

VIRTUAL COOPERATIVE LEARNING IN COMPETENCE BUILDS HISTORICAL INTERPRETATIONS IN SECONDARY FOURTH GRADE STUDENTS - 2020

Deris Dávila Rosales de Vivanco,

Edward Flores, Rosa Irene Chero Castillo, Rolando Eduardo Vivanco Vicencio *Universidad César Vallejo*

ABSTRACT

The next installment is called: virtual cooperative learning in competition builds historical interpretations in fourth grade secondary school students - 2020, it was focused on determining how virtual cooperative learning influences in improving the competence that develops capacities and their dimensions : critically clarifies numerous antecedents, covers historical time and produces interpretations on historical processes of the fourth grade of secondary school in students applied in the III quarter of the 2020 school year during 10 sessions delivered twice a week in sessions of two hours per session. In order to achieve the stated purpose, a pre and post test was applied which was subjected to descriptive and inferential statistical analysis. To begin with, 60 students were designated, divided into an experimental group so that they received the "cooperating and learning" program and a control group as a contrasting model, which only received sessions using learning strategies according to the current curricular design. The descriptive effects revealed dissimilarities in the learning levels of the experimental group compared to the control group, since 90% of the students of the experimental group reached levels of process, expected and outstanding, while 43.3% of students of the control group remained in the start level. This was reaffirmed by the Mann Whitney U difference test, which found that the differences found were significant. The research concludes that virtual cooperative learning has a significant influence on enriching the competence that builds historical interpretations in fourth grade high school students from a public educational institution in San Juan de Lurigancho. Therefore, it is important that educators are trained in the management of innovative strategies so that they can work satisfactorily with the participants on the proposed activities.

Keywords: learning, cooperation, competition, construct historical interpretations

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INTRODUCTION

The appearance and outbreak of the coronavirus (COVID-19) at the end of 2019, has significantly impacted the education sector worldwide, as it places it in a difficult situation due to the fact that going from face-to-face classes to virtual remote calls (video-conference) is not at all simple if we speak in economic terms. Well, countries have had to manage the purchase and / or licenses of teaching platforms such as Google classroom, blackboard, zoom (which was originally created for business use) and WhatsApp (instant messaging application) among others, and thus be able to satisfy the demand in the education sector (Saavedra, 2020).

In Latin America, countries such as Chile and Colombia have invested significant resources in the use of educational platforms, as well as public radio and television for educational purposes. (País, 2020). In our country, the Ministry of Education (MINEDU) has implemented a remote work plan called "I learn at home", an educational program where the area of social sciences (CCSS) has been developing within the scope of the National Curriculum-2016, a fundamental document that consider three competences in this area, one of them is: Build historical interpretations (Ministerio de Educación, 2016).

As for the public educational institution of San Juan de Lurigancho, the latest data provided by the educational management information system, shows that

students reached an annual average of 13.87. (Ministerio de Educación, 2016) Results that show that this area has not been developed effectively. Reason why teachers have applied an intervention model called virtual cooperative learning (VCL) that refers to the procedure which part of the classroom structure, in small miscellaneous and heterogeneous teams where the student works in a concerted and joint way on a topic to achieve an end (Quiroz & Jeldres, 2014). Being applied in fourth year high school classrooms through virtual environments such as WhatsApp, Google Classroom and zoom.

These circumstances led us to pose the following question as a general problem: In what way does virtual cooperative learning influence the enrichment of competence and build historical interpretations in fourth grade high school students from a public educational institution in San Juan de Lurigancho? And as specific problems (1) In what way does virtual cooperative learning influence the improvement of critical appreciation of various sources in fourth grade high school students from a public educational institution in San Juan de Lurigancho? (2) In what way does virtual cooperative learning influence the understanding of historical time in fourth grade high school students from a public educational institution in San Juan de Lurigancho? (3) In what way does virtual cooperative learning influence in improving the production of definitions about historical processes in fourth grade high school students of a public educational institution in San Juan de Lurigancho?

The general objective of the research was to determine how virtual cooperative learning influences the improvement of competence and constructs historical interpretations in fourth grade high school students from a public educational institution in San Juan de Lurigancho. While the specifics were (1) Establish how virtual cooperative learning influences improving the critical interpretation of diverse sources in fourth grade high school students from a public educational institution in San Juan de Lurigancho. (2) To establish how virtual cooperative learning influences in improving the understanding of historical time in fourth grade high school students from a public educational institution in San Juan de Lurigancho. (3) Establish how virtual cooperative learning influences in improving the

elaboration of explanations about historical processes in fourth grade high school students of a public educational institution in San Juan de Lurigancho.

This study is justified from the points: theoretical, methodological and practical.

In the first place, the present investigation proposed virtual cooperative strategies for the improvement of the competition builds historical interpretations (CBHI). Second, the inquiry was of an applied type of quasi-experimental design, within the quantitative approach, therefore, pre and post-test tests were applied and then subjected to their respective inference analysis in the SPSS V.25 program. And finally, the study sought to provide scientific testimony to the public educational community; as well as the director and educators of the area of History, Geography and Economics (H,GyE) at the secondary education level, on issues of taking advantage of virtual cooperative learning in the various class sessions, in addition to strategies such as the puzzle, the group research and controversial discussion, empowers participants to assimilate in reciprocal contribution and deployment in the CBHI around the 3 dimensions such as: critically interpret diverse sources (CIDS), understand the historical time (UHT), elaborate explanations about the phases historical (EEH).

The general hypothesis is: Virtual cooperative learning has a significant influence on improving competence and constructing historical interpretations in fourth grade high school students from a public educational institution in San Juan de Lurigancho. While the specific ones are: (1) Virtual cooperative learning has a significant influence on improving the critical sense of varied sources in fourth grade high school students of a public educational institution in San Juan de Lurigancho. (2) Virtual cooperative learning significantly influences the understanding of historical time in fourth grade high school students from a public educational institution in San Juan de Lurigancho. (3) Virtual cooperative learning has a significant influence on improving the elaboration of explanations about historical processes in fourth grade high school students from a public educational institution in San Juan de Lurigancho.

MATERIALS AND METHODS

In section 2 the entire methodological period of the inquiry is presented, completing the display of the type of inquiry, variables, population, sample, instrument and procedures.

2.1. Research type and design

The inquiry was of an applied type because it sought solutions to specific problems (Snyder, 2019). The research level corresponds to the explanatory one, because it not only details the educational phenomenon

GE	O ₁	X	O ₂
GC	O ₃	-	O ₄

to be solved, but also explains its nature (List, 2019).

Therefore, it was decided on a quasi-experimental research design that investigated the truth through experience with the variables (Flannelly et al., 2018). The design presents the following scheme:

Where:

- GE** : Experimental group (participants of the 4to “A”)
- GC** : Control group (participants of the 4to “B”)
- O₁O₃** : Measurement before stimulus or pretest
- O₂O₄** : Measurement after stimulus or post-test
- X** : Application of the program "cooperating and learning online"
- : Absence of stimulus

Within this framework, the inquiry was developed from a quantitative approach that is based on statistical data to collect relevant information to verify hypotheses, and in this way constitute a pattern of behavior and test a theory that explains them. (Queiros et al., 2017). In addition, the method was applied: hypothetical-deductive.

2.2. Variables and operationalization

Independent variable: Virtual cooperative learning

Conceptual definition: two reference authors, the Johnson brothers (as mentioned Rue, 2020) both social psychologists, have conceptualized it as the objectives of the learners are closely linked to the learning situation, so that each participant "can achieve their objectives only when other participants can achieve their objectives."

Dependent variable: Construct historical interpretations

Conceptual definition: according to the Ministry of Education (2016), the student holds an opinion about events and historical successions that support the interpretation of current affairs and its challenges, linking the use of a variety of sources; the understanding of transitory variation and the interpretation of the various causes and effects of these (p. 82).

Operational definition: it is the response of fourth-year high school students to questions presented about the dependent variable, expressed in three dimensions: CIDS, UHT and EEH, each one accompanied by its indicators and items that measure four levels of rank (Schmeller et al., 2017).

Indicators: it is the numerical quantification of the quantities. They have to be presented in a transparent way, in a way that enables us to understand how the magnitudes act and therefore the variable of interest, allowing us to be up to date in what context the examination problem itself is. The correct conceptualization of the indicators will invite that the inquiry can reach an investigation by indicator, generating a deeper contribution since it can be possible to contend the results of the investigation beyond a research area of changes and magnitudes. (Merigó et al., 2015).

Regarding this research, we worked on the basis of thirteen indicators or performances belonging to the dependent variable: CBHI of the 4th grade of secondary level, raised by the MINEDU through the national curriculum of the year 2016.

Measurement scale: in the present study the dichotomous measurement scale was used: correct (1); incorrect (0) that according to their varieties are ordered by class and prototype staggered situations. If digits are used, their only implication is to show the focus of the various categories in the sequence.(Vispoel & Kim, 2014).

The levels or ranges were based on what was determined by the National Curriculum in 2016:

AD Outstanding Achievement :

- (18-20)
- A** Achievement : (15-17)
- B** Process : (11-14)
- C** Start : (0-10)

2.3. Population, sample and sampling

A population is a cluster of all the components that we are investigating, from which we aspire to obtain results (Otzen & Manterola, 2017). And in this study the research focus consisted of 140 participants from the 4th grade of the secondary level of an I.E. SJL state.

Table 1 Population of the public educational institution of San Juan de Lurigancho

Section	Male	Female	Total
A	14	16	30
B	11	19	30
C	13	27	40
D	18	22	40
Total	56	84	140

Note: Enrollment payroll - 2020

Sample: refers to that fraction of the population that will be investigated (Etikan & Bala, 2017). And in this study, the model consisted of 60 participants (25 men and 35

women) divided into two groups: (a) experimental with 30 participants and (b) control with 30 participants.

Table 2 Distribution of the research sample by sex (of the two classrooms)

Group	Section	Male	Female	Total
Control	A	14	16	30
Experimental	B	11	19	30
Total		25	35	60

Note: Enrollment payroll - 2020

Sampling: it is the method or technique that allows us to choose the size of the model in a large set, and what is

obtained must be representative (Taherdoost, 2016). This inquiry was made a non-probabilistic sampling, intentional type, this means that samples based on a subjective criterion of 30 participants were chosen.

The unit of analysis: the element of the model is each of the subjects that comprise its platform and are numbered and personalized (Abu-Zaid & Alkattan, 2013). In this case, the unit of analysis was the participants of the I.E. public-SJL 2020.

2.4. Data collection techniques and instruments

Regarding the dependent variable, the CBHI used the very advantageous and transcendental performance test technique for the educator because it enables the storage of cognitive capacity research. Regarding the instrument, the competence test was used, which contains questions, focused on using, examining, evaluating and creating (Baldwin et al., 2018).

In addition to evaluating the range of improvement of the CBHI in participants of the 4th grade of secondary school from an SJL school. Said test was made taking into consideration the contents proposed by MINEDU for the CCSS area within the framework of the "I learn at home" project. The applied tests were carried out from entry and exit, to the G.e. and G.c.

Validity

The effectiveness of a rig refers to the fact that it effectively calculates the variable that it intends to calculate. Therefore, the assessment rig constituted by a competence test was validated through 5 expert judgments (Taherdoost, 2016). The type of validity was that of content, since it is the pattern of the correctness of the sampling. Since this type of aptitude consists of a band of estimates. These estimates do not provide a quantitative index of validity (Mohamad et al., 2015).Es necesario informar que la prueba se elaboró en base a la CBHI, en sus tres capacidades que son: CIDS, UHT y EEH; así como sus indicadores, los cuales a partir de ellos se manifiestan los diversos ítems.

Reliability

For Hernández et al., (2014) The reliability of a calculation rig refers to the level at which the repetitive activity of the same participant or piece produces the same results. For this reason, all the data collection tools must meet the reliability requirements, for which some pilot tests have been carried out at the 4th grade of secondary section "C", which did not correspond to the sections of G.c and G.e. According to Capik and Gozum

(2015) because the applied instrument has two response alternatives (0 = incorrect; 1 = correct), the test used to verify its reliability was the Kuder Richardson 20, which evaluates instruments with dichotomous data type. Its formula is the following:

$$KR - 20 = \left(\frac{K}{K - 1} \right) * \left(1 - \frac{\sum p \cdot q}{Vt} \right)$$

Where:

- KR-20** = Reliability Coefficient (Kuder Richardson)
- K** = Number of items that the instrument contains.
- Vt** = Total variance of the test.
- ∑p.q** = Sum of the individual variance of the items.
- P** = TRC / N; Total correct answer among number of subjects
- Q** = 1 - p

It was valued using the following table:

Table 3

Rating KR-20

Value KR-20	Consistency
0 – 0,20	Very low
0.21 - 0,40	Low
0,41 – 0,60	Moderate
0,61 – 0,80	Good
0,81 – 1,00	Very good

Note: Taken from Hernández 2014

Use the Reliability Coefficient formula (Kuder Richardson):

$$KR-20 = (20/19) \times (1 - 4,857/14,87)$$

KR-20= 0,71 According to the Kuder Richardson reliability calculation, the corollary emanated is 0.71, which points to a good reliability of the rig handled.

2.5. Procedures

The investigation has the corresponding authorization (director of the educational institution). Likewise, the following steps were carried out: the instruments and procedures dictated by the university

and the educational institution were applied;

$$U_2 = n_1n_2 + \frac{n_2(n_2 + 1)}{2} - R_2$$

Immediately afterwards, the first stage of the research began where the course plan is designed for the two groups that will participate in the research. Both groups have developed two types of theory and practice regarding the development of the CBHI. In the second, the pre-test is applied to both G.c. as G.e. with a duration of 60 minutes to measure the competition builds historical interpretations through an objective test. Whose items comply with the contents of the 2016 national curriculum.

Already in the second stage: The class of constructs historical interpretations with emphasis on the dimensions of the CBHI is resumed, the control group is routinely exercised on the CBHI based on individual activities. The experimental group is explained the contents considered in the competition and the activities are worked in a group way applying cooperative strategies. And so on until session 10 where the post test will be applied.

2.6. Data analysis method

The elaboration of the database and the processing of the same were carried out in the statistical program SPSS vr, 25, passing a data purification process, and transformation to their corresponding levels or ranges. For the one-dimensional examination, the tables and figures of respective frequencies were prepared for each study group, in order to improve the aspects of the figures, the Excel 2016 spreadsheet was used.

The inferential analysis by the origin of the information (not having a normal distribution and being categorical data), was treated with the Mann-Whitney U test, which is a non-parametric test applied to II independent G.c. and G.e. (Celano & Chakraborti, 2020).

To calculate the U statistic, each unit of the values of both samples is designated its category to build.

$$U_1 = n_1n_2 + \frac{n_1(n_1 + 1)}{2} - R_1$$

Source: Henry B. Mann y D. R. Whitney - 1947.

Where:

n1 y n2 : They are the respective sizes of each sample.

R1 y R2 : It is the sum of the ranges of the observations of the samples 1 and 2 respectively.

The statistician U : It is defined as the minimum of U1 and U2.

Statistical distribution

The inquiry calculates the so-called U statistic, whose structuring for specimens with more than 20 observations is acceptably close to the normal arrangement.

The approach to the normal, z, when we have specimens the suitably large is given by the expression:

$$z = (U - m_U) / \sigma_U$$

Where:

m_U y σ_U: are the mean and standard deviation of U if the null hypothesis is true, and are given by the following formulas:

$$\sigma_U = \sqrt{\frac{n_1n_2(n_1 + n_2 + 1)}{12}}$$

2.7. Ethical aspects

When carrying out the research work, it is necessary to take into account the specifications established by the research institution, the rights of the authors, of the research resources have been respected and the laws and regulations in force have been followed to cite and reference the authors, basing the research on the APA Standard (American Psychological

Association). To make its application effective, the corresponding permission was considered by means of a presentation letter signed by the Graduate School of the higher Institution.

Regarding the data of the tests, the anonymity of the students was maintained, always the rigor of the same and the statistical tests were used, without manipulating the data so as not to ignore any results. Within the framework that configures the Code of Research Ethics (Res. Nro. 126-2017 of the 23/05/2017).

RESULTS

Regarding chapter 3 and after the acquisition of the pertinent information, the corresponding inferential and descriptive statistics are worked on, displaying the normality tests and the corresponding contrasts between the various externalized conjectures in order to examine the results obtained.

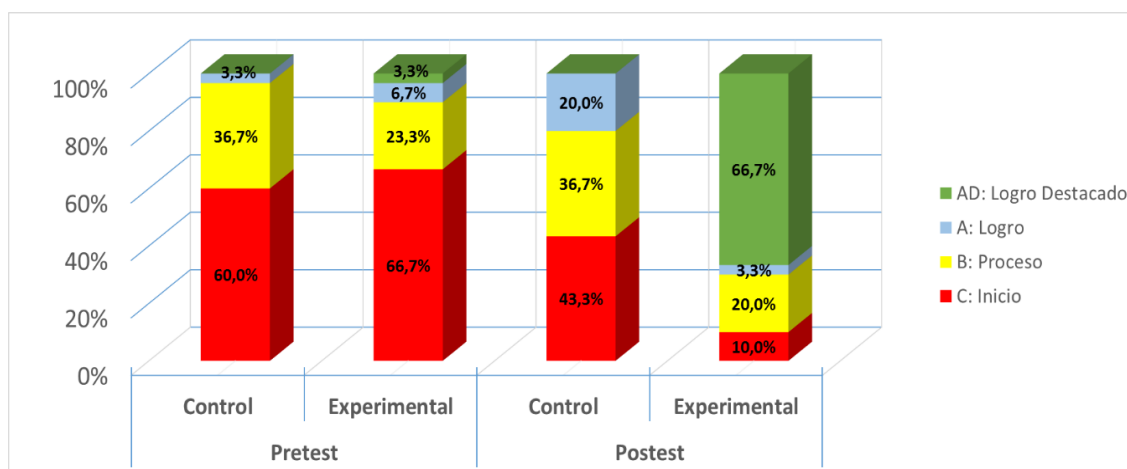
3.1. Descriptive analysis Results during the Pretest and Posttest

Table 4 Levels of achievement obtained in the Build Historical Interpretations Competition

		Pretest		Posttest	
		Control	Experimental	Control	Experimental
Competition Builds Historical Interpretations	C: Start	18 60,0%	20 66,7%	13 43,3%	3 10,0%
	B: Process	11 36,7%	7 23,3%	11 36,7%	6 20,0%
	A: Achievement	1 3,3%	2 6,7%	6 20,0%	1 3,3%
	AD: Outstanding Achievement	0 0,0%	1 3,3%	0 0,0%	20 66,7%
	Total	30 100,0%	30 100,0%	30 100,0%	30 100,0%

Note: Applied instrument

Figure 1 Levels of Achievements obtained in the competition: Build Historical Interpretations



Note: Table 4

Of the fruits harvested in the pretest found that for G.c. 60% are at the starting level, 36.7% at the process level, and only 3.3% are at the achieved level,

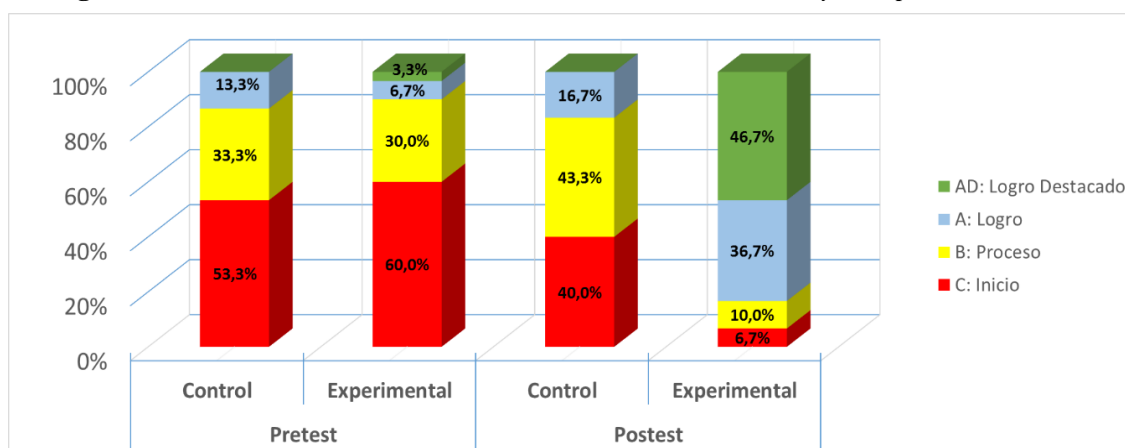
with no outstanding achievement level; On the contrary, for the G.e. 66.7% are at the Beginning level, 23.3% with a level in progress, 6.7% obtained a level achieved, and only 3.3% of students are with outstanding achievement. It is concluded that both groups are in similar situations before starting the test.

In the post-test, the results found show that for G.c. 43.3% are at the beginning level, 36.7% are at the process level, and 20% are at the achieved level, no

student reached the outstanding level; while for the G.e. 10% are at the Beginning level, 20% with a level in progress, 3.3% are located at the achieved level, finally 66.7% of the students reached an outstanding level. It is determined that after apply the experiment in the G.e. students these demonstrate improvements in their achievement levels.

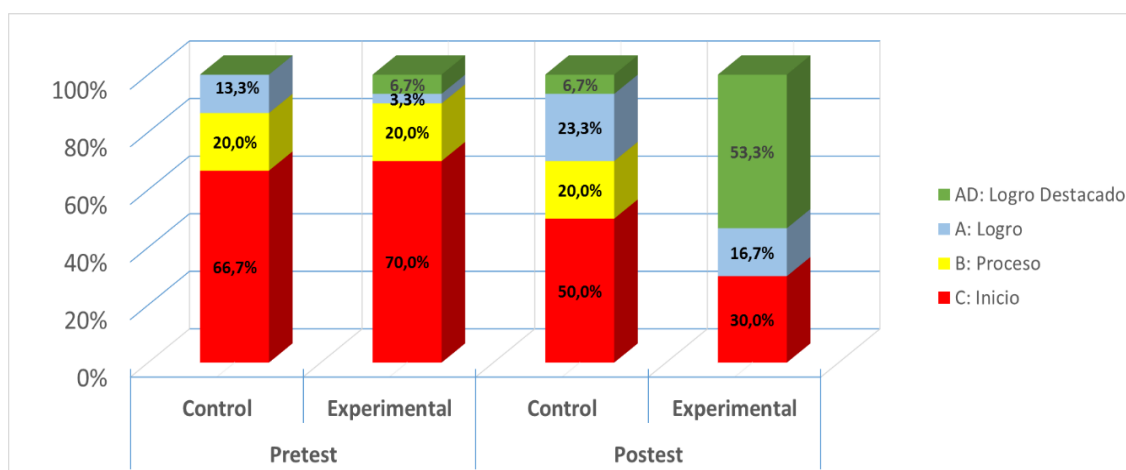
In the same way, the results obtained for the specific dimensions are shown:

Figure 2 Achievement levels obtained in the dimension: Critically interpret diverse sources



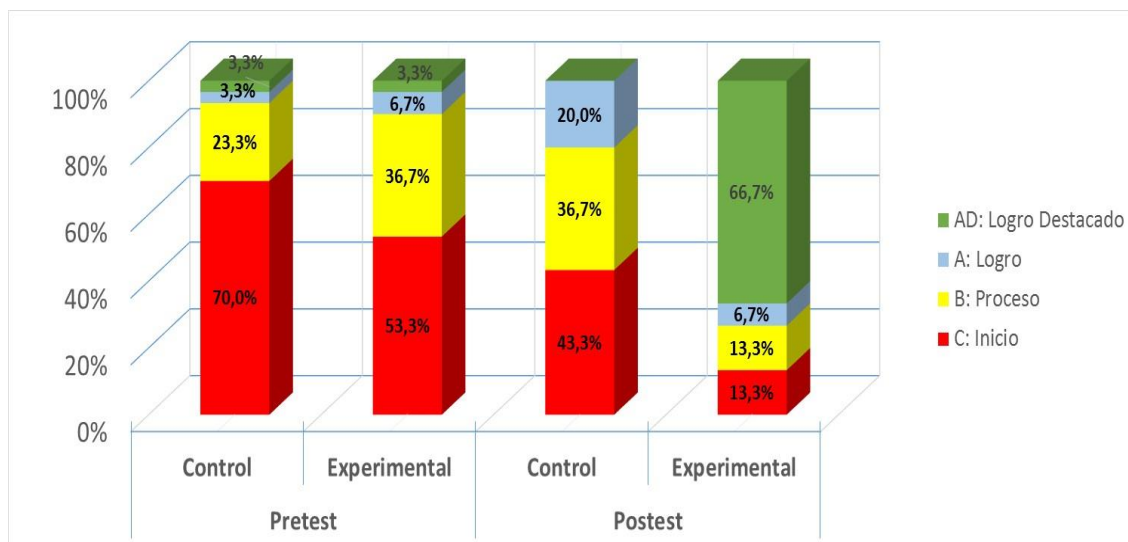
Note: Table 5

Figure 3 Levels of Achievements obtained in the dimension: Understand the historical time



Note: Table 6

Figure 4 Levels of Achievements obtained in the dimension: Elaborates explanations on historical processes



Note: Table 7

3.2 Inferential analysis

General and specific hypothesis testing

General Hypothesis Contrast

Ho (Me1 = Me2). Virtual cooperative learning does not significantly influence the improvement of CBHI in the participants of 4th grade of secondary school of an I.E. SJL public.

Ha. (Me1 ≠ Me2). Cooperative virtual learning has a significant influence on improving the CBHI in the participants of 4th grade of secondary school of an I.E. SJL State.

Test statistic: Mann Whitney U

Decision Rule

If $p \leq 0.05$, Ho is rejected

Table 8 Value of the Contrast Statistic

Pretest competition builds historical interpretations					
Group	C: Start	B: Process	A: Achievement	AD: Outstanding Achievement	Test
Control	60%	36,7%	3,3%	0%	U= 433,500 Z = -0,288 p = 0,774
Experimental	66,7%	23,3%	6,7%	3,3%	
Posttest competition builds historical interpretations					
Group	C: Start	B: Process	A: Achievement	AD: Outstanding Achievement	Test
Control	43,3%	36,7%	20%	0%	U=142,500 Z = -4,740 P =0,000
Experimental	10%	20%	3,3%	66,7%	

Note: SPSS v25

From the previous table it is identified that the level of achievement of CBHI, both of G.c. and G.e., have similar initial states in the pretest with U-Mann-Whitney with $p = 0.774 > 0.05$.

that both sections exhibit significant inequalities in their achievement levels with U-Mann-Whitney: $p = 0.000 < 0.05$ being those of the G.e. those who demonstrate high levels of achievement.

On the other hand, in the post-test they show us

In this way we can conclude that: The VCL

significantly influences the improvement of the CBHI in the students of the 4th grade of secondary school of an I.E. of the State of the SJL district. In the same way, the convenient figure shows us the equalization of the medians of both sections, being the G.e. the one exhibiting high levels of achievement.

Specific Hypothesis Contrast 1.

Ho (Me1 = Me2). The VCL does not significantly influence the improvement of the critical interpretation of diverse sources in the students of the 4th grade of

secondary school of an I.E. SJL public.

Ha. (Me1 ≠ Me2). Virtual cooperative learning significantly influences the improvement of CIDS in students in 4th grade of secondary school of an I.E. SJL State.

Test statistic: Mann Whitney U

Decision Rule

If $p \leq 0.05$, Ho is rejected

Table 9 Value of the Contrast Statistic

Pretest critical interpretation of diverse sources					
Group	C: Start	B: Process	A: Achievement	AD: Outstanding Achievement	Test
Control	53,3%	33,3%	13,3%	0%	U= 419,000 Z = -0,517
Experimental	60%	30%	6,7%	3,3%	p = 0,605
Postest interpretación crítica de fuentes diversas					
Group	C: Start	B: Process	A: Achievement	AD: Outstanding Achievement	Test
Control	40%	43,3%	16,7%	0%	U=110,000 Z = -5,193
Experimental	6,7%	10%	36,7%	46,7%	P =0,000

Note: SPSS v25

From the previous table it is identified that the level of achievement of critical interpretation competence from various sources, both from G.c. and G.e., show similar initial situations in the pretest with U-Mann-Whitney with $p = 0.605 > 0.05$.

Within this order of ideas, in the posttest they show us that both sections show significant dissimilarities in their achievement levels with U-Mann-Whitney: $p = 0.000 < 0.05$ being those of the G.e. those that exhibit considerable levels of achievement.

Therefore, we can exhaust that: virtual cooperative learning significantly influences the improvement of CIDS in students in 4th grade of secondary school of an I.E. SJL public.

Likewise, the pertinent figure shows us the matching of the medians of both groups, being the G.e. the one that demonstrates higher levels of achievement.

Specific Hypothesis Contrast 2.

Ho (Me1 = Me2). Virtual cooperative learning does not significantly influence the improvement of UTH in students in 4th grade of secondary school of an I.E. SJL public.

Ha. (Me1 ≠ Me2). Virtual cooperative learning significantly influences the improvement of UTH in students of 4th grade of secondary school of an I.E. SJL public.

Test statistic: Mann Whitney U

The formula of the statistic to be used is the following:

Decision Rule

If $p \leq 0.05$, Ho is rejected

Table 10 Value of the Contrast Statistic

Pretest understanding of historical time					
Group	C: Start	B: Process	A: Achievement	AD: Outstanding Achievement	Test
Control	66,7%	20%	13,3%	0%	U= 436,000 Z = -0,252
Experimental	70%	20%	3,3%	6,7%	p = 0,801
Posttest comprensión del tiempo histórico					
Group	C: Start	B: Process	A: Achievement	AD: Outstanding Achievement	Test
Control	50%	20%	23,3%	6,7%	U=246,000 Z = -3,179
Experimental	30%	0%	16,7%	53,3%	P =0,001

Note: SPSS v25

From the previous table it is identified that the level of achievement of the understanding of historical time, both of G.c. and G.e., show similar original situations in the pretest with U-Mann-Whitney with $p = 0.801 > 0.05$.

Regarding the post-test, they show us that both sections present significant inequalities in their achievement levels with U-Mann-Whitney: $p = 0.001 < 0.05$, being those of the G.e those showing high levels of achievement.

In this way, we can conclude that: Virtual cooperative learning significantly influences the improvement of UTH in the participants of 4th grade of secondary school of an I.E. SJL public. Likewise, the corresponding figure shows us the comparison of the medians of both sections, being the G.e. the one that exhibits higher levels of achievement.

Specific Hypothesis Contrast 3.

Ho (Me1 = Me2). Virtual cooperative learning does not significantly influence the improvement of EEH in students in 4th grade of secondary school of an I.E. SJL public.

Ha. (Me1 ≠ Me2). Virtual cooperative learning significantly influences the improvement of EEH in students in 4th grade of secondary school of an I.E. SJL State.

Test statistic: Mann Whitney U

The formula of the statistic to be used is the following:

Decision Rule

If $p \leq 0.05$, Ho is rejected

Table 11 Value of the Contrast Statistic

Pretest Improve the elaboration of explanations on historical processes					
Group	C: Start	B: Process	A: Achievement	AD: Outstanding Achievement	Test
Control	70%	23,3%	3,3%	3,3%	U= 376,000 Z = -1,273
Experimental	53,3%	36,7%	6,7%	3,3%	p = 0,203
Posttest Improve the elaboration of explanations about historical processes					
Group	C: Start	B: Process	A: Achievement	AD: Outstanding Achievement	Test
Control	43,3%	36,7%	20%	0%	U=146,000 Z = -4,680
Experimental	13,3%	13,3%	6,7%	66,7%	P =0,000

Note: SPSS v25

From the previous table it is identified that the level of achievement of competence elaboration of explanations on historical processes, both of G.c. and Ge., present similar original situations in the pretest with U-Mann-Whitney with $p = 0.203 > 0.05$.

At the post-test point, they show us that both sections show significant differences in their achievement levels with U-Mann-Whitney: $p = 0.000 < 0.05$ being those of the G.e. those who exhibit higher levels of achievement.

In summary, we can indicate that: Virtual cooperative learning significantly influences the improvement of EEPH in students in 4th grade of secondary school of an I.E. SJL public. Likewise, the figure shown shows us the comparison of the medians of both samples, being the G.e. the one that exhibits higher levels of achievement.

CONCLUSIONS

First, it was determined that virtual cooperative learning has a significant influence on improving the competence of constructing historical interpretations in the students of the experimental group with an outstanding achievement of 66.7% in the post-test, while the Control group was located in Start with a 43, 3% and according to the Mann-Whitney U Test with a p value of $0.000 < 0.05$.

Second, it was established in what way virtual cooperative learning influences in improving the critical interpretation of diverse sources in the students of the experimental group with an outstanding achievement of 46.7% in the post-test while the Control group was located in Start with a 40% and according to the Mann-Whitney U Test with a p value of $0.000 < 0.05$.

Third, it was established in what way virtual cooperative learning influences in improving the understanding of historical time in the students of the experimental group with an outstanding achievement of 53.3% in the post-test while the Control group was located in Start with a 50 % and according to the Mann-Whitney U Test with a p value of $0.001 < 0.05$.

Fourth, it was established how virtual cooperative

learning influences in improving the elaboration of explanations about historical processes in the students of the experimental group with an outstanding achievement of 66.7% in the post-test while the Control group was located in Start with 43.3% and according to the Mann-Whitney U Test with a p value of $0.000 < 0.05$.

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