not enough to boost a child's IQ; we must also be concerned about his emotional quotient, and even more so if we take into account that many intellectual and school difficulties have their origin in emotional blockages (Anderson, 2012, p. 4).

McNamee maintains that relational intelligence is immediately recognizable because it brings into contact what is human in a person. He also asserts that those who are inhabited by it penetrate beyond the surface of things, listening to deep motivations (McNamee,2016, para. 8). The teacher, then, must enhance his or her capacity to listen and strengthen his or her relational intelligence in order to strengthen, in turn, the relational resources of his or her students.

Relational intelligence and emotional intelligence are linked because they imply the conviction of respecting the person's emotions; that is, allowing him or her to feel who he or she is, to become aware of himself or herself here and now. It is to place him in the position of subject, to authorize him to show himself different from the interlocutor. The two are associated to generate relational contexts that allow a different being and a different doing that makes possible a transforming learning.

People learn mainly from their parents when they have an educating attitude from the time they are children. This is a determining factor in the development of their emotional quotient. "The emotional habits are built according to the emotions accepted or forbidden by the parents, consciously and, above all, unconsciously, of the taboos and family secrets, as well as of the place that is occupied between the siblings" (Belart and Ferrer, 1998, p. 86).

The child, at home, takes the adults as a model of action, when he enters the educational system his model of action will be the teachers, and he has a tendency to follow spontaneously the action of the other, more than the advice he can offer them. Unconscious messages are more powerful than conscious actions or words.

Helping children to develop their emotional quotient implies that adults themselves develop theirs. Helping a child grow means that the adult grows in a different way.

2.4 Self-esteem and empathy

Self-esteem is the sum of confidence and self-respect. It can be built and strengthened in an environment where individual differences are respected, where positive appraisal is open, mistakes are learned, communication is open, rules are flexible, responsibility is modeled, and sincerity, honesty and integrity are practiced.

In environments where children and adults feel good about themselves, they will be loving, healthy, creative, and capable of providing solutions to problems. In educational contexts, the aim is to establish a pleasant relationship with students instead of neglecting their needs, depriving them of the reasoned and respectful explanations to which they are entitled. It is to co-create with them a space for the free expression of the multiple voices present and to legitimize that rich diversity.

Satir maintains that positive human relationships and proper loving behavior originate from characters with strong feelings of self-esteem; only individuals who love and value themselves can value others. For this author, strong self-esteem allows for healthy and happy human beings. In addition, it helps to build satisfying relationships.

> Individuals who know how to appreciate themselves would not violate their interpersonal relationships by resorting to violence. Those who do not love each other become instruments of hatred and destruction at the hands of unscrupulous beings. The more we value ourselves, the less we demand from others; the less we demand from others, the more we feel confident; the more we trust in ourselves and others, the more we can love; the more we love others, the less we fear. The more we build with others, the better we will get to know them and the better we know others, the greater the bridge of union with those around us. In this way, self-esteem behavior helps us to end isolation and alienation between individuals, groups and nations (Satir, 2002, p. 47).

Self-esteem is the most intimate relationship with oneself. The person with good self-esteem has an inner life that is rich and rewarding and therefore feels satisfied with himself. The challenge is to learn to free oneself, to be spontaneous and authentic in all relationships with oneself and others.

On the other hand, empathy is the affective and intellectual rapport between two people. It implies sharing the emotion perceived in another. It is "putting oneself in the other person's place" (Fonseca et al., 2011, p. 23), that is, putting oneself in the other person's shoes, but above all being able to walk in those shoes. This will require an emotional state that is congruent in the dialogue with the other.

Empathy allows us to confirm the other's way of seeing; to understand and recognize their own logic, their own reason. Empathy humanizes, allows us to understand the other in their motivations, in the explanations of their actions. It is the feeling of the other and their explanation that must be understood; to recognize their legitimacy and their right.

Psychoanalyst Miller (2009) explains the possibility of being empathic or not:

> The condition for real empathy with others is empathy with one's own destiny, which an abused child could not develop because he was forced to deny his pain. When we force a child to learn that he has to repress his emotions, he fails to develop empathy with himself and therefore also with others. This promotes criminal behavior, often hidden behind seemingly progressive moral - educational - religious or political language (pp. 142-143).

Likewise, Miller describes that all exhortations to love, solidarity and compassion will be useless if this most important prerequisite of human sympathy and understanding is missing. Without empathy there is no change and no growth. In the educational environment it is fundamental, then, to build relationships sustained by sympathy, understanding, and respect from the adult to the child in order to strengthen transformative learning (Miller, 2009, p. 143).

Every child and adolescent needs an empathetic and non-dominant human being as a companion, because whoever is capable of empathizing has no need to repress. In this regard, therapist Rogers (1989) used to emphasize that:

> ...a person, upon discovering that he or she is loved, because of who he or she is, not because of what he or she pretends to be, will feel that he or she deserves respect and love... empathy is a process; it is penetrating the

> other person's private perceptual world and becoming completely familiar with it. It involves being sensitive to the changing intentionalities flowing in that other person... (p. 103).

Miller (2009), also explains that:

> Children who from birth experience love, respect, understanding, kindness and affection, will develop radically different traits from those children who from the beginning suffer abandonment, contempt, violence or even abuse, without at any time a kind person to support them and allow them to believe in love. When this does not happen, as is the case in the childhoods of all dictators, the child will tend to glorify the violence experienced and to exercise it later in an excessive way whenever possible. Because all children learn by imitation. The body does not learn what it is meant to be taught by words, but what it has experienced itself. Therefore, a child who has been hit and mistreated learns to hit and mistreat, while a child who has been cared for and respected learns to care for and respect the weakest. Because he only knows this experience (pp. 59-60).

In the educational spaces in the adult-child relationship, an empathic and respectful treatment is basic and fundamental. It is necessary that the students' self-esteem can grow. A strengthened self-esteem is the basis for positive, creative and life friendly relationships. Therefore, self-esteem and empathy are at the foundation of new relational contexts conducive to the construction of significant transformations in the lives of teachers and students.

3. Methodology

3.1 Relational investigación

Relational research was applied, in the Ecuadorian context, is little known and is an innovative way of doing research. It is a significant contribution for future processes that want to be carried out seeking to overcome the hierarchies of the positivist perspective.

In this proposal of relational co-research, we move from the researcher-subject pair to the relationship of co-researchers who, sustained by a reflective pragmatics, discover and, at the same time, generate sustainable processes of significant transformation. It has been previously pointed out that the research process presented is inscribed in the social-relational constructionist logic. Researching, from this perspective, is not a matter of merely collecting data, doing the conventional work that places the researcher in the place of the expert, without questioning the status quo of the hegemonic culture and maintaining "that form of non-thinking, which are prejudices" (Tapia-Figueroa, 2018, p. 341). It is the opposite of critical reflection, which accompanies from uncertainty.

Research is understood as a form of conversation, which is the same as another form of dialogue and with it -as in every activity committed to the relation- worlds are described. Only language allows us to represent the world, that is, it is what is done together poetically.

According to McNamee, research is a poetic activity. This means focusing attention on research as a dialogue that responds to specific relationships and situations and can therefore broaden the spectrum of possibilities and ideas for other forms of social life (McNamee, 2013, p. 108). The aim of relational research processes is to generate dialogues

that have the potential to make differences, however small, in the work with communities and, specifically, with students, their families, teachers, and members of social organizations.

Relational research is about connecting, "about embracing complexity" (McNamee, 2016) [Taken from Sheila McNamee's intervention at the Taos Institute's Relational Research Network, March 15, 2016]. The relational research method becomes a resource that helps people get involved, participate, reflect, commit, and act in the directions they build together. Research will be a process in which conditions are generated to relate to the new, the different.

Research is a reflexive practice in which investigating is asking to expand, process and understand what is being done together. To learn from what is done and what could be done differently. What is interesting in relational research is practical knowledge, which serves and is useful for all participants in their specific local cultural context.

The co-researchers seek to reflect critically on their own theoretical assumptions and the need to open the panorama to other ways of conceptualizing and understanding research. In the case of the research described in this article, qualitative approaches are taken, as argued by Sisto (2008):

> In this way, qualitative methodology demands a disposition to dialogue that has been called active by some authors (Holstein and Gubrium, 1995; Denzin and Lincoln, 2003) as the active involvement of the research subject with the other, recognized as the subject, transforming the instances of data production as dialogically active instances (pp. 23-24).

The fact that the research is relational means that it is a process to produce transformations in the relational contexts of the participants; a process that starts with the intention of knowing and, also, of transforming. A process that never ends, it is an infinite dialogue. According to Gergen (2016)

> Dialogical practices that restore the flow of productive meaning are extremely necessary. So are practices that bring humans and their environments together in a mutually sustainable world. All these actions are materializations of a different morality, an energizer for the relationship between relationships. And everything holds potential for the future (p. 579).

Relational research understands as co-researchers all the people who were involved in social relational research, making their own voice heard, choosing, according to their human and professional needs, the topics that were worked on in each meeting. The co-researchers actively and creatively participate in the reflective meetings, contributing with their experience and local culture, as well as with their resources and strengths, in the construction of a collaborative learning space. Similarly, those who decided that they wanted to see their perspectives and transformations, given during the process, contribute with their voices to the final research document and, therefore, to the summary presented here.

The main instrument of the research is the relational dialogue. McNamee and Hosking, explains that this allows for pragmatic and practical "results" for all involved (McNamee and Hosking, 2012, pp. 30-32).

From the perspective of dialogue, relationship-sensitive research creates the potential for participants to engage in critical reflection, to develop the expression of the multiple voices present and the coordination of diverse arrangements. This is precisely the idea that when there is involvement with others, meaning is actually being created among all of us.

Dialogue, then, is the tool that allows us to observe, reflect, analyze, and strengthen our own and collective resources and to co-construct the transformations; as Fried-Schnitman maintains, appreciative dialogue is based on focusing on the positive in order to grow its strengths and strengthen its resources (Fried-Schnitman, 2015, p. 56),

Finally, relational research is guided by the position outlined by McNamee (2013):

> Research has to be conceived as a constructive process that suggests that we construct and deconstruct descriptions of social life, while remaining actively engaged in the research process (...) the political nature of research is enhanced, emphasizing the need to listen to the multiplicity of voices (p. 106).

The relational research described here is supported by the approaches of social-relational constructionism. This form of research assumes that the research is, in itself, a relationship that allows for reflection and transformation of the participants and the contexts in which it is developed. As co-researchers, participants observe, reflect, dialogue, and transform their contexts.

The method used was that which proposes social-relational constructionism for relational research: empowering the participation of those involved in the process through reflective, appreciative and collaborative dialogues referenced in their local contexts, opening, with curiosity, the space for the inclusion of all the voices present. By proposing this research as part of the training process, the method also implied conceiving it as a form of social action aimed at the transformation that teachers, families and communities needed according to the testimonies of the co-researchers.

The training and clinical supervision process that served as the framework for this co-research was "Caring for the Caregiver", carried out in the city of Ambato, Ecuador. It was an initiative of the Danielle Children Fund, an organization in charge of protecting children and adolescents in institutional care, and was initially planned for the technicians and families with whom the organization works. Later, other community actors linked to child protection were included.

The fundamental objective of "Caring for the Caregiver" was that the participants became responsible for their own self-care, mobilizing their social and professional support networks. Within this framework, the co-research involved teachers, authorities, parents and technical teams from educational institutions in the province of Tungurahua; a total of 400 people during 4 years (2016-2019), as co-researchers. The participants were called to continuous meetings for reflection, training and clinical supervision every 15 days, according to a jointly constructed work schedule.

The dialogue was considered the main tool for observation, reflection, analysis of the way in which relationships were carried out in the educational spaces, and also as a potentiator

of the resources of the participants and the transformations that are required to generate other types of relationships. The methodology of the relational co-research raised for each meeting specific themes and generating appreciative questions. The questions were aimed at mobilizing resources and potential of the co-researchers to understand their social and relational contexts and to reflect on different ways of being, doing and knowing. The reflective processes generated in the co-research opened up possibilities for responsible transformation in their professional practices and everyday life, following the logic of the epistemological proposal of the research (reflective pragmatics).

Additionally, relational research requires that all the material co-constructed between the co-researchers be reviewed and approved by them prior to the systematization and presentation of the final research report, a document from which this article is drawn. The testimonies that provide the results presented were collected during the collaborative dialogues in two instruments: the researchers' field diary and a logbook kept by a designated person among the participants.

4. Results

The results obtained in the proposed relational research reflect the reflections that the participants (co-investigators) made during the process. The fundamental themes of reflection were the construction and strengthening of new ways of relating in educational spaces to promote significant transformations in themselves, their students and the community in which they develop.

The following fundamental aspects, which emerged from the reflective dialogues and which were collected in the instruments indicated in the methodology section, were highlighted for the realization of transformative relational and educational spaces:

- Everyone - teachers and students - learn in the process of building transformative educational spaces, sustained by dialogue and different relationships; it is not a unidirectional process in which students receive or learn and teachers "impart" or teach.
- Co-researchers argue that a different position is needed to learn, not only the desire to learn, the passion to learn, the pleasure to learn, but also humility to learn. Humility is a human and intellectual attitude and includes the validation and positive appreciation of others' questions, doubts, and alternatives.
- For co-researchers, the transformative relational process involves taking into account the experiences, resources, knowledge, and strengths of the students. One must overcome the logics that support an "expert" facilitator/teacher who "teaches" and adopt a posture that helps open up alternatives and possibilities.
- For the co-researchers it is necessary to recognize that the community in which the teachers work, creates - with sensitivity, skills, intelligence and creativity - the generative alternatives, which their needs, those of their relational and social contexts, require.
- The communities in which teachers work can propose possible future horizons for meaningful student learning. This implies, for teachers, a posture of theoretical and practical humility to accompany dialogues that make visible the resources of students and parents.

- The co-researchers recognize that the "humble" posture of the teachers is nourished by genuine curiosity and uses active and deep listening as a tool.
- Among the tools that co-researchers most value, in their exercise of teaching that prioritizes transformative relationships, the question is fundamental. Questions, more than tools to validate the academic information that students have, are means to learn to open up to listening to what is important to the other, what is really significant for children and adolescents.
- To ask incessantly, to nourish oneself with criticism and reflexive self-criticism, are elements that positively nourish the relationship and should be strengthened in the exercise of teaching.
- Innovative educational spaces imply the generation of relationships and conversations in which the freedom to be and do of students and teachers prevails. The freedom of being and doing, both of the teacher and the student, is the engine of the lasting transformation in the educational spaces.
- The co-researchers emphasize that building themselves as legitimate interlocutors who value and recognize themselves in their diversity is one of the objectives of the transformative educational process.
- The responsibility with the other, the reciprocal respect, the legitimization of the other as an authentic other, is at the base of the approach of dialogical educational spaces that promote significant transformations.
- The permanent construction of a dignity in the relationship and with the relationship is a priority in the educational spaces.

In addition, the relational research process managed to systematize, as part of its results, a systematized proposal for the profile of teachers who build transformational relational spaces. Table 1 describes teachers' aptitudes and attitudes, which are located in three aspects: the "being" of the teacher; the "knowledge" of the teacher; and, the "doing" of the teacher.

TO BE **attitudes - values - ethical relational lifestyle - emotional intelligence**	**TO KNOW** **knowledge**	**TO DO** **professional practices, resource management, skills, methodologies**
Free of prejudice and stereotypes	Get to know conceptual orientations	Create authentic connection links
It integrates in a coherent way the three areas: being-knowing-doing	Reflexively questions prejudices and stereotypes	Manages care criteria for students and families
Has ethics (confidentiality)	It has a solid foundation in social-relational constructionist epistemology	Manages resources for family care
It is curious and flexible	Differentiating child and adolescent friendly work models and schools	Articulates and guides students and families on statewide care pathways
Is respectful	Identifies the needs of every person in their social interaction	Promotes the culture of good treatment

TO BE attitudes - values - ethical relational lifestyle - emotional intelligence	TO KNOW knowledge	TO DO professional practices, resource management, skills, methodologies
Maintains assertive relationships	The culture of abuse and violence as an educational method differs from the culture of good treatment	Facilitates understanding and prevention of sexual violence against children and adolescents
Does not judge, criticize or give advice	Knows the basics of laws related to the exercise of rights	Emotional Crisis Intervention
Promotes -in a coherent way- gender equity	Applies a human rights, gender and generational approach	Adequately handles tools to approach students in vulnerable situations
	Identifies the integrality of sexuality	Handles mediation and conflict resolution strategies
	Has local (cultural) resources for care and support of students and families	Handles methodologies for sexual health education
	Distinguishes and questions, on a daily basis, inequities and inequalities based on gender	Handles relational communication bases
		Promotes local support networks
		It promotes higher levels of resilience in people
		It facilitates processes of empowerment of adolescent girls and the construction of new masculinities.
		Creates bonds of commitment and authentic relational ethics

Table 1. Profile of the teacher who builds transformative relational spaces

The co-investigators highlighted the use of skills and attitudes that make visible a rights and gender perspective with a focus on good treatment and the valuing of differences. This fact is fundamental in the construction of transformative educational contexts.

5. Discussion of results

Relational research is new in the Ecuadorian context and constitutes an alternative that can open the perspective for new ways of knowing, understanding, and transforming education in Ecuador. The results presented in the previous section give an account of the reflective process that research has fostered, and at the same time, of how it is possible to build reflective pragmatics when it is placed at the center of relational processes sustained by dialogue, curiosity, and the appreciation of difference.

Although it has been repeated, in the educational system, that the final objective of education is not to transmit information, nor even to impose norms, the reflection of the co-researchers led to the conclusion that it is important to develop a thought of genuine critical reflection. It is not a question of giving easy answers, but of learning to ask new questions, on which well-being can be built. The process of learning-teaching requires developing an awareness of the position in which teachers and students are placed. A position that differs

from the traditional positions, sustained in a hierarchy of teaching authority and aimed at submission and obedience (active or passive) of those who learn.

Teaching, from every point of view, implies taking into account experiences and resources that the participants have in order to increase their knowledge. What is innovative, then, lies in the construction of positive relational spaces that promote the transformation of people and contexts. In addition, it requires the teacher to leave the hierarchical position of "expert" to propose himself as an equal, willing to enhance the resources (their own and those of their students) in resilient learning for life.

For the construction of relational contexts in the educational field, it is necessary to recognize the social groups that are part of them (local community, families, authorities, etc.) Teachers who want to build transformative relational spaces must link community contexts in their practice. To this end, promoting positive resources, reflective capacity and community experience in favor of meaningful and sustainable transformations is a priority.

From these perspectives, the questions are not for the verification of learning or for the validation of the teacher's knowledge, but for knowing the interlocutor, for promoting curiosity and the appearance of resources for life. The question becomes the door for learning and for the transforming relationship, the tool that allows these links and lasting transformations. The questions promote the fundamental freedom for the teaching-learning process. Freedom that implies thought, action and, perhaps most importantly, freedom to be. This is built from the acceptance of the other and oneself, in a constant and uninterrupted dialogue.

An additional element that has emerged in the relational research proposed is the legitimation of the other as an interlocutor. Knowing it differently and recognizing that difference is the beginning of a transforming relationship for the participants in the learning process. The richness of the educational process lies, precisely, in the diversity of voices, experiences, ideas and personal and community contexts. The challenge for the teacher lies in the respect and responsibility to sustain the difference and not to try to homogenize the interlocutors.

Together with these elements, the construction of a profile of the teacher that promotes transformative relational contexts, with the three axes (being, knowing how to do) is a contribution of the reflection generated by the co-research, for a pragmatic teaching. The teacher's profile gives an account of the elements that must be present in processes that have a transforming impact on the educational context and that are not only put into play in the professional field of teaching but also in the teacher's own life, as a member of his or her context and community.

In the profile, the axis of "being" speaks of the teacher as a person, immersed in his or her own relational and cultural contexts in which values, relational ethical conceptions, and his or her own resources sustained by his or her experience and local culture are brought into play. The responsibility of interrelating from a relational ethics and recognizing that it contributes to the construction of the common welfare, by embodying the difference with their professional practice and lifestyle congruent.

The axis of "knowledge" emphasizes the knowledge and professional experience of the teacher, his or her academic training and the knowledge he or she has acquired about pedagogy, group management and others, which are useful for his or her educational work. In addition, it is essential that they know the context in which their interlocutors are developing, both from a cultural perspective and from that of the law and procedures that

are part of the educational system and the protection of children and adolescents, prevention of gender violence, etc.

The third axis included in the profile that emerges from the co-research, is that of "doing" that emphasizes the tools, resources, skills, abilities that the teacher must have for the construction of transformative relational educational contexts. Among the resources pointed out by the participants are: the use of mediation tools, conflict resolution, assertive communication skills, the construction and strengthening of support networks (with the participation of the educational community, local and families) and the active involvement of all participants.

6. Conclusions

To propose a research process in the complex context of the Ecuadorian educational reality is a priority. It means facing the responsibility of opening and innovating professional practice with non-conventional reflexive questions.

Asking questions also implies proposing possibilities and committing oneself to the generation and construction of futures that contribute to social well-being. A real transformation in educational contexts takes into account the responsibility of building, with dignity, a fair and equitable society.

Among the challenges that teachers face in their professional practice is to be the motor for transformation, and this is one of the deep and congruent meanings of the teaching-learning process. Educational innovation does not only lie in the implementation of innovative pedagogical tools or the inclusion of technology - so much in vogue due to the situation of the COVID-19 pandemic - in the teaching-learning process. A real transformation starts, as we have seen in the relational research process described in this article, from a constant questioning of the aspects that are part of the student-teacher relationship. Questioning the position of the teacher, rethinking him/her as an interlocutor open to the difference, to his/her own permanent learning and updating and who puts into practice and strengthens his/her communicational and relational resources was one of the most interesting results of the process we have described.

An innovative approach to generate transformative relationships in the educational context is to position oneself as a teacher who seeks to create different training spaces, understanding that these are mobile, rich in perspectives, complex and changing. Recognizing the other (student, family, community) as an active subject, possessor of knowledge, a valid interlocutor for joint construction, is part of the very transformation that teachers must undertake.

The implementation of relational research - little known in Ecuador - sustained in the social-relational constructionist perspective, is, in itself, an innovative proposal. It contributes to the generation of significant transformations in the educational field.

It is a research process that prioritizes dialogue for investigation and the recognition and appreciation of the other as a co-researcher, and is oriented to the practice and inclusion of the multiple participating voices. It is an invitation to conversation, which the research itself contributes to make visible and give new meaning to, and is, in itself, a learning process that strengthens the reflective pragmatics of the teacher who seeks to build transformative educational contexts.

During the process described in this text, research became not only a way to know reality. It also encouraged the participants' reflection and the construction and proposal of tools, contextualized, to put into practice the dialogues and generate transformations in the educational contexts, as well as in the people who live in them and in the teacher-student-family-community relations.

To place oneself in a different position -that leaves aside the hierarchy that has been imposed by the traditional educational system-, to take into account the resources and knowledge that teachers, students, families and community have. In the same way, it makes it possible to accept that everyone can learn from each other when the difference is valued. These are elements that transform the relational contexts for education that emerged as a result of the research process.

Putting into practice freedom, humility, curiosity, acceptance, legitimacy and respect for difference is a priority. This will allow educational contexts to become spaces for transformation and is a constant challenge for Ecuadorian teachers.

Finally, it is fundamental to prioritize the dialogue between teachers, students, family, authorities and community; dialogues build realities, open perspectives, and generate transformation. The difference that makes the difference lies, as can be seen in the results of the relational research that has been carried out, in the openness to the question, as a fundamental motivating element for reflection and transformation. The question that does not know the answer and that is open to a multiplicity of perspectives and expands the possibilities.

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REVISTA CÁTEDRA

Retos y logros de la aplicación de grupos interactivos en una comunidad de aprendizaje

Challenges and achievements of the implementation of interactive groups in a learning community

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Resumen

La presente investigación nace de la necesidad de evaluar los logros y retos respecto a la implementación de una nueva estrategia metodológica educativa propuesta en el Ecuador. Los objetivos que se plantearon fueron: 1) Evaluar la aplicación de los Grupos Interactivos como estrategia metodológica de aprendizaje. 2) Determinar las dificultades que afronta la institución en la fase de implementación. 3) Establecer los logros alcanzados. Este trabajo de tipo descriptivo y cualitativo considera como caso de estudio a la Unidad Educativa Antisana, institución ubicada en un contexto rural del Ecuador. Los instrumentos de investigación aplicados fueron la entrevista semiestructurada dirigida al rector y grupos focales a docentes, estudiantes y voluntarios. Los ámbitos de indagación convergieron en la gestión administrativa institucional, cualidades del docente, aplicación de la metodología de grupos interactivos y desempeño de los voluntarios. Los principales logros alcanzados fueron diálogo igualitario, transformación y solidaridad, como principios del aprendizaje dialógico, además del liderazgo estudiantil y la potenciación de la zona de desarrollo próximo. Se advirtieron dificultades en algunos estudiantes, docentes y voluntarios evidenciadas en la falta de empoderamiento, superficialidad de las actividades instrumentales y escasa participación, respectivamente. Los retos generados de esta primera experiencia giran en torno a la consolidación de la estrategia a través de la interiorización del enfoque de los grupos interactivos. Es necesario proponer actividades colaborativas e integrar a otros actores sociales en calidad de voluntarios. Aspectos que permitirán fortalecer la inclusión y la cohesión social.

Palabras clave

Actuaciones educativas, aprendizaje dialógico, didáctica, grupos interactivos, inclusión, innovación

Abstract

The present research was born from the need to evaluate the achievements and challenges regarding the implementation of a new educational methodological strategy proposed in Ecuador. The objectives were: 1) To evaluate the application of Interactive Groups as a methodological strategy for learning. 2) To determine the difficulties faced by the institution in the implementation phase. 3) To establish what has been achieved. This descriptive and qualitative work considers the Antisana Educational Unit as a case study, an institution located in a rural context in Ecuador. The applied research instruments were a semi-structured interview with the rector and focus groups with teachers, students and volunteers. The areas of investigation converged on institutional administrative management, teacher qualities, application of the interactive group methodology, and volunteer performance. The main achievements were egalitarian dialogue, transformation and solidarity, as principles of dialogic learning, in addition to student leadership and the empowerment of the area of proximate development. Difficulties were noted in some students, teachers and volunteers evidenced in the lack of empowerment, superficiality of instrumental activities and low participation, respectively. The challenges generated from this first experience revolve around the consolidation of the strategy through the internalization of the interactive groups approach. It is necessary to propose collaborative activities and to integrate other social actors as volunteers. Aspects that will strengthen social inclusion and cohesion.

Keywords
Educational actions, dialogic learning, didactics, interactive groups, inclusion, innovation.

1. Introduction
The Interactive Groups (IG) constitute a methodological strategy based on the principles of dialogical learning. This strategy has been implemented in some Latin American and European countries as an alternative to solve educational problems. Among the difficulties detected are: problems of coexistence, exclusion of students, scarce co-responsibility of the educational community and low academic performance. Based on the success obtained in other countries, in 2017, the GI were implemented in Ecuador as part of the Learning Communities (CdA) at the level of Basic and Secondary Education. The Antisana Educational Unit (UEA) was selected as a partner of the communities for the implementation of the ILs in their first phase. Therefore, the purpose of this study is to evaluate the results of this first experience in terms of achievements and difficulties.

The IGs base their success on educational results that transcend the academic sphere. In this regard, Ordóñez and Rodríguez (2016) express "interactive groups favor the learning of contents, relations and solidarity among students and with teachers, participation and cooperation in group work" (p. 151). The importance of this educational action is reaffirmed, since an environment of social interaction is created in the classroom. The teacher-student relationship takes a back seat and the different social actors are the new protagonists. Iglesias et al. (2013) point out that the GI "... has meant the opening of the institute's boundaries to the family and the educational environment, producing a more significant learning by bringing the center closer to the frame of reference of the students' learning experiences" (p. 69). The social actors promote the diverse competences of thought, communication and coexistence. The active participation of the educational community in the school, consolidates learning that acquires more sense and becomes more significant for the student. This is possible in a learning community where interactive groups are nourished by the most diverse experiences.

Another fundamental benefit of the application of the IGs is inclusion. This concept marks the seal of identity of the IGs, based on their heterogeneity. Its conformation is centered on this criterion, thus guaranteeing, through dialogue and interaction, the concretion of the inclusive approach. Castro et al. (2014) state that consideration should be given, for example, to "... gender, level of learning, cultural origin, affinity...". (p. 175). The purpose is to consolidate a work team with the widest diversity of experiences, opinions, thoughts, feelings and knowledge. The mere fact of being part of a group, of interacting in it and having your opinions taken into account makes this strategy achieve its intention, to include.

Despite the benefits that the execution of the IGs represents, its implementation as a new methodological strategy implies challenges. These challenges are mainly related to the involvement of all community members, the design of instrumental activities and the extra time required to implement the strategy. Chocarro and Mollà (2017) express that the work with GI requires "... a good planning of the calendar and to count, if possible, with a great number of fixed volunteers. This would be ideal, since such a structure is complicated in centers that do not receive as much help" (p. 64). This fact is possibly attributed to the lack of commitment of social actors, who are not used to participating directly in school activities. On the other hand, Ordoñez and Rodríguez (2016) point out that "a lot of time and effort must be dedicated to organizing the groups, designing the activities, and often the time spent working in the center is not enough" (p. 153). There is no doubt that entering

into a new educational strategy demands time, effort, and dedication that not all actors are willing to experience

Therefore, it is important to evaluate the application of the IGs in the UEA as a particular case of study of a qualitative nature. The objectives are to establish what has been achieved in the implementation phase of the IGs and to identify the difficulties faced by the learning community during their implementation. These results will allow the UEA to rethink actions in future experiences, in order to improve school coexistence and consolidate learning. Since this work is a private study, one of the limitations it presents is that it prevents generalizations from being made on the basis of the results obtained. However, the findings found can be a reference for other institutions that are starting this experience.

In this context, the present article contextualizes the educational institution and describes the Learning Communities and Interactive Groups. The main benefits of the implementation of the Interactive Groups are mentioned, as well as some of the difficulties involved in their execution and work related to them. The materials and methods used in the investigation are detailed, as well as the results and conclusions that are derived from the experience of the incorporation of the IGs in the educational unit.

2. Context of intervention

Context of interventionThe UEA, Jatun Yachana Huasi, which in Spanish means Big House of Knowledge, belongs to the Community of Tolóntag-Marco, Parish of Píntag, Metropolitan District of Quito-Ecuador. Its geographical environment places it in the buffer zone of the Antisana Ecological Reserve. The population segment is made up of mestizos, the majority of whom are of indigenous descent. The adult and older members use their mother tongue, Kichwa, for colloquial interaction. Their main occupations are farming, small livestock and beekeeping enterprises, family gardens and handicrafts. These activities alternate with jobs in the city, focused on construction and electricity. In recent years, the young population has joined university studies and currently a new generation of professionals has emerged in various areas, most notably education.

The UEA is made up of the rector, ten teachers and 215 students. The institution offers educational services in the sub-levels of Higher Basic Education and Unified General Baccalaureate. It also has the Basic Education Project for Youth and Adults (EBJA) implemented in 2018.

On August 1, 2019, the UEA became part of the CdA project through the education area of Grupo Faro (Ecuadorian independent research and action center) and the Ministry of Education of Ecuador. For the implementation of the project, a process of induction was carried out with the different members of the educational community under the direction of the Grupo Faro. The accompaniment was the responsibility of the Educational Advising team, a body attached to the Ministry of Education. Of the seven Successful Educational Actions (AEE) that support the CoAs, the institution decided to work with the IGs and literary gatherings.

The first phase of the IG project was executed in January 2020. This process was applied after a consensus with the teaching team, as a strategy applicable to the closing of Quimestre I, corresponding to the 2019-2020 school year. According to the calendar, the academic day was scheduled for one week

3. Related concepts

3.1 Learning communities

Learning Communities is a social transformation project that starts in the school and expands to the entire community. Its essence lies in the participation of family members and volunteers in school decisions and activities. In this context, it is of utmost importance to review the concepts of Learning Communities, Dialogical Learning and Successful Educational Actions.

In an approach to the first concept, Community of Research on Excellence for All (CREA, 2018a.) points out that "a Learning Community is a project based on a set of successful educational actions aimed at social and educational transformation" (page 5). Human beings are eminently social. Therein lies the importance of the actors and the school contexts and their environment consolidating significant learning that identifies them with their community. It is there, in the community, where the strength of the interaction is reaffirmed, sustained by a deep predisposition to learn in complicity with all its actors.

The interaction of the community achieves a resignification of its paradigms, always looking for adaptations to these new systems. In this respect, Flecha et al. (2003) state "... the development of this project implies not adapting to the unfavorable conditions of the environment but transforming them" (p. 2). We can see how this synergy of the social actors, their environment, their culture, their encounters and misunderstandings linked by the interaction, propitiate new environments. It is in this new environment where learning is enhanced.

Picardo et al. (2005) corroborate the previous paragraph, stating that:

> CdA, is an ecological and integral vision of learning, which implies not only construction, but also deconstruction and reconstruction, from a multidimensional perspective of the new knowledge society, aiming and betting on real learning environments assembled in dialogical interaction; it is a new current that is based on methodologies based on collective problem solving, experiencing solutions from diverse points of view without these being exclusive, and above all making creativity and innovation possible (p. 51).

In this sense, the synergy of these experiences is strengthened in the dialogue and problem solving proposed by the teacher. He becomes a sort of constructor of social architectures. This new paradigm is the one that is revitalized through the development and strengthening of learning styles and intelligences.

The knowledge society is reaffirmed in the formation of required profiles within an increasingly demanding socio-economic context. According to Ottone and Hopenhayn (2007), already in the educational field they are more precise in enunciating and ratifying what they say when they refer to the fact that "education that prefigures the functions of the future should tend to generate: capacity for abstraction, development of complex and interrelated systemic thinking, ability to experiment and capacity for collaboration, teamwork, interaction with peers" (p. 15). It follows that the imaginary of this new environment must possess much more creativity than docility or order. The social essence of the human being, in this process, cannot be consolidated without a primordial gravitant, the community. Group empathy, collaborative work and self-recognition occur in this space.

The CoAs base their objectives on the imperative need for the student to enhance and strengthen their abilities, skills and cognitive, practical and evaluative competencies. This would allow the discussion to focus on social problems, giving way to possible solutions that would assign the right to a dignified life. As cited by Flecha et al. (2003), the CoA "is a project that is directed especially at those centers with the most deficiencies, problems of inequality and poverty, in which external conditions seem to point more toward school failure and exclusion" (p. 4). The approach must be eminently formative and inclusive and the strategy dialogical, with emphasis on the school with the help of the family and the community. In this way social and economic gaps would tend to be minimized.

The concept of Dialogical Learning is based on the principles of the CoA, with an interactive approach. Aubert et al. (2008) describe how dialogical learning is generated, supporting by way of definition, the components whose basis are the principles of it

> Dialogical learning occurs through egalitarian dialogues, in interactions in which cultural intelligence is recognized in all people. These interactions are oriented towards the transformation of previous levels of knowledge and the socio-cultural context in the search for success for all. Furthermore, dialogical learning occurs in interactions that increase instrumental learning, favor the creation of personal and social meaning, are guided by principles of solidarity, and in which equality and difference are compatible and mutually enriching values (p. 167).

We warn that the connotation of the concept of Dialogical Learning goes beyond the communicative fact, since its foundation is based on the interactions of the social being. This, when framed in a socio-cultural context, is signified and resignified. In this way, they consolidate themselves as beings who feel, learn, transform themselves, recognize, create and give meaning to themselves and their environment. This being the case, it detracts from all interaction that affirms power relationships and the weight of the inequitable social structure. On the contrary, it emphasizes the formation of empowered human beings in the concepts of solidarity, equality and social transformation.

Now then, as it was already expressed, a CoA is sustained in the dialogic learning and at the same time for this one to materialize it is necessary that seven principles are fulfilled, which in summary and according to CREA (n.d.) are:

> Egalitarian dialogue: the strength is in the arguments and not in the hierarchy of the speaker. It is listening with respect and speaking with sincerity.
> Cultural intelligence: it includes academic, practical and communicative knowledge; all people have the capacity for action and reflection.
> Transformation: education as an agent for transforming reality through interaction.
> Creation of meaning: Learning that starts with interaction and the demands and needs of the people themselves.
> Solidarity: solidarity participation of all people in the community in the school's educational project.
> Instrumental dimension: learning the fundamental instruments for inclusion in today's society.
> Equality of differences: the same opportunities for all people (page 16).

With this epistemological support, the educational space is reached. For the implementation of the model, the so-called AEE are used, which are educational strategies that promote academic performance, coexistence and solidarity. The AEE with which a CdA concretizes its objectives in the school are: interactive groups, dialogical gatherings, tutored library, formation of families, educational participation of the community, dialogical model of prevention and resolution of conflicts, and dialogical pedagogical formation. All of them are based on interaction. The IG, by its dynamics, is perhaps one of those that harmonizes all the principles of dialogical learning. From there, the intentionality of the description of the application of this strategy in an educational experience.

3.2 Interactive groups

The IGs constitute one of the innovative educational strategies contemplated within the Learning Communities project. It is one of the ESAs that have been applied most frequently in educational institutions. According to Andrés Reina (2016):

> ... more and more centers are developing this type of grouping in their classrooms, since research shows that they are giving great results. The positive results are not only in a numerical or academic sense, but also, and even more importantly, many improvements are obtained at the level of coexistence, motivation and social skills (page 17).

The educational practice denotes that in the classroom in many occasions priority is given to the transmission of information. The educational task must develop, enhance and strengthen communication skills, skills for better human coexistence and naturally cognitive skills. Hence the importance of working on the skills and abilities that allow the consolidation of these competencies in the students in the different spaces of inter-learning.

The following lines describe in greater detail what the IGs are, what they consist of and what the role of the participants is.

3.2.1 ¿What are interactive groups?

There are two conceptions regarding the GI concept, one based on the organizational structure of the classroom and the other, somewhat broader, seen as a didactic practice. Thus Andrés Reina (2016) states "it is a way of organizing students within the classroom, forming small groups of 4 or 5 components each" (p. 13). Oliver and Gatt (2010), for their part, emphasize the value of IGs by pointing out that "... they are one of the most successful forms of classroom organization in Europe in overcoming school failure and coexistence problems" (p. 279). Within this same conception, CREA (2018b) states that "Interactive Groups are a form of classroom organization in small, heterogeneous groups and with a redistribution of available human resources" (p. 15). It is noted that the three sources combine in that the IGs are a form of organization of the students in the classroom. The most evident contribution is given in the intentionality, when it is stated that school failure and coexistence problems are the ends to be worked on. At the same time, we are already talking about the number of members and the inclusive approach.

With a broader vision, Castro et al. (2014) express that "the interactive groups transfer the principles of dialogical learning to the classroom, which means a substantial change with respect to the traditional way of teaching classes, but also with respect to other non-traditional forms of grouping students" (p. 175). Under this thought, the IGs are seen as the means that allows the development of a collaborative learning, between pairs. This process

counts on the contribution of each of the participants, since all of them start from their cultural experience and project themselves to the same objective. In this pedagogical experience, the principles of dialogical learning and the rupture of the classic way of structuring a class are already established. This strategic leap allows the development of learning through interaction in new forms of community

3.2.2 ¿What do they consist of?

IGs have a structure that adheres to four elementary steps. CREA (2018b), summarizes them in the following: organization of small work groups; assignment of an adult to each group; execution of the assigned activity in each group and under the accompaniment of the adult; rotation of groups to a different activity and with a different adult (p. 16).

These four steps are detailed with the contribution of other authors. With respect to the formation of the working groups, it is very important that they be small, with 4 to 5 students, and heterogeneous. Castro et al. (2014) state that the members should be sought to present the most varied characteristics in all possible settings. Among the aspects to be considered are "... gender, level of learning, cultural origin, affinity..." (p. 175). The more diversity among students, the better, because this condition of heterogeneity ensures that no student feels isolated by any condition whatsoever.

An adult is appointed to each group, who is also referred to as a volunteer or tutor. This person can be any member of the learning community, close or not. Castro et al. (2014) propose as volunteers "grandmothers, grandfathers, mothers, fathers, older brothers and sisters or other relatives, friends, or social agents of the environment" (p. 175). The participation of adults outside the neighborhood or from contexts distant from the learners, such as university students, is not ruled out. It follows that every citizen committed to the future of society is welcome to participate directly and actively in the educational process.

Volunteers do not need any requirements for their participation. In this regard, the cited authors point out "... it is unnecessary for the tutors of small groups to know about the content that the students work on in class: that is what the teachers are there for" (p. 175). Of course, their empathy with authorities and teachers plays a very significant role in achieving the learning objectives. In addition, under this undemanding environment, the volunteers' performance is sought to be spontaneous and free of fear.

The duration and nature of the activities must be taken into consideration. Castro et al. (2014) point out that "in the classrooms where the interactive groups are carried out, it is common for the group-class to be divided into 4 or 5 small groups that carry out tasks of about 15 or 20 minutes with the adult tutor" (p. 176). With respect to the type of activities, the same authors indicate that it is necessary to "establish teaching-learning strategies oriented to the instrumental dimension of learning, with the purpose of enabling them to respond to the demands that will be placed on them in the information society" (p. 178). Therefore, the importance of bringing properly planned actions or exercises into the classroom is inferred. The proposed activities should not be limited to reinforcing the cognitive aspect, which is ultimately the least interesting area within the purpose of the application of the IGs. On the contrary, students should be challenged to solve the problems posed through their decision-making skills.

On group rotation, Oliver and Gatt (2010) point out that "interactive groups favor, at the same time, the dynamic rotation of various instrumental learning activities in a single

session, so that the entire student body (not just the most advantaged) ends up doing all the activities scheduled for that session" (p. 282). In itself, the rotation of tasks and volunteers energizes the educational process by expanding the fields of learning and interactions in different settings

3.2.3 ¿What is the role of the participants?

The correct execution of the four steps mentioned above are the basis for the successful implementation of the IGs, so each participant must know and fulfill his or her responsibilities. This team is made up of the teacher responsible for the subject, volunteers and students.

The role of the teacher as indicated by Andrés Reina (2016) is summarized in the planning of the learning process, assessment and evaluation in the management of the IGs:

> As for the teacher's role, it is aimed at coordinating the activity and organizing the responsibility that each one will have to face. It is also the teacher's task to watch over the development of the contents, both the academic ones and those that refer to the skills that are intended to be acquired or promoted. Select the contents to work on, design activities, organize the groups in a heterogeneous way, share these activities with the people who will collaborate in the classroom, attend to the needs that arise, serve as extra support to the students who need it and at the end of the session, make an evaluation with the volunteers and students (p. 14).

While the role of each participant is important in the development of IR, the leadership role of the teacher as an educational professional needs to be emphasized. The educator knows his or her students, their characteristics, interests, strengths, and weaknesses. Based on this knowledge, he or she is the right person to channel the activities, as well as to optimize the resources with technical criteria.

The volunteer or tutor is responsible for the operational and logistical environment, especially establishing communication channels between team members. According to Rodríguez (2012):

> The volunteer, who has previously received training, does not play the role of an expert, but is responsible for encouraging dialogue, ensuring that they have understood the task, making the work in the groups more dynamic, avoiding attitudes of isolation and getting everyone involved in solving the task (p. 72).

This social actor is consolidated as a fundamental support within the IGs. His experience as a head of household, leader, micro-entrepreneur, entrepreneur and student makes him a mediator. The profile of the volunteer allows for spontaneous interaction from other levels of expectation.

The students have the commitment to actively collaborate in the fulfillment of the assigned tasks. Castro et al. (2014) emphasize that it is "... the students themselves, through cooperation and dialogue with their peers, who resolve the difficulties that arise" (p. 175). This educational experience applied as a pedagogical strategy in the classroom reaffirms the concept of CoA. The interaction of its actors makes new synergies possible, which are

translated into a wide range of skills and abilities. This benefits directly the student segment, and indirectly the volunteers and teachers who, in this dialogical experience, strengthen inter learning.

3.3 Benefits and limitations of the application of Interactive Groups

The IGs as part of the active methodologies of the Learning Communities generate multiple benefits. The diversity of interactions among the actors that this methodological strategy demands, allows the development of cognitive and attitudinal skills and fundamentally promotes social skills. As stated by Ordóñez and Rodríguez (2016), "interactive groups favor the learning of contents, relations and solidarity among students and with teachers, participation and cooperation in group work" (p. 151). This strategy contemplates the student's holistic development, since it promotes, in addition to cognitive skills, the strengthening of social skills. These skills are indispensable for the individual to develop effectively in the community to which he or she belongs.

The IGs, being made up of small heterogeneous groups as a fundamental requirement of the same, allow the principle of school inclusion to be fulfilled. In traditional education, students with special educational skills, of different ethnic origin or of a different socioeconomic status than most of their peers are relegated, undervalued and even discriminated against. As a solution to this problem, the IGs promote inclusive education, this statement is corroborated by Iglesias et al. (2013):

> Traditional teaching methodologies are tremendously limited when faced with a varied student body. How can we serve everyone, how can we get everyone to work and learn, and how can we get everyone to work and learn together? The answer that has been betting on, and where the current predominant educational policies point, is segregation: grouping students by curricular level or taking them out of the reference classroom according to their difficulties to give them a response that can often be given in the classroom in a more effective and inclusive way by applying more inclusive methodological strategies such as interactive groups (p. 65).

Therefore, IGs are an excellent alternative for incorporating students with special educational needs (SEN) into everyday school work. Under the principle of inclusion, students who participate in IGs learn to be more tolerant, to respect diversity of opinion and to show empathy. In addition, students learn to work collaboratively according to their skills and abilities. According to Valls and Kyriakides (2013), all members of the group contribute significantly. No member is left behind and rather high expectations are maintained for everyone, and even the need to make curricular differentiations from those considered different is reduced (pp. 24-25). The IG strategy can significantly reduce the need for curricular adaptations. Group members support their peers who have difficulties and even under this scheme of working can excel in developing other skills.

The application of IGs also emphasizes the development or enhancement of cognitive processes. Thanks to the interaction between equals and assertive communication, understanding is improved and topics are reinforced that individually would require more effort. This fact is mentioned by Valls et al. (2016), "the interactions give proximity to the explanation, develop communication skills, generating multiple cognitive processes. In this way, what has been learned is consolidated, and the levels of understanding and learning are increased" (p. 21). The IGs, by allowing dialogue between equals, favor the development of intellectual capacities and even improve academic performance. Thanks to the dynamics

of this strategy, the barriers of inequality and exclusion to which especially at-risk groups are subject are reduced.

An additional benefit that is worth highlighting in relation to the application of the IGs is the consolidation of the educational community. The role of the parent, who is generally the volunteer, takes on greater importance. Iglesias et al. (2013) state that:

> The implementation of the methodological proposal of the interactive groups has meant the opening of the institute's limits to the family and the educational environment, producing a more significant learning by bringing to the center the frame of reference of the students' learning experiences. The teachers create channels of communication and exchange with the volunteers and así the educational community is strengthened in an active and motivating way (page 69).

The presence of the volunteers in the IGs favors communication and interaction in the educational community. Volunteers are a source of motivation as well as a contribution to the diversity of experiences and cultural richness that they can bring to the group. In addition, because they are adults, they can help guide and resolve potential conflicts in the group. The IGs are without a doubt an excellent way to energize the process of teaching and learning, making it more active, attractive and inclusive, strengthening the educational community.

Despite all the benefits of IGs, there are some limitations to their application. One of these limitations is related to the participation of the volunteers, especially with parents who belong to the school level where less commitment is observed. In the research conducted by Ordoñez and Rodriguez (2016) it is highlighted that "one of the limitations of this research is the training and collaboration of volunteers. On many occasions, when they fail, it is necessary to reorganize the dynamics of GI on the fly" (p. 153). There is no doubt that if there is no commitment on the part of the volunteers when participating in the strategy, the teacher will not be able to comply with the planned activities. Furthermore, they will be forced to restructure the groups by making them larger, which contradicts the methodological proposal.

Another of the limitations in the implementation of the IGs is the great amount of work demanded by the teacher. As Andrés Reina (2016) mentions, "not all teachers in an educational center are willing to innovate in their classrooms. Innovation entails the extra work of knowing the needs of each student, studying their needs, adapting learning, etc." (p. 48). Under this premise, some teachers are not interested in incorporating new strategies into their educational practice. In addition, inexperience may lead the teacher to propose tasks that are typical of individual work or that do not involve a challenge for the students. According to Álvarez (2016), the proposed activities should "... be of review, to strengthen the processes of resolution of exercises in the main areas involved, always instrumental, and should in turn pose a certain challenge in their resolution, to stimulate the maximum development of the students" (p. 134). The proposed activities should represent a challenge for the students. In this sense, teachers require a good training process and accompaniment in the implementation of the IGs. If the activities to be developed in the implementation of the strategy are not carefully planned and designed, this experience will not transcend the ultimate goal, which is the transformation of the educational community

4. Related work

Since the IGs are an alternative, inclusive and participatory teaching strategy, it is appropriate to briefly review works whose results support their success. Works are described at the level of Europe, Latin America and Ecuador.

In the research work Analysis of the interactions between students and various adults in successful educational activities: Towards the inclusion of all, developed in Spain, the objective was to analyze the interactions that are generated from the IGs and dialogical literary gatherings. In addition, it was verified how these strategies favor the creation of inclusive learning environments. The study was of a qualitative nature, carried out in two educational institutions and focused on students with SEN. The results include the identification of three types of interactions: overcoming learning difficulties, creating new learning opportunities, and interactions that favor the participation of students with SEN. It was concluded that the analyzed SEN promote inclusion, generate learning diversity and promote cognitive challenges (Garcia et al., 2016).

The study conducted by Zubiri et al. entitled Inclusion, Participation, and Collaboration: Learning in Interactive Groups executed in Spain was aimed at exploring the opportunities generated by IGs in the learning of English as a second language. Through a qualitative approach, the information obtained in three different educational institutions was analyzed. Among the main results it is mentioned that IGs encourage collaborative interactions, promote inclusion and participation of all students. In conclusion, the study points out that the IG strategy creates favorable conditions for learning English or other languages as a foreign language (Zubiri et al., 2020).

The research work carried out by Álvarez Comunicación, entendimiento y aprendizaje en grupos interactivos is developed in two schools in Spain and one in Brazil. Its objective was to determine the interactions in the communicational field that are generated between children and adults when working in the classroom through interactive groups. It is an ethnographic study based on the case study method. The analysis involved the subjects of language and mathematics for the two Spanish schools and language for the Brazilian school. The three schools are based on conditions of social exclusion. The results revolved around communication, understanding and learning. In conclusion, it is pointed out that the IGs develop the social skills of dialogue and agreement, significant learning and values (Álvarez, 2017).

Among the works at Latin America level, it is mentioned the research on Interactive Groups in the classroom and the increase of the learning results in language in a vulnerable school carried out in Chile. The study incorporated GI in the first grade classroom in the subject of Language. Its objective was the determination of the increase of the learning results in that area. It is a quantitative study whose results showed a significant difference between the pre-test and the post-test. The significant difference is marked in reading comprehension and language use, but not in the elaboration of texts. Nevertheless, it is concluded that through the application of the IGs, there is an improvement in the development of language in reading comprehension, text elaboration and language management (Núñez et al., 2017) In Ecuador, Creamer, the current Minister of Education, conducted the research "Transformation of the School" in the framework of the implementation of learning communities in Ecuador. The work aims to understand the implications for education of the implementation of the CoA model. While the project has been developed in thirteen

educational institutions, follow-up was done in two schools in the Sierra and Costa regions. The study was born out of the need to increase the participation of members of the educational community and the possibility of involvement of their estates. Facts that could be achieved through the establishment of dialogical relationships that would promote the quality of learning, inclusion and social cohesion (Creamer, 2019)

5. Methods and materials

The research has a qualitative approach and applies the case study method. The steps developed are described below:

1. Location of the study area. The research focused on the UEA located in Píntag-Tolóntag, in a rural area of the canton of Quito.
2. Selection of the sample. The rector, five teachers, five students from the BGU and five mothers participated in the study.
3. 3.Design and application of the research instruments: Design and application of the research instruments: The techniques applied to collect information were semi-structured interviews and focus groups. The interview was directed to the rector of the educational institution and the focus groups were directed to teachers, students and volunteers. The script of questions for both the interview and the focus groups was related to the dimensions: institutional administrative management, teacher qualities, application of the IG methodology, achievements of dialogical learning and volunteers' performance. In each focus group the participants were identified through their own codification. For teachers, the coding [D] was used, assigning the number according to the order of intervention. The same criteria was applied for the coding of students [E] and volunteers [V].
4. Data processing. Once the research instruments were applied, the interview and focus group transcriptions were made. Then the codes were created and the respective quotations were selected. This information was recorded in a matrix that was in turn exported to the program Atlas ti. With the help of the program, a semantic network was developed for each dimension, in which the type of relationship between the codes was established.
5. Analysis and discussion of results. On the basis of the matrix of relevant codes and citations, together with the semantic networks, the theorization and discussion of results was carried out. These were compared with similar researches related to the experience in the application of the IGs. In addition, information from related concepts was taken as reference. Finally, the conclusions of the study were elaborated.

6. Results and discussion

DIMENSION	CODES	RELEVANT QUOTATIONS
Institutional administrative management	Motivation [D, E, V] Motivation and Satisfaction [A] Socialization [A, E, V] Participation [A, V] Empowerment of authority [D, E] Commitment [D] Organization [A, E] Implementation [A, E] Follow-up [A] Leadership [A]	"It always strengthens the motivational aspect" [D2] "The rector put all his enthusiasm" [E4] "We all knew how we should support this project" [V3] "He is very interested in the project. He's always there to keep an eye on things" [E2] "If the graduate was training us" [V1]
	Cooperative attitude [A, D] Solidarity attitude [D, E] Teaching disposition (A, D, E, V)	"We are always correcting ourselves, we are helping ourselves" [D1] "They are willing to give their best" [V5]

Teacher Qualities	Cooperative attitude and teacher empowerment [V] Teacher empowerment [A, D, E] Teaching commitment [A, D] Teacher Leadership [E] Teacher Motivation and Leadership [V] Teaching motivation and creativity [V] Teacher Empowerment and Leadership [V]	"95 of 100% of the team joined, empowered" [A1] "They were looking for a solution or trying to fix that, always with a good attitude" [E2]
Application of the Interactive Groups methodology	Teacher counseling [V] Heterogeneous grouping [A, D, E, V] Assignment of one volunteer per group [E, V] Diversity and creativity of activities [A, V, D] Group Rotation [V] Large group formation [D] Difficulty in forming heterogeneous groups [D] Planning challenge [A, E] Evaluation of the activity [V] Activities with cognitive focus [A, D, E] Time management [A, D, E, V] Difficulty in meeting deadlines [D, V] Challenge in the application of the methodology [A, D]	"It was required that the groups be formed with gender equity ... and within the groups as such should be immersed students with educational needs" [A1] "All the groups were already organized with six or seven students. "They also gave us exercises from previous exams" [E5] "It brought new challenges to us in understanding how this methodology was to be developed" [D1]
Dialogic Learning Achievements	Egalitarian dialogue and the instrumental dimension (E) Instrument Dimension [A, D, E, V] Creation of meaning [D] Student Motivation [D] Cultural Intelligence [A, E] Egalitarian dialogue [A, D, E, V] Transformation [A, D, E] Solidarity and equality of differences [E]. Equality of differences [E, V] Solidarity [A, D, E V] Solidarity and egalitarian dialogue [D, E] Student Leadership [D, E, V] Student willingness [E] Next development zone [E] Lack of empowerment of some students [E, V]	"I learned to listen to other people, to hear their opinion, to help each other" [E2] "I learned that we can achieve incredible things with the union of our peers" [E4] "You discovered bus leaderships that you were really saying and he is leading the group? [D1] "I worked with a colleague of mine who has a different capacity ... that colleague is eager to learn ... it was nice to be able to listen to him and know the way he thinks" [E1] "Some people were kind of confident and didn't study, they didn't help" [E3]
Volunteer Performance	Fulfilling the role of the volunteer [A, D, E, V] Operating function [A] Role of mediator [D, E, V] Commitment to the institution [V] Volunteer empowerment [D, V] Volunteer motivation [D, E, V] Empathy with the teacher [A, D, V] Empathy with students [E] Willingness to continue in the process [A, V] Lack of commitment from some volunteers [D] Non-compliance with the role of mediator [D].	"I helped them to review questions 1, 2 read so they know what to put" [V1] "They supported us in the part of the organization..." [D5] "They didn't let us ... play games, or just think or copy ... they were very concerned about us" [E2] "I would like to participate again" [V1] "... to put myself for two days in the shoes of the graduates and it is not easy" [V5] "We did not have 100% parent participation" [D2]

Table 1. Dimensions and codes with relevant quotations. A= Authority, D= Teachers, E= Students, V= Volunteers. The numbers 1 to 5 indicate the order of participation.

As shown in Table 1 under the dimension of institutional management, teachers, students and volunteers recognize the fundamental role of authority in the implementation of IR. The rector awakened and strengthened the motivational aspect by transmitting his enthusiasm in each of the stages of the process. All participants from the educational community received socialization and training on the dynamics of the strategy, as well as the role that each one should play. Leadership is rescued as an important code, which implied as an authority, involving the whole institution within the project, urging for the immediate implementation.

In similar experiences Alvarez (2016) expresses that it is indispensable "... to have a 'training, support and evaluation team' that contributes to place the good practices of the interactive groups...". (p. 134). In this sense, it is worth highlighting the role played by the institutional authority, since its leadership and empowerment qualities allow it to motivate

and direct the work team. The good predisposition of the team is not enough; the accompaniment and support of those who are leading the institution is always indispensable.

In relation to the dimension of teacher qualities, registered in Table 1, the code of teacher empowerment stands out. According to what was expressed by the participants in the research, empowerment was evidenced in the adequate management of the theoretical base of the strategy. The teachers showed conviction and direction of the different operative and technical activities, and assumed with good predisposition challenges, giving the best of themselves. Other important codes constitute the cooperative and solidary attitude, which was reflected in the support given among them, by sharing experiences that nourished the development of the strategy. As one teacher stated, "We are always trying to exchange all the good and bad things that happen to us, we are always correcting ourselves, we are helping each other, we are trying to help each other" [D1]. In addition, they demonstrated their attitude of solidarity with the students by attending to their requirements in a timely manner.

Another of the qualities evidenced in the teachers, is the leadership, which is reflected through the codes motivation and creativity. Attitudes that were evidenced through their dynamism and enthusiasm, promoting the creation of a school environment conducive to learning. Additionally, some teachers showed initiative in proposing innovative activities.

The attitudes expressed by the teachers in this research coincide with the role of the teacher required for the implementation of the IGs. The teacher must be a leader in coordinating and organizing the activities to be carried out before, during and after the implementation of the strategy. In summary, CREA (2018b) points out that the role of teachers in the IGs implies the organization and definition of the groups and the preparation of activities. In addition, it constitutes a guide for volunteers, resolves conflicts and even supports individual needs (p. 22). Therefore, there is no doubt that part of the success in the implementation of the IGs corresponds to the predisposition and role that the teacher plays in the application of the strategy

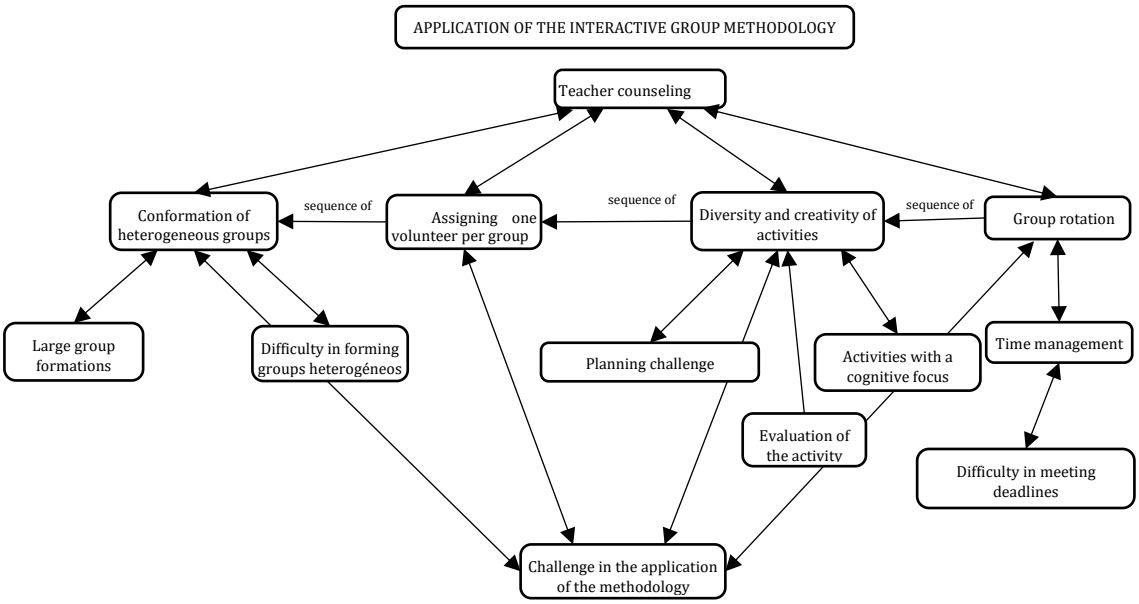

Figure 1. Application of the Interactive Groups methodology

Regarding the application dimension of the IG methodology, as shown in Figure 1, it was developed in four steps. These are evident in the codes: formation of heterogeneous groups, assignment of one volunteer per group, execution of diverse and creative activities, and group rotation. All these steps are coordinated and advised by the teacher. Antagonistic aspects in the conformation of heterogeneous groups and the execution of instrumental activities stand out. In addition, they reflect difficulties in the planning and application of the methodology.

Based on what is expressed in the interview and focal groups projected in Table 1 under the application dimension of the IG methodology, the conformation of the groups was characterized by heterogeneity and inclusion. The number of members varied between five and seven. The activities proposed in some subjects such as Mathematics, Physics, Chemistry and Entrepreneurship were mainly of a cognitive nature. The team of volunteers was made up of parents and legal representatives. In the execution of the IGs, each group of students was under the responsibility of a volunteer. Within this process the rotation of both volunteers and activities was promoted.

It is evident that the condition of heterogeneity and inclusive approach of the groups was met. This is how Oliver and Gatt (2010) express "this form of inclusive grouping of students consists of the distribution of students in small heterogeneous groups within the same classroom (p. 282). However, they do not fit the parameters for small groups, as the recommendation is not to exceed five members. The structuring of small groups guarantees the participation of all, since their points of view and actions are taken into account and they are involved, a fact that is not noticed in groups whose number is greater.

The cognitive activities proposed by some teachers contradict the guideline established in the methodology. Castro et al. (2014) point out that "teaching-learning strategies should be established that are oriented toward the instrumental dimension of learning, with the purpose of enabling them to respond to the demands that will be made on them in the information society" (p. 178). The perceived richness of this strategy lies in the strengthening of instrumental learning, anchored to a sequence of predetermined processes that must be fulfilled in a session. In the institution's experience, this aspect is only partially fulfilled. The activities planned by some teachers did not lead to significant learning

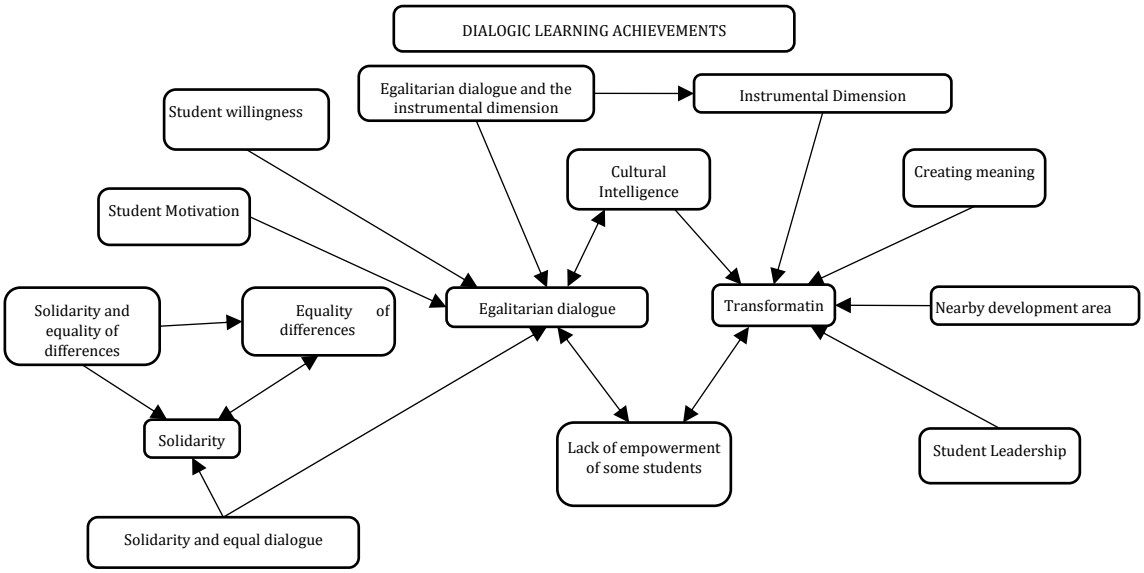

Figure 2. Achievements of Dialogical Learning

The achievements dimension of dialogic learning, figure 2, is directly related to the research topic. Therefore, we proceed to detail the results obtained from the application of the interview and the focus groups.

The seven principles of dialogical learning are fulfilled. Thus, by applying the IGs, coexistence within and outside the institution was improved (transformation). The democratization and participation of all members of the educational community under equal conditions was promoted (egalitarian dialogue). The application of the IGs fostered respect for the diversity of ways of thinking, promoted interaction and enhanced skills (equality of differences). The different ways of thinking of the members of the group are recognized and new ideas are reached based on this (cultural intelligence).

In the students, awareness and self-analysis regarding personal contribution in collaborative work (creation of meaning) were awakened. Communication, interaction and participation of shy and introverted students and even students with SEN (instrumental dimension) were encouraged. The principle of solidarity stands out, since the feeling of mutual help, collaborative work and comradeship was promoted. Students with higher levels of knowledge and skills supported their peers with learning difficulties.

In addition to the principles of dialogical learning, leadership was also encouraged. The applied methodological strategy allowed new ones to emerge in the absence of identified student leaders. Also, the zone of close development (ZDP) was strengthened, which thanks to the interaction between peers was strengthened and reached higher levels of learning.

Although the achievements reached through the application of the GI exceed the difficulties encountered, some challenges were identified. Among the problems identified are the lack of empowerment of some students and low participation in collaborative work. Some students showed overconfidence in the work of group leaders and peers with greater development of skills and cognitive abilities. In this regard, Alvarez (2016) states that:

> Solving exercises in a dialogical way is an especially costly aspect for students, who are used to not negotiating their answers, to giving reasons

> that justify the choices made, etc. The challenge is to ensure that there is an equal dialogue between the people in the group (p. 133).

This may be the reason why some students do not actively participate. Hence the need to plan strategies that motivate them to intervene, to negotiate their responses, to justify their opinions. In itself, to stimulate the group to intervene all members. It is very important that the activities designed by the teacher tend to develop and enhance skills and abilities required. Flecha et al. (2003), in turn, reaffirms that "learning no longer depends so much on what happens in the classroom as on the interactions that are established in all the contexts in which people intervene: school, homes, neighborhood, sports club, media, etc.". (p. 2). Education must be the result of the student's interactions with all social actors and their context. The CoA project resignifies the traditional structure of the school, and it is inferred that the concept to be worked on urgently is the school culture. It is in this new learning niche, where the systematization of educational processes allows for the strengthening of social cohesion, through dialogical learning.

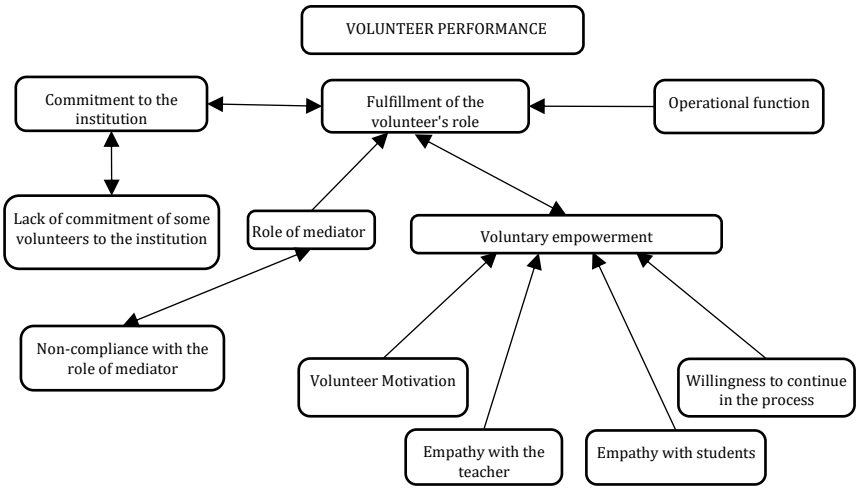

Figure 3. Performance of volunteers

Figure 3 related to volunteer performance indicates in general terms the fulfillment of the volunteer's role. This role is fulfilled both in the operational part and as a mediator. The codes of commitment to the institution, empowerment of the volunteer, and empathy with the teacher and student are added. However, there are aspects that contradict their functions such as non-compliance in their role as mediator and lack of commitment to the institution of some of them.

The creation of the codes expressed in figure 3 is based on the focus groups and interviews shown in table 1. The role of the mediator and his or her operational function is evidenced through active participation in the organization and collaboration of the activities proposed by the teachers. The volunteers stimulated the equitable work of all members and promoted the practice of values. They also became a support and guide for learning, by clarifying and directing the activities to be developed. Based on the positive experience of the volunteer in the IGs, the role of the teacher in the classroom was revalued and the predisposition to continue in the process was expressed.

In summary, the participation of the volunteer was significant; however, there were aspects that made the optimal development of the IG strategy difficult. For example, the lack of commitment was evidenced by the non-attendance and unpunctuality of some volunteers. Some mothers were involved in the resolution of the activities. This behavior, instead of being a support for the strategy, hindered it. Not only because it prevented the students from consolidating their learning on their own, but also because the teacher had to redirect their attention to them.

What was mentioned in the previous paragraphs highlights the positive contribution of volunteerism under the dynamics of the IGs. This fact agrees with the research related to the role of the volunteer developed by Vieira and Puigdellívol (2013), who highlight "from all the information gathered we can safely deduce that the different agents (students, teachers and volunteers, including families) clearly perceive the positive effect of volunteering on the academic progress of students" (page 47). Although it is not possible to demonstrate the specific weight that volunteering has on academic progress, we can affirm that its contribution is significant.

The experiences related to the intervention of volunteers in most cases are positive. Gómez et al. (2016), when working with university students as volunteers, point out that "the positive aspects far outweigh the negative aspects" (p. 278). It is reaffirmed that volunteers are a key element in facilitating the teaching-learning process. It is worth remembering that the success of the strategy lies in the committed participation of the volunteer, because without them the essence of the IGs is lost

7. Conclusions

The application of the IGs as part of the ESAs made it possible to identify several achievements expressed through the fulfillment of the seven principles of dialogical learning. The principles of egalitarian dialogue, transformation, and solidarity stand out. Egalitarian dialogue was evidenced by the democratization and participation of all members of the educational community on an equal footing. The principle of transformation was expressed through the empowerment of learning by improving interaction in the educational community. Solidarity was manifested in collaborative work where students with greater development of skills and abilities supported their peers. In addition to the dialogical principles, student leadership and the empowerment of the ZDP were highlighted as important achievements.

The positive results obtained in the present investigation lie fundamentally in the fulfillment of the roles of both the teacher and the volunteer. The teachers of the UEA reflected empowerment in the implementation of the methodological strategy. The cooperative and solidary attitude, commitment, leadership, predisposition and motivation, were aspects that characterized the empowerment. The volunteers fulfilled their functions both in the operational part and in their role as mediators. They promoted the equal participation of all students, strengthened the practice of values such as honesty. They became a support team for the teachers by clarifying and directing the proposed activities. Additionally, they revalued the work of teachers in the classroom.

The achievements reached in this first experience of the GI in the UEA were supported in great measure by the support team through training, implementation and follow-up processes constituted by external and internal agents, namely Grupo Faro, Subsecretaría de Educación del Distrito Metropolitano de Quito and Distrito Educativo 17D08, Los Chillos, authority and teachers of the institution. This aspect was detected as a difficulty in similar

studies. Hence the importance of having a continuous advisory system that allows to support and correct errors in the implementation of the strategy.

During the implementation of the strategy, some difficulties were identified at the level of teachers, students and volunteers. In the case of the students it was evident in some of them the lack of empowerment, little participation, contribution and collaborative work. The difficulties that some teachers showed were related to the planning of instrumental activities, management and application of the strategy and internalization of the methodological approach. Regarding the volunteers, there was no participation of the whole group.

The challenges generated by this first experience revolve around the consolidation of the strategy. The internalization of the IG approach is decisive for achieving the principles of dialogical learning and enhancing the development of skills and abilities. For this, it is necessary to propose collaborative activities that awaken creativity and are related to their environment. In addition, it is necessary to expand the educational community by integrating other social actors as volunteers, aspects that would strengthen social inclusion and cohesion.

The IGs, as an innovative teaching strategy, are a positive experience, despite the difficulties involved in their implementation. For this reason, it is necessary to carry out studies of a transversal and longitudinal nature at the institutional and national level that will allow for the promotion of the positive results obtained. In addition, projecting the principles of dialogical learning to other educational institutions in the country

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REVISTA CÁTEDRA

El enfoque de la educación virtual desde una perspectiva holístico frente a la pandemia del COVID – 19

The approach to virtual education from a holistic perspective in the face of the COVID – 19 pandemic

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Resumen

A raíz de la pandemia COVID-19, que viene aquejando a la humanidad, se determinó en diversos países que las clases se desarrollen vía online, con el propósito de no perder el año académico, ni la masiva deserción de los estudiantes universitarios. El estudio emerge de la experiencia empírica y la revisión de variados documentos científicos que enfocan sus estudios desde una visión panorámica del hombre, con el fin de determinar en qué medida el enfoque de la educación virtual cumple con impartir un aprendizaje holístico en estudiantes universitarios. Los resultados fueron analizados estadísticamente indicando la confiabilidad del instrumento aplicado a cinco dimensiones con sus respectivos ítems, en un rango elevado de 0.933, las pruebas resultaron satisfactorias. En cuanto al análisis descriptivo de las dimensiones resalta la categoría "casi siempre" con 67%, aplicado al proceso de la enseñanza - aprendizaje virtual. Se concluye que la educación virtual que se

imparte posee una visión holístico por los efectos positivos de satisfacción encontrados en los estudiantes universitarios. Cabe resaltar que es necesario utilizar las herramientas digitales de manera inteligente, multidimensional, flexible, con disciplina y que impulse el aprendizaje activo, tomando como base el sistema asincrónico y sincrónico.

Palabras claves

Aprendizaje holístico, COVID-19, enfoque virtual, innovación tecnológica, renovación educativa.

Abstract

As a result of the COVID-19 pandemic, which has been afflicting humanity, it was determined in several countries that classes should be held online, in order not to lose the academic year, nor the massive dropout of university students. The study emerges from the empirical experience and the review of various scientific documents that focus their studies from a panoramic vision of man, in order to determine to what extent the approach of virtual education complies with providing a holistic learning in university students. The results were analyzed statistically indicating the reliability of the instrument applied to five dimensions with their respective items, in a high range of 0.933, the tests were satisfactory. As for the descriptive analysis of the dimensions, the category "almost always" stands out with 67%, applied to the process of virtual teaching and learning. It is concluded that the virtual education that is given has a holistic vision due to the positive effects of satisfaction found in the university students. It is necessary to emphasize that it is necessary to use the digital tools in an intelligent, multidimensional, flexible way, with discipline and that it impels the active learning, taking as a base the asynchronous and synchronous system.

Keywords

Holistic learning, COVID-19, virtual approach, technological innovation, educational renewal.

1. Introduction

The impact of the COVID-19 pandemic represents a challenge in advancing education as both a process and an outcome. According to data obtained from ECLAC-UNESCO (2020):

> This emergency led to the massive closure of on-site activities of educational institutions in more than 190 countries in order to prevent the spread of the virus and mitigate its impact. By May, more than 1.2 billion students at all levels of education worldwide had stopped having face-to-face classes. Of these, more than 160 million were students in Latin America and the Caribbean (p.1).

According to what has been pointed out, many countries have sought different forms of teaching, with the desire that academic work not be interrupted, which led them to decide on virtual education, which over the months became a new opportunity for the development of student learning. In this sense "many colleges and universities have cancelled classes on campus, requiring online instruction to continue, this means that distance education is not a consideration but a necessity" (Abreu, 2020, p. 2).

Peru was not exempt from this dilemma; it sought to respond adequately to the contingency from an ingenious and rapid perspective by the authorities of the Ministry of Education,

with the aim of creating mechanisms that would ensure positive results in school continuity, mitigating dropout and narrowing the gaps in educational inequality that the country has been experiencing for decades. Despite the fact that the government took preventive measures from the beginning of the pandemic, the effects are not at all encouraging in the economy, education and health. Nevertheless, the change in education has taken a 180° turn in educational practices, starting with transforming the way teachers look at things, from the cognitive, methodological, technological and emotional points of view. The challenge was taken up and in the process the handling of digital tools was learned, despite the adverse circumstances, significant learning was prioritized, and the development of skills through various mechanisms in the e-learning platforms. The training and the search for tutorials on YouTube were necessary to learn quickly the weaving and unweaving of the strategies and technological tools of G Suite; Classroom, Meet, Gmail, Hangouts, Calendar, Drive, Sites, Forms etc, about which Sotelo (2017) states "Computers and the Internet are within the reach of everyone (children, young people and adults), learning to use them and take advantage of them is a matter of attitude, which involves overcoming the fear of technology and having the willingness to learn" (p. 40), in spite of the adverse circumstances, the step from conventional to virtual education was taken, using digital technology, to transform student learning through synchronous communication, (Webconference, chat), asynchronous (platforms, technological applications, digital resources and feedback) between teacher and student within the interconnectivity.

In the case of students, the pandemic brought with it the socioeconomic vulnerability, accentuating the risk of inequality and desertion, in those young people who have fewer resources, for example, the unemployment of their parents, malnutrition, connectivity or access to the internet and the cognitive, psychological, cultural changes they suffered to incorporate themselves to 100% online learning, despite the technological handling of some tools that students possessed, it is "a particular situation that needs to be addressed is the risk of educational disengagement and dropout of these groups most vulnerable to the effects of the pandemic and the consequent health, social and economic crisis" (UNESCO 2020, p. 15). From the above overview, the general research problem is: To what extent does the virtual education approach comply with providing holistic learning to university students? Taking as a point of view what was indicated by Gluyas et al. (2015):

> Holistic education requires the integration of knowledge: knowing how to be based on self-knowledge, in order to project it into a knowledge that motivates continuous learning with a view to being reflected in a know-how that impacts the development of the immediate environment, with resonance in society and humanity (p. 3).

Will college students be educated in a holistic manner? Cubas (interviewed, 2013) states:

> There is an 88% shortage of talent, due to the lack of a strategic plan in education and the inadequate professional preparation they receive in universities to face the world of work. Empirical experience shows that despite the fact that the teaching is face-to-face or virtual, the strategic objective of quality and educational excellence that the country longs for is not met (p. 5).

The general objective of the research is to determine the extent to which the virtual education approach meets the holistic learning objectives that were chosen in the face of the COVID -19 Pandemic in university students. The general objective is broken down into

the following specific objectives: a. a. Determine the reliability of the instrument (questionnaire) to measure the approach to virtual education from a holistic perspective to the COVID-19 pandemic. b. Assess the level of impact that the COVID-19 approach had on the virtual education approach. c. Assess the level of student learning after the implementation of the COVID-19 pandemic virtual education in university students.

The purpose of the study is to highlight, from a real and objective perspective, if the classes given in a non-face-to-face way in the new virtual context favour the integral development of university students, taking into account that the teaching work must profile suitable students, capable of achieving significant learning from a holistic approach and building more complex knowledge required by the globalised advancement of science and technology.

The present work is structured in the following way: literature review, where the definitions of the variables with authority arguments are stipulated; materials and methods, it is oriented to shape the study approach, the research design, population and sample, information collection instrument; floating elements, it is oriented to the validity and reliability of the instrument, descriptive analysis, results; discussion of the results. To close the research, the conclusions and references are determined.

2. Literature review

In 2020 the world was evident of the emergence of an unimaginable pandemic, whose lethality in the first months, became a natural threat that brought to the surface the extinction of man, causing panic over the rapid spread and questioning the population; the WHO, observing the voracious advance declares the COVID 19 as a pandemic. In Peru, the first case was detected on March 15, for which President Martín Vizcarra and his ministers determined mandatory social isolation (quarantine), starting with the closing of borders and strict compliance with the health protocols imposed by the Ministry of Health, in order to mitigate the spread and the dozens of deaths per day. In this regard, Velazque et al.:

> COVID-19 has changed the lives of more than 33 million Peruvians, as well as caused a crisis in higher education, closing its doors 87%, vacation classes were interrupted, students and teachers who were doing internships and exchanges nationally and internationally were cancelled (p. 204).

SUNEDU and the Ministry of Education made the decision that the classes would be carried out in a non-presential way, using the different platforms, thus breaking with the traditional teaching and achieving the adaptability of the students to receive their classes in a virtual way and not lose the academic year. In response, Cardini et al.:

> This implementation will bring with it great challenges that must be faced in order to guarantee the continuity of the pedagogical process. Such as the distribution of thematic content, through digital platforms, the expansion of access to technology, the accompaniment and strengthening of teachers' capacities in the context of isolation, and training in the use of digital technologies (p.8).

Renewal is necessary to understand reality, live together and act in times of crisis, either individually or as a team to face the new context without fear. In the face of this, "virtual education uses teaching-learning strategies that allow to overcome the limitations of space

and time among the actors of the educational process" (Gallego, 2013, p. (Gallego, 2013, p. 157), the decision was right, knowing that education must not stop, because it seeks to empower young people to appropriate the range of knowledge and build their reality with solid foundations, promoting the development of soft and hard skills that allow them to identify and face challenges they find in the course of their personal, professional and social life. In this regard, UNESCO states that in these non-attendance classes, measures for continuity, equity and inclusion should be projected, focusing on vulnerable and marginalized populations; seeking quality and relevance of contents and programs. As well as the specialized support to the teaching staff, ensuring adequate conditions to fulfill their ideal work in distance education. In this regard, Allen and Seaman (2017) point out:

> In the annual report of the state of online education in the United States, they note that 35.6% of academic leaders rated learning outcomes in blended, blended or blended education as similar to or better than face-to-face teaching. 63.3% of these leaders consider online education to be fundamental to their long-term institutional strategy, compared to 13.7% who do not (p.16-39).

In virtual classes, student performance depends on the formative pedagogical design, digital tools, strategies, resources that are necessary to promote active learning, with the precept of leading to the good conceptual, procedural and attitudinal development of young university students. According to Durall, et al.:

> The main trends are: first, people want to be able to work, learn and study whenever they want and from wherever they want, second, the multitude of resources and relationships available on the Internet forces educators to review their role in the processes of meaning creation, assessment and accreditation, third, the technologies used are increasingly based on cloud computing, and the notions of support to information and communication technologies are decentralized, fourth, the changes in university education induce most universities to place teacher training as a strategic element in the quality of teaching and finally, the working environment is increasingly collaborative, which leads to changes in the way student projects are structured (p. 2).

Non-attendance education should impart a holistic learning, seen from a multidimensional conception where all knowledge is concatenated, nothing is isolated, all are needed to promote the development and welfare of humanity, in this regard Gallegos (1999) mentions:

> The student is a total human being (corporal, affective, cognitive, social, aesthetic and spiritual) inserted in a social project, belonging to a community (family, school) that interacts with society, both emotionally and ideologically, and is not only an information receptor brain (p. 42).

Just as education should be "considered more than an act of transmission, repetition, and memorization of knowledge, and incorporated into the holistic process, in which knowledge is exchanged, experiences are revealed in a two-way communication between teachers and students" (López, 2018, p. 3). (López, 2018, p. 315), in accordance with the stipulations of the law, the universities are challenged to provide a quality education in spite of the adverse circumstances they face, where the teacher becomes a stimulating guide who cultivates a

holistic learning process that generates knowledge and understands the new form of teaching, with participation, creativity, expressiveness, and management of complex thought, to then integrate it into a single system, based on a panoramic vision of the problems of education and having as a precedent that "holistics is a psychological and social phenomenon, rooted in the different human disciplines and oriented towards the search for a worldview based on precepts common to the human race" (Briceño et al. , 2010, p. 74), as well as to provoke the transformation of the individual in his academic structure in an integral way, introducing the physical, mental, emotional, history, culture, politics and ideology etc. and that seeks to value practical life, science, feeling, reasoning, intuition, sensitivity, thinking that each situation he faces is an occasion to learn, unlearn and relearn. To do this teachers must be empowered with digital tools, starting from the use of the synchronous system, this will help to stimulate interaction, active participation, through the Google - Meet videoconference (Chat, videos, computer graphics etc.)), and will be connected at the same time, independent of place or time with their pupils, and the asynchronous system, will help you manage content through the use of technology platforms (documents, forum, tasks, lessons, exercises, links etc.). If you comply with a strict monitoring, monitoring, advice and feedback, will be promoting a holistic learning, taking as a bastion of virtual education.

3. Methods and materials

Methodologically, the study corresponds to the quantitative approach based on the epistemological principles of the empirical-analytical paradigm and focuses on social facts and phenomena with little or no interest in the subjectivity of the researchers. Similarly, it uses the questionnaire for data collection and the responses were analyzed statistically.

The study design is non-experimental transectional correlational-causal because it describes the categorical relationships and variables in the times of pandemic of the COVID 19 (Hernández et al., 2010, p. 217). Also, the study was conducted in a specific context and data were collected at a single time or moment.

The population consisted of 720 students and the sample was 100 undergraduate students enrolled in the 2020-I non-attendance classes, belonging to the same undergraduate academic cycle, ranging from 18 to 22 years of age, 62 males and 38 females, respectively.

The instrument used was a survey designed, in Google Forms, with the aim of providing relevant information about the new virtual educational approach from a holistic perspective, which is being developed due to the COVID-19 pandemic in university students. The constitution of the instrument was of 05 dimensions: 1. Use of technological tools with 08 items, 2. teaching strategy in virtual education with 05 items, 3. training quality of the subject with 04 items, 4. individual and team work with 04 items and 5. attitudes and values in front of virtual classes with 3 items. Attitudes and values as opposed to virtual classes with 3 items. The answers were collected by means of Likert scales, where; 1. The characteristics of the questionnaire were obtained through different types of statistical analyses carried out with the help of the IBM SPSS program.

The data collection technique was through the Google form where 24 Likert-type questions were threaded, the way of evaluation was multiple section with closed answers and they were configured so that the students answered from form to compulsory. In the instructions, the reasons for the survey and the time it may take to develop such an instrument were disclosed. The questionnaire was sent to the students by e-mail, then the

analysis and transcription of the information was made according to the interest of the research.

4. Floating elements

The results of the research show the validation of the instrument and the approach to virtual education from a holistic perspective in the face of the COVID - 19 pandemic and the descriptive and inferential results of the study.

4.1 Reliability analysis

The evaluation of the reliability of a questionnaire involves the performance of an internal consistency analysis. For this purpose, Cronbach's alpha coefficient was calculated, considering the following categorization of the reliability coefficient: 0.8- 1 (high), 0.6-0.8 (acceptable), 0.4-0.6 (regular), 0.2-0.4 (low) and less than 0.2, very low (23).

According to Table 1, a reliability analysis was carried out for each dimension or factor. In the process, no items were eliminated; the overall alpha is within the high range with 0.933. In conclusion, a valid and reliable instrument was obtained for the questionnaire of the virtual education approach from a holistic perspective to the VICD pandemic -19.

Dimension 1	TIE5 Indicate to what extent the presentations and discussions in the virtual classes have contributed to your learning or sparked your interest.
	AVDCO1 The new educational context has changed my view of the role of the university student
	AVDCO5 The virtual education has changed my attitude, in the way to face my studies
	AVDCO2 I have taken responsibility for the e-learning process, because it allows me to work at my own pace.
	TIE1 Indicate to what extent the tasks have contributed to your learning throughout the online class.
	UHT8 The non-classroom classes encouraged you to self-learn.
	TIE2 I consult other material, apart from that presented by the teacher, to deepen my knowledge.
	DREE5 If I had to describe the teacher's "feeling of closeness and motivational capacity" I would rate it as:
Dimension 2	UHT10 online classes facilitated knowledge transfer
	UHT9 They allow access to more information to increase my knowledge
	UHT11 Materials used in classes offered better presentation of content
	UHT7 Online classes make it easier to remember information and reinforce learning content.
	DREE3 Accessibility to teachers (availability, time taken to answer questions, quality of feedback...) has been

Dimension 3	DREE4 Teachers adapted their teaching strategies to the conditions in which the subject is developed (schedule, sequence, timing, space, material, etc.)
	DREE2 Does the teacher focus mainly on academic teaching?
	CFACV1 You found the course formatively stimulating
	CFACV2 Are activities directed at social and emotional learning to develop soft skills?
	CFACV4 The topics of the new information or problem relate to what you knew before.
Dimension 4	UHT5 Virtual classes made it easier for you to work in a team
	CFACV5 The activities proposed make me develop other cognitive skills (analysis, synthesis, criticism...) in the study
	UHT13 Increases the relationship with peers and improves the relationship with teachers.
	UHT14 Have you felt "part of" a cooperative virtual learning community with teachers and peers, despite the distance?
Dimension 5	UHT6 Virtual classes motivate you to continue learning.
	UHT2 Quick access to the synchronous system such as videoconferencing, chat. To receive your class online.

Table 1. Distribution of items according to dimensions

According to Table 2, all the dimensions cited were analyzed and an acceptable range is observed in all cases. The intention is to confirm the number of dimensions that best fits this model, and the extraction was not done for a fixed number of factors, but for all those whose self-values are greater than 1, in addition to evaluating the communality and that at least 2 items are within a single factor, being only 5 dimensions in this case that explain 65.07% of the variance. In addition, a rotation method (Varimax) has been selected.

Dimension	Alfa of Cronbach	Elements
General	0.933	24
Dimension 1	0.885	8
Dimension 2	0.855	5
Dimension 3	0.789	4
Dimension 4	0.796	4
Dimension 5	0.618	3

Table 2. Summary of reliability analysis

4.2 Quantitative validation - construct validation

Once the reliability analysis process was completed, the next step was to determine the optimal number of dimensions by means of a factorial analysis.

According to Table 3, the value of the sample adequacy measure KMO is 0.889 (> 0.5). In addition, the significance level value of the Bartlett's sphericity test is 4.406e-7 approximately 0.

Kaiser-Meyer-Olkin measurement of sampling adequacy		0.889
Bartlett Sphericity Test	Approx. Chi-square	1319.602
	gl	276
	Sig.	0.000

Table 3. Kmo and Bartlett test

4.3 Descriptive analysis

Once the validation of the construct and the matrix of rotated components has been analyzed, it is necessary to analyze each dimension with its respective items in order to evaluate the percentage that determines to what extent the virtual education approach complies with the holistic learning that was chosen in the face of the COVID -19 Pandemic in university students. To do so, the five dimensions are shown: 1. Use of technological tools with 08 items, 2. teaching strategy in virtual education with 05 items, 3. training quality of the subject with 04 items, 4. individual and team work with 04 items and 5. attitudes and values in front of virtual classes with 3 items. Attitudes and values in relation to virtual classes with 3 items.

According to Table 4, it can be observed that the questions of dimension 1 present high percentages in "Sometimes" and "Almost always" with values higher than 40%. The item stands out: "the non-presential classes encouraged you to self-learning" with 29% in "Always". It is necessary to analyze each dimension with its respective questions to evaluate the percentage of frequency.

Items	Never	Almost never	Some times	Almost always	Always
F1_AVDCO1 The new educational context has changed my view of the role of the university student	1%	4%	35%	43%	17%
F1_AVDCO2 I have taken responsibility for the e-learning process, because it allows me to work at my own pace.	1%	3%	35%	37%	24%
F1_AVDCO5 Virtual education has changed my attitude, in the way I face my studies	0%	8%	27%	45%	20%
F1_DREE5 If I had to describe the teacher's "sense of closeness and motivational ability" I would rate it as	1%	5%	27%	46%	21%

F1_TIE1 Indicate to what extent the assignments have contributed to your learning throughout the online class.	1%	4%	32%	44%	19%
F1_TIE2 I consult other material, apart from that presented by the teacher, to deepen my knowledge.	0%	3%	30%	44%	23%
F1_TIE5 Please indicate to what extent the presentations and discussions in the virtual classrooms have contributed to your learning or aroused your interest.	3%	2%	35%	48%	12%
F1_UHT8 The non-presential classes encouraged you to learn by yourself.	1%	7%	27%	36%	29%

Table 4. Use of technological tools

According to table 5, it can be seen that the questions in dimension 2 highlight "the accessibility to teachers (availability, time taken to answer questions, quality of feedback...)" with 58% in "Almost always", and the item "Allow access to more information to increase my knowledge" with 28% in "Always.

Items	Never	Almost never	Sometimes	Almost always	Always
F2_DREE3 The accessibility to teachers (availability, time taken to answer questions, quality of feedback...) has been	1%	3%	20%	58%	18%
F2_UHT7 Online classes make it easier to remember the information and reinforce the learning contents.	2%	12%	38%	35%	13%
F2_UHT9 They allow access to more information to increase my knowledge.	0%	2%	27%	43%	28%
F2_UHT10 online classes facilitated the transfer of knowledge.	1%	7%	40%	38%	14%
F2_UHT11 The materials used in the classes offered a better presentation of the contents.	1%	0%	34%	43%	22%

Table 5. Teaching strategy in virtual education

According to Table 6, it can be observed that the questions of dimension 3 highlight the item "Teachers adapted their didactic strategies to the conditions in which the subject is developed (schedule, sequence, temporalization, space, material, etc.)" with a value of 58% in "Almost always". As well as the item "Teachers adapted their didactic strategies to the conditions in which the subject is developed (schedule, sequence, temporalization, space, material, etc.)" with a 58% value in "Almost always".

Items	Never	Almost never	Sometimes	Almost always	Always
F3_CFACV1 You have found the course formatively stimulating	0%	5%	37%	40%	18%
F3_CFACV2 Are the activities directed at social and emotional learning to develop soft skills?	3%	4%	34%	44%	15%
F3_DREE2 Does the teacher focus primarily on academic teaching?	0%	1%	8%	67%	24%
F3_DREE4 The teachers adapted their teaching strategies to the conditions in which the subject is developed (schedule, sequence, timing, space, material, etc.)	0%	3%	19%	58%	20%

Table 6. Educational quality of the subject

According to Table 7, it can be observed that the questions of dimension 4 present high values in Almost always, as examples the items "The subjects of the new information or problem are related to those I knew before" and "The activities proposed make me develop other cognitive skills (analysis, synthesis, criticism...) in the study". It is also observed that the item "Increases the relationship with peers and improves the relationship with teachers" has a value of 56% in the category of "Sometimes"..

Items	Never	Almost never	Sometimes	Almost always	Always
F4_CFACV4 The subjects of the new information or problem are related to those you knew before.	2%	0%	30%	60%	8%
F4_CFACV5 The activities proposed make me develop other cognitive skills (analysis, synthesis, criticism...) in the study	0%	3%	17%	59%	21%
F4_UHT5 Virtual classes made teamwork easier	0%	12%	39%	39%	10%
F4_UHT13 Increases the relationship with peers and improves the relationship with teachers.	1%	14%	56%	24%	5%

Box 7. Individual and team work

According to the table 8, it can be observed that the questions of the dimension 5 presents a 63% of "Almost always" in the item "Accessed quickly to the synchronous system as videoconference, chat" to receive its class online, however it is observed a high value in the category "Sometimes" with a 44%, in addition the last item "Have you felt "integral part" of

a virtual community of cooperative learning with the teachers and companions, in spite of the distance" has a 40% and 45% in "Sometimes" and "Almost always".

Items	Never	Almost never	Sometimes	Almost always	Always
F5_UHT2 Quick access to the synchronous system as video conference, chat. To receive your class online.	0%	1%	17%	63%	19%
F5_UHT6 Virtual classes motivate you to continue learning.	1%	16%	44%	29%	10%
F5_UHT14 Have you felt "part of" a virtual community for cooperative learning with teachers and classmates, despite the distance?	2%	5%	40%	45%	8%

Table 8. Attitudes and values towards virtual classes

5. Discussion

The results of the research, demonstrate that the approach of virtual education complies with a holistic learning that was chosen in the face of the COVID -19 Pandemic in university students. Since the end of the last decade, UNESCO has emphasized that education must be comprehensive to cover all aspects of life, with scientific knowledge (learning to know), professional skills (learning to do), human values and principles (learning to be), and the exercise of civic responsibility (learning to live together). Based on this idea, the dimensions of the instrument (survey) were developed: use of technological tools (learning to know), teaching strategy in virtual education (learning to live together), educational quality of the subject (learning to know), individual and team work (learning to do), attitudes and values in virtual classes (learning to be), in order to provide reliable information on the subject exposed in the research and to encourage university students to act assertively, independently, critically and creatively, showing their skills and potential to join the changing arm of society.

In conclusion, a reliability analysis was carried out for each dimension or factor; in the process no item was eliminated, the general alpha is in a high range of 0.933.

For the questionnaire of the virtual education approach from a holistic perspective to the COVID - 19 pandemic, in the reliability analysis, the item UHT2 was found (It quickly accessed the synchronous system as videoconference, chat, to receive its online class.) with a corrected total-element correlation less than 0.4. It is therefore suggested to remove it.

Within the descriptive analysis is the dimension 1 that shows high values in the categories "Sometimes" and "Almost always"; it is followed by the dimension 2 with a similar behavior. In dimension 3, the item "Does the teacher focus mainly on academic teaching" highlights the category "almost always" with 67%. However, it shows similar values in the items "Have you found the course formatively stimulating" and "Are the activities directed at social and emotional learning to develop soft skills?

The last 2 dimensions do not usually show similar behavior, but the values are distributed in all categories. Therefore, the most representative dimensions are the 1 and 2.

6. Conclusion

The structure of the questionnaire was analyzed by performing a factorial analysis to determine the validity and reliability of the instrument (questionnaire) in each of the dimensions with their respective items. The tests to which they were submitted were satisfactory, so it is recommended that they be used in future research related to variables such as the approach to virtual education and holistic learning.

According to the research, it is demonstrated that the approach of virtual education fulfills to give a holistic learning, which was chosen in front of the COVID -19 Pandemic in university students, as it is shown in the hypothesis raised at the beginning of the study and in the tables elaborated around the topic. There is no similar research or similar to the study yet.

In digital education, according to the empirical experience, it is necessary to plan the actions that will be developed, during the non-presential classes (the content, interaction, learning activities, evaluation and the technological tools), in order to promote an active learning, where the student becomes a constructor of his own learning (generates ideas, discusses, argues, manages learning with autonomy, builds, creates, generates knowledge, solves problems, etc.). To do this it is essential to build communication networks (synchronous, asynchronous), between the teacher and student, as well as being in constant renewal with the strategies and techniques.

The future goal is to promote a safe, active learning space with the appropriate digital tools that incorporate the student to research (seek knowledge based on innovation, formulate opinions with original ideas, promote divergent thinking and risk taking), social responsibility (promote self-control, ethical attitude, proactive, and inclusive vision), and leadership (lead disciplinary or multidisciplinary teams, demonstrate empathy, respect, etc.), with the intention of preparing them to face a globalized world, which with giant steps incorporates the human being to competitiveness and meritocracy. Likewise, the commitment of the authorities of the university bodies, must guarantee the training in virtual competences to the teachers, so that they can become virtual residents and provide the students with an excellent academic formation.

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REVISTA CÁTEDRA

Uso de *Kahoot* como elemento motivador en el proceso enseñanza-aprendizaje

Use of Kahoot as a motivating element in the teaching-learning process

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Resumen

El presente estudio surgió de la necesidad de generar en el alumnado investigado el deseo de aprender mientras se divierten. Las metodologías activas de aprendizaje y, especialmente, la gamificación en la actualidad ha sido muy utilizada; existe en la web un sinfín de herramientas digitales que cumplen con este propósito. El objetivo general de la investigación fue analizar el uso de *Kahoot* como elemento motivador en el proceso enseñanza-aprendizaje. La metodología utilizada en la estructuración de este trabajo fue empírica-analítica de corte descriptivo. Además, se emplearon durante todo el período lectivo 2019-2020 cuestionarios tipo *quiz* para reforzar los temas tratados en cada clase,

mismos que permitieron medir estadísticamente la preferencia del alumnado por el uso de *Kahoot*. La población estuvo determinada por treinta y cinco estudiantes que pertenecieron al segundo semestre de la Carrera de Pedagogía de las Ciencias Experimentales Informática de la Universidad Central del Ecuador (UCE). Los resultados revelaron que el alumnado investigado mostró estar motivado al momento de aprender, así como también al momento de ser evaluados, pues se sentían sin presión para responder. Finalmente, se demostró que *Kahoot* es una herramienta digital que motiva el proceso de enseñanza-aprendizaje incentivando al estudiantado asistir a clases y participar de forma más activa en el aula.

Palabras clave

Enseñanza-aprendizaje, gamificación, *Kahoot*, motivación.

Abstract

The present study arose from the need to generate in the investigated students the desire to learn while having fun. Active learning methodologies and, especially, gamification have been widely used nowadays; there is an endless number of digital tools on the web that fulfill this purpose. The general objective of the research was to analyze the use of Kahoot as a motivating element in the teaching-learning process. The methodology used in structuring this work was empirical-analytical and descriptive. In addition, quiz-type questionnaires were used throughout the 2019-2020 school year to reinforce the topics covered in each class, which made it possible to statistically measure the students' preference for the use of Kahoot. The population was determined by thirty-five students who belonged to the second semester of the Pedagogy of Experimental Sciences and Computer Science course at the Central University of Ecuador (UCE). The results revealed that the students investigated showed to be motivated at the moment of learning, as well as at the moment of being evaluated, since they felt no pressure to respond. Finally, it was demonstrated that Kahoot is a digital tool that motivates the teaching-learning process, encouraging students to attend classes and participate more actively in the classroom.

Keywords

Teaching-learning, gamification, Kahoot, motivation, motivation.

1. Introduction

Currently we are connected to the Internet most of our time, even without realizing it, the use of digital devices in different areas of our lives is increasing. The new ways of communicating allow access to information and knowledge, and for this purpose different technological tools are used, although it is not usually taken advantage of as much as it should be, mainly in the educational field.

The education sector is one of the most affected and by not keeping pace with the new advances in information and communication technologies, it is affected in the teaching-learning process. The difficulties that teachers have in adapting to the use of these technological tools is a reality. In this regard, Fonoll et al. (2011) indicate that:

> For classroom teachers, digital technologies are already a change in the way they work. At the very least, it implies methodological changes in their approach to classroom performance. This means that the teacher must adapt the educational content to the needs of the student (p. 36).

In this way, Sánchez considers that the appropriate use of digital tools can motivate students in their learning process. As shown by several studies conducted worldwide (Sánchez, 2015). It is important to pay attention to the distraction of students, both in class and when performing tasks, since students can redirect their attention to other activities that seem more interesting. In this regard, García-Varcárcel, Muñoz-Repiso (2008) indicate that:

> although it is true that the school has, to some extent, embraced the formula of combining entertainment and education, shifting the focus from directed to interactive discourses, it still needs to change and do more research on the use, potentiality and effects of ICT on motivation, communication and learning environments (p. 12).

Thus, it can be determined that there are online educational environments that seek to overcome students' disinterest in learning through games. It is here where gamification as a playful learning technique is presented as an alternative to build knowledge through games.

One of the components involved in this research is precisely the evaluation on the use of the Kahoot tool, considered as a playful methodology, effective for students. In this regard, Teixes (2015) mentions that "they have grown up among video games and are accustomed to immediate and constant feedback and rewards" (p. 34). These techniques that are used in some education apps such as, for example, Duolingo that uses rewards and achievements to teach languages. On the other hand, Kahoot allows us to implement gamification in all kinds of subjects without focusing on one in particular.

Although gamification increases the intrinsic motivation of the student either by the sense of competition when playing a game or by the atmosphere of companionship, there are some factors that must be taken into account for a correct implementation of gamification in the classroom. Gràcia, Sanlorien and Segués (2017) says that, if the "challenge is very high and the subjective perception is of low self-efficacy, anxiety is created and, on the contrary, if the task is very easy and the idea of self-efficacy or their abilities are high, then the individual is bored" (p. 70). Bringing this concept to the use of Kahoot in the classroom means that the questions provided by this tool should be in line with the level of knowledge of the learner, so that an achievable challenge is posed that in turn produces knowledge, skills and abilities. Kahoot is a digital learning resource that can be used for different purposes, for example: to diagnose knowledge about a topic, to know notable aspects of a unit or to check what was learned, as well as to evaluate the degree of understanding of a reading or to debate about a specific topic (Pintor et al., 2015).

Regarding the structure of the article, section 2 presents the concepts related to the research. Section 3 details the works related to this study. Section 4 indicates the methodology used for the research. Section 5 shows the results of the use of the Kahoot tool. In section 6 the discussions are written. Finally, section 7 states the conclusions.

2. Related concepts

2.1 *Kahoot*

Nowadays there are tools that facilitate all kinds of tasks, in the case of education, there are facilities to get information, communicate or even do academic work. In the teaching-learning process, there are tools to take exams, send assignments and grade them. Kahoot

as a ludic tool allows implementing a gamification methodology that gives the possibility of taking quizzes in a dynamic way. Gallegos (2015) argues that kahoot is:

> one of the most fun, engaging and innovative free digital tools that a teacher can use to increase the creative climate of their classroom. Generally, a creative climate is characterized by good humor, laughter, the absence of fear of what people will say, an environment of teamwork and an atmosphere of camaraderie; this mix of elements makes the class more enjoyable, less boring and much more motivating (p. 48).

Kahoot was created by Professor Alf Inge Wang, who thought of a comfortable and fun educational environment. This game-based tool is more than a simple online test and has certain features that invite students to participate using any mobile device, in an accessible and easy-to-use way, both for teachers and students. In this regard, Gallegos (2015) states:

> Basically the teacher creates the questions on any topic or in any language, and the students answer the questions in real time from any device, be it cell phone, tablet or computer. The student who responds the fastest wins points, and believe me when I tell you that every time I try this tool, whether with children or adults, learning is activated, people wake up and the predisposition to learn is increased (p. 48).

Based on the above quote, it can be observed that kahoot can be very intuitive in the way it works and can be accessed on different devices. It is evident the increase in motivation of students who receive their classes using this tool, as expressed by teachers who have used the tool, regardless of age or type of subject.

2.2 Gamification

There are many concepts of gamification, but for practical purposes it is advisable to use the definition of Teixes (2015) who considers that "gamification is the application of game resources (design, dynamics, elements, etc.) in non-game contexts, in order to modify the behavior of individuals, acting on their motivation, to achieve specific objectives" (p. 18). With this appreciation it is evident that the main utility of gamification is to change or modify behavior, but this must be achieved in a more friendly way and with the voluntary collaboration of people.

To complement this definition and to understand in an easier way, gamification can be defined as a game. The game provokes joy and fun. And by combining these characteristics of happiness with education, it could solve the problem of transforming a task that can be demotivating or boring into a highly motivated and fun activity. Ordás (2018) states:

> Gamification is based on a simple idea: we all like to play games. From there, it introduces elements of games in everyday environments, such as organizations, marketing, health or education, with the aim of creating a new environment that motivates people in these environments to participate in its proposals (p.17).

Thus, the strategy of implementing game elements is used in different areas of knowledge that aim to motivate people to use a certain product, to participate in a campaign or, as in

this case, to learn. In education there is very little innovation unlike other areas such as technology and it is this same technology that provides the facility to create new strategies for learning.

2.2.1 Gamification as intrinsic motivation

A particularity that is achieved in individuals because of games is the generation of motivation to achieve goals. For Teixes (2015) "intrinsic motivation is the inherent tendency to seek novelty and challenge, to extend and exercise one's capabilities, to explore and learn" (p.22). This human behavior is exploited by gamification and its elements, generating motivation in a natural way.

2.2.2. Characteristics of gamification

Gamification is the application of game principles and elements in a learning environment with the purpose of influencing behavior, increasing motivation and promoting student participation. Gamification is to resort to the use of elements that are part of the structure of the game, is to apply this methodological strategy in a teaching support tool that manages to awaken motivation in students so that their learning processes are meaningful and successful.

> Feedback is about the way to inform the players how far or close they are to reach the goal of the game, it can be in the form of scoring or directly informing the winner.
>
> Voluntary participation, players must agree both with the objective set and with the rules and feedback, this way the player has a pleasant experience (Teixes 2015, p.27).

2.3 Motivation in learning

In the learning process, several factors are taken into account for it to be carried out in the best way. In this regard, Gallardo-Vásquez and Camacho-Herrera (2008) mention that learning is the "change in behavior due to experience that cannot be explained by maturation or innate response tendencies" (p. 23). One of the best ways to achieve this behavioral change in individuals is to motivate them in their learning.

Motivation is a very important factor in the learning process; a motivated student will perform better in his or her skills and development. Gallardo-Vásquez and Camacho-Herrera (2008) say "the term motivation is part of our everyday language and we generally use it to refer to the 'motives' or 'reasons' that explain our behavior or the behavior of others" (p. 9). The desire to learn is something that can be achieved by using different strategies that generate motivation in the learner. Gamification is learner-centered because it can be tailored to the needs of each individual and motivate them to take charge of their own learning.

2.3.1 Features defining a motivated activity

For Kim, recognizing the different interests and motivations of participants helps to develop an engaging environment for all learners. In this way, game elements can be incorporated that are more conducive to the involvement and consequent development of all participants in the activity (Kim, 2015).

> Goal- or objective-directed: personal values and interests can be satisfied by fulfilling certain purposes, which is the motivation of an activity.

> Self-regulation: implies the evaluation of the results obtained as well as processes that make it possible to carry out the activity (Gallardo-Vásquez, Camacho-Herrera, 2008, p.10)..

2.3.2 Factors influencing motivation

For Kapp, motivation can be intrinsic or extrinsic. Intrinsic motivation occurs when a reward arises from the performance of an activity. Extrinsic motivation fuels behavior performed specifically to obtain an external reward. Intrinsic motivation usually has greater educational value. Well-designed games exhibit both types of motivation (Kapp, 2015).

> Social factors: imitation and competition either alone or between groups are factors that generate great motivation. Didactic factors: rewards, punishments come from external factors such as evaluation results, the context is part of these factors (Gallardo-Vásquez, Camacho-Herrera, 2008, p.18).

3. Related work

In 2019, a quasi-experimental research was conducted in Ecuador, where work was done with a group of tenth grade EGB students, through the implementation of the gamification methodology. The results showed that it has an impact on the process of teaching and learning quadratic equations. The authors conclude that an increase of interest of the group was noticed during the development of the classes (Sánchez, 2015).

We also found that, in 2019, in Ecuador, another research was conducted through the implementation of an educational software for learning basic elementary mathematics in the resolution of operations through gamification. The results were that the students were attracted to overcome challenges and levels, in addition to improving cooperation and companionship. The authors conclude that it allows the teacher to reinforce what is learned in class Gutiérrez-Constante and Herrera-Oña (2019).

Another quasi-experimental research we found in Ecuador was conducted in 2017 and involved the participation of fifty pre-intermediate level students (through a diagnosis, in order to subsequently implement gamification). The results proved the effectiveness of gamification as a learning strategy in the written production of the English language. The authors conclude that its use was evidenced as a motivating strategy that promotes learning in a dynamic and joyful way Díaz-Villarruel and Cerda-Solís (2018).

By 2018, a research was conducted in Ecuador that showed gamification as a learning strategy for mathematics support in the topic of polynomials. As a result of this study, an increase in the academic performance of students was found and it was demonstrated that gamification contributed as a learning strategy in mathematics, the authors concluded that the lack of knowledge of these tools makes them to be wasted Pilamunga-Poveda and Quizhpi-Lupercio (2018).

For the year 2018, in Ecuador, a research was conducted on gamification and verbal reasoning of high school students of the Santo Domingo de Guzmán Educational Unit, in the city of Ambato. This research was conducted with a quantitative approach. The results obtained were that gamification helps in the development of verbal reasoning of third year high school students. The authors conclude that verbal reasoning classes are developed in a traditional way with little use of technologies Paez-Quinde and Crespo-Jara (2018).

In 2017, in Ecuador, a research was conducted on patterns in gamification and serious games, applied to education; this was carried out in the Industrial Psychology Career of the Faculty of Human Sciences and Education of the Technical University of Ambato. As a result of this study, it was proved that gamification and serious games, implemented in the learning process, favor mental development and cognitive skills. The authors conclude that students would learn better if they used serious games in the learning process Gómez-Alvarado and Loján-Carrión (2017).

In 2018, in Colombia, a research was conducted at the Pontificia Universidad Javeriana in which two university groups of different careers and semesters were observed. Using gamification methodology to increase student motivation. As a result of this research there was evidence of an increase in the satisfaction, motivation and enthusiasm of the students, which was reflected in their grades. The authors conclude that without realizing it, students were learning significantly (Ardila, 2018).

In 2018, in Peru, a research was conducted at the Universidad César Vallejo. The self-constructive gamification program was implemented to first grade elementary students in Callao. A quantitative approach was used in this study. The results indicated a statistically significant difference in the students' symbolic representation and algorithmic representation skills. The authors conclude that self-constructive gamification was decisive in accepting their hypotheses (Chávez, 2018).

4. Methodology

The present study addressed the use of a digital tool, based on the game, although gamification has been deepened as a playful technique to achieve learning. It was intended to verify the effectiveness of the use of Kahoot in the classroom, for this purpose, an empirical-analytical methodology of descriptive cut was used, measuring through the frequencies of use, the effectiveness of this educational application. The objective of this study was to analyze the use of Kahoot as a motivating element in the teaching-learning process.

Thus, quiz-type questionnaires were used throughout the semester at the end of each class. The investigated group consisted of 35 students of the 2nd semester of the educational technology course, of the Pedagogy of Experimental Sciences and Computer Science Career of the UCE.

The procedure consisted of the teacher designing the questionnaires in Kahoot, based on the contents to be covered in each class and, once the class was over, applying them to the students to evaluate their learning in each session. For their part, the students used their mobile devices to answer the questions, since this digital tool is very flexible. According to Fernández et al. the intuitive graphic interface of the application favors its use, the student perceives it as a game and not as an evaluation system (Fernández et al., 2016, p. 18). The motivation of the students was evident every time they participated, they answered the questions through the technological devices and this increased the collaboration of the whole group in the activity, without them noticing that they were learning by playing.

A questionnaire consisting of 36 questions was applied to this group, with a scale of 5 possibilities on the Likert scale, to collect the experiences with the use of Kahoot. The instrument was validated by 3 teachers-experts of the career in question, who contributed with their observations to its improvement.

To measure the degree of internal consistency, the Cronbach's alpha reliability coefficient was applied, the resulting value of which was .870, equivalent to good. This analysis attempts to determine the degree to which the items are reciprocally related (Brown, 1980) and is presented below.:

Alfa of Cronbach	Alfa of Cronbach based on standardised elements	N of elements
.870	.950	36

Figure 1. *Alfa of Cronbach*

5. Results

In keeping with the responsibility of complying with a scientific process, the study was carried out during the entire semester of classes, so that the results would have a significant weight, once the instrument was applied to collect and analyze the information. It is important to note that in the mid-term and end-of-semester evaluations, some of the questions used in Kahoot were included to corroborate the effectiveness of this application, and the results were quite enlightening at the time of answering the questions assertively by the students of this subject. The following are some of the most important results of this study:

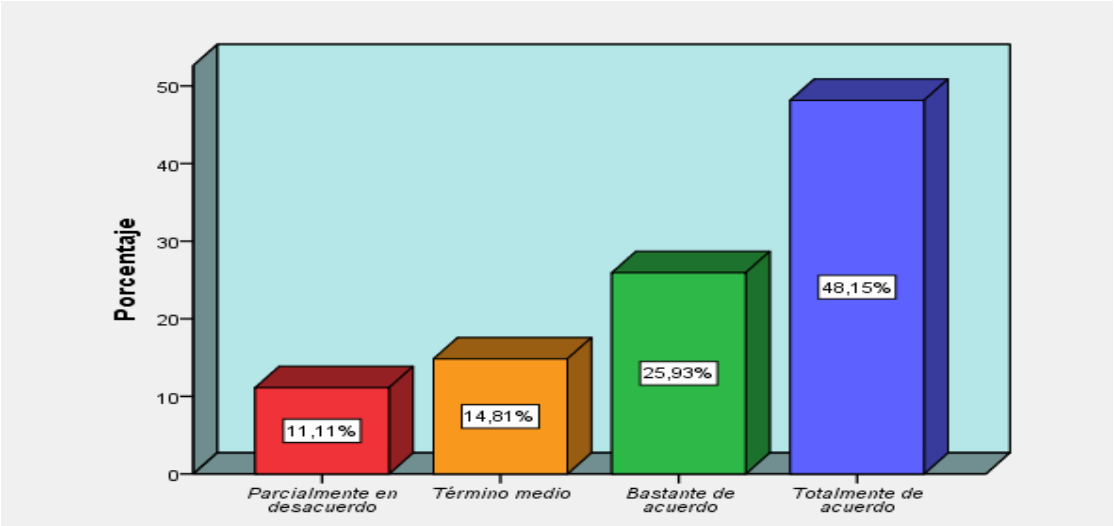

Figure 1. Students' experience using Kahoot on the topics covered in class

For many decades, teachers and researchers have been incorporating different technological resources to improve student learning. Thus, in classrooms we have gone from using radio and TV to computers and mobile devices. Also, overhead projectors were widely used in the past and now we use slides. Castells (2001) states: "Internet makes it possible to work from anywhere (mobile office, portable office, ubiquitous connection...), but work at home is not being developed." (p. 4). In light of the results obtained, we can express that 11.11% of the students stated that they partially agreed, 14.81% expressed

that they moderately agreed, 25.93% stated that they fairly agreed and 48.15% indicated that they totally agreed that Kahoot allowed them to review the topics covered in class. As can be seen, the results of the analysis of the data from the students show a positive attitude towards the use of this digital tool in the teaching-learning process of those investigated.

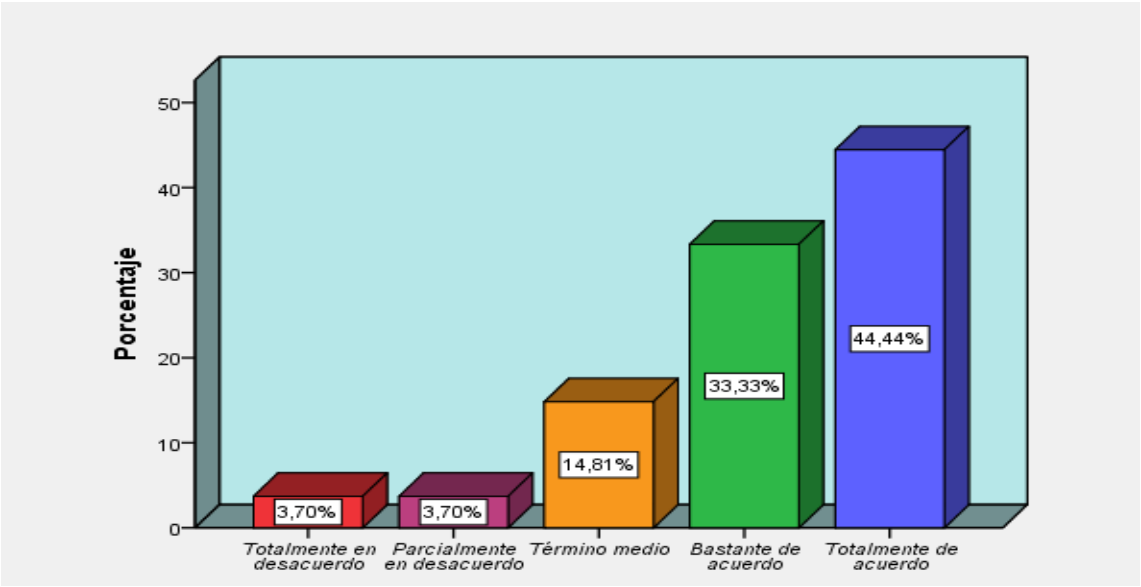

Figure 2. Student preference for answering questions via PC, cell phone, or paper

Information and communication technologies (ICT) are a set of elements and techniques that allow information to be manipulated, converted, stored, managed, transmitted and found through the use of computers and software via computer networks (Windschitl and Sahl, 2002). In this sense, we can see that when the students were asked about their preference for answering questions through the PC, cell phone or paper, 3.70% expressed that they totally disagreed, 3.70% expressed that they partially disagreed, 14.81% indicated that they moderately agreed, 33.33% expressed that they fairly agreed, and 44.44% of the students investigated expressed that they totally agreed with the same preference. As we can see, the results are very convincing when expressing a favoritism for the use of ICTs, at the time of making their evaluations, since they have practically lived with them since they were children.

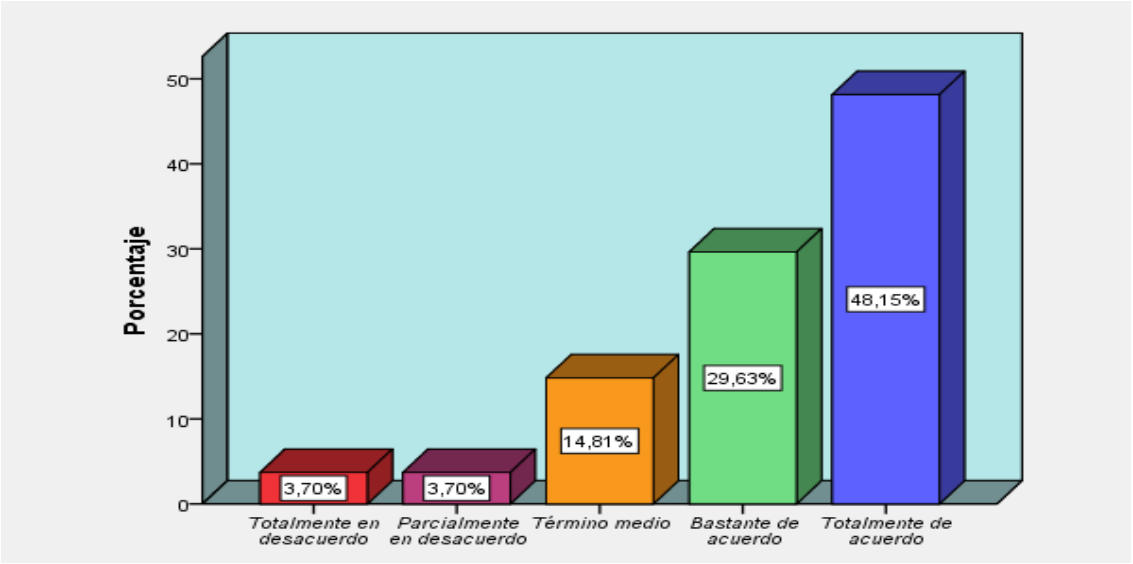

Figure 3. Student motivation to participate in Kahoot question challenges.

According to Wang, there are some new training and motivation techniques, among others, those based on games in the classroom (game-based learning), used to carry out quizzes and online fun in the classroom, favoring motivation through competition among students (Wang and Lieberoth 2015). This competition among students is overshadowed by teamwork, which in most cases is generated by these tools. Motivation is a very important aspect in the teaching-learning process, which is a characteristic of Kahoot. Thus we have that 3.70% of those investigated express total disagreement, 3.70% express partial disagreement, 14.81% indicate that they agree moderately, 29.63% say that they agree quite a lot and 48.15% indicate that they totally agree in feeling motivated to study and thus participate in the questions through Kahoot. Here again, the results are quite conclusive in indicating where the students' preference is concentrated.

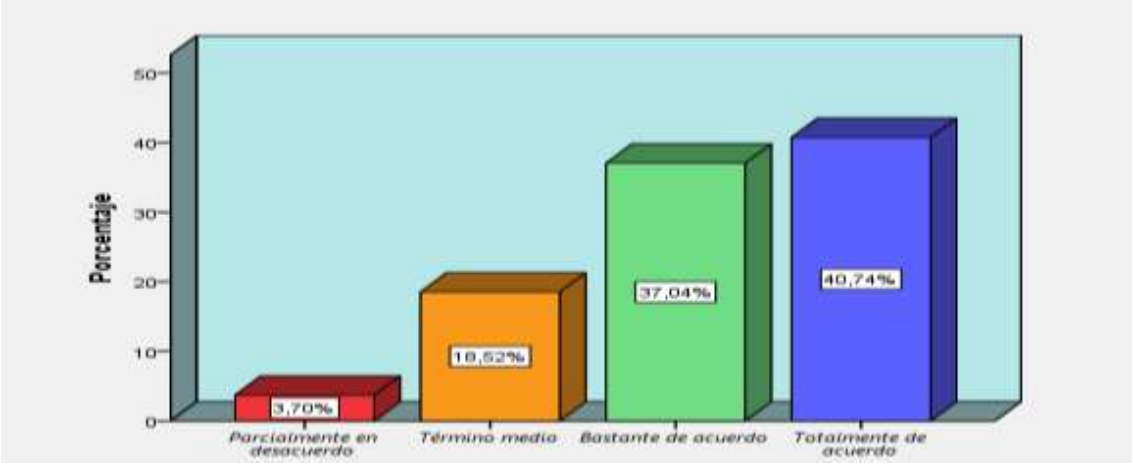

Figure 4. Importance for student learning when using Kahoot

Among others, one of the main advantages of this new way of learning is the active collaboration of the entire student body. The less participative and introverted students, who contribute, but do not stand out from the rest of the class, reappear in the classroom

when they achieve outstanding positions in the score. This learning methodology makes it possible to shorten the "distance" with distant students, a characteristic of student-centered teaching approaches (Salinas, 2004). The students' appreciation of the importance of using Kahoot is evident. And from the results obtained we can see that 3.70% of those investigated express partial disagreement, 18.52% state that they agree moderately, 37.04% indicate that they agree quite a lot and 40.74% express that they totally agree on the importance of using Kahoot for their learning. The results once again indicate the students' preference for the use of this digital tool in their learning, which is not a novelty, since, being an interactive resource, it is very attractive to the students.

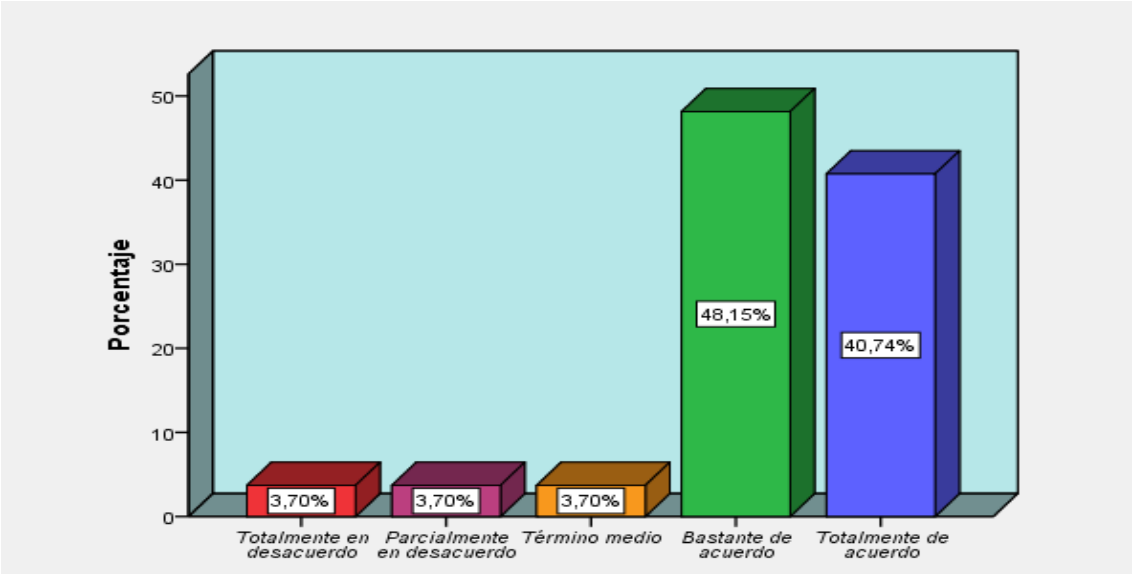

Figure 5. Collaborative learning development using Kahoot

Scardamalia and Bereiter (1994) state that "students need to learn deeply and learn how to learn, how to formulate questions and pursue lines of inquiry so that they can construct new knowledge from what they know. Self-knowledge that is discussed in a group motivates the construction of new knowledge" (p. 266). Kahoot provokes collaborative learning when students discuss the results of the questions with the teacher, for this reason it is important for the teacher to plan adequately, not only the questionnaire, but also how it will be used with the students. As can be observed, and in light of the results obtained, 40.74% of the respondents stated that they totally agree that Kahoot motivates collaborative learning. Also, 48.15% of the respondents stated that they strongly agree that Kahoot motivates collaborative learning. On the other hand, 11.10% of the respondents stated that they moderately, partially disagreed and totally disagreed that the ICT resource in question motivates collaborative learning.

6. Discusion

The Kahoot software is an important and powerful digital tool that, through game-based learning, allows students to learn new topics or review others they have already learned. Here lies the importance of the use of these ICT resources in the classroom, given the flexibility they present. When analyzing the use of Kahoot as a motivating element in the teaching-learning process, and as could be observed in the results section, this software produces motivation when used in the classroom. Thus Rodriguez (2015) states: "this fact transforms this type of experience into an incentive for class attendance (p. 12).

Also, it can be seen that the results presented in the questionnaire responses regarding the students' preference to answer the evaluation questions through the cell phone, instead of using paper, are mostly positive for this study, since they expose a reality of the students in the classroom. And this is consistent with a series of studies conducted by the United Nations Educational, Scientific and Cultural Organization UNESCO (2013) who have stated that "mobile devices can help instructors use classroom time more effectively" (p. 14).

Regarding the motivation to participate in the Kahoot challenges, the students mostly expressed feeling stimulated when they use it and the challenge it represents to compete and play among peers, but at the same time learning the content covered in class. Several researches have been developed around the game and its effectiveness in the teaching-learning process. In this regard, Guimaraes (2015), exposes us that "learning by playing, solving: designing positive learning experiences" (p. 3). Most students once they have worked with Kahoot consider that this digital tool allows them to learn in a dynamic way thanks to the game. Gamification has been used in several basic, middle and higher education institutions in Spain and Europe in general, with very good results. Rodriguez indicates that Alf Inge Wang, -creator of Kahoot- asserted in the study he executed at Norwegian University of Science and Technology (NTNU) that students who handled this software, assimilated 22% more than students who manipulated different games (Rodriguez, 2017).

Thus we have that the investigated student body, manifested mostly in favor that the use of Kahoot, develops collaborative learning. And this is clear, since the use of gamification as part of the teaching methodology has generated new opportunities for educators and students, allowing them to exchange experiences and knowledge and at the same time have fun.

7. Conclusions

Once the study was completed and with the data obtained, we can affirm that Kahoot is indeed a motivating element in the teaching-learning process. Although we suggest to continue investigating other dimensions involved to strengthen the results of this research. We emphasize that, although the data presented in this research through the field study are precise and clear, Kahoot became an important methodological strategy for the teacher, since it encouraged the students not to miss classes. In addition to achieving a more active participation in the classroom.

Among other benefits of using this software, is that it has a variety of important functions within it, since it has multiple strategies to achieve the goal that students learn through the game. It is important to note that the teacher who is inclined to use this software must be competent, digitally speaking, given the different activities to be performed.

It is also important to point out that the teacher must maintain a significant level of leadership to maintain an adequate order in the classroom; sometimes the students' excitement caused by the participation and competition can trigger disorganization and indiscipline in the classroom and the teacher is required to reorganize and redirect the students' attention back to their learning.

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