ACADEMIC DEBATE AND ITS EFFECT ON THE CRITICAL THINKING SKILLS OF HIGH SCHOOL STUDENTS IN PERU

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ABSTRACT

The effect of academic debate and its effect on critical thinking in students of a secondary level educational institution in Lima, Peru, was intended to demonstrate that a program of academic debate had an outcome in critical thinking. It was carried out with a quantitative approach, applied study, experimental design and quasi-experimental nature. The sample was intentional non-probabilistic, made up of 49 third-grade students at the secondary level, divided into two groups: the control and the experimental, the latter received the academic debate program, which was made up of 15 learning sessions, focused on the development of academic debate skills and cognitive critical thinking skills. Data was collected through a critical thinking test, consisting of 20 items, before and after the experience. The results showed that the program on academic debate did have an effect on the critical thinking of high school students because the statistical findings evidenced the differences in scores between the control and experimental groups, in favor of the latter, which were significant ($Z = -5.262 < -1.96$) and ($p = 0.00 < 0.05$).

Keywords: Critical thinking, academic debate, high school students, Peruvian education.

I. INTRODUCTION

In the face of the knowledge society, economic and cultural globalization, and the exponential growth of science and technology, it is essential that students acquire a set of skills and abilities that will allow them to face the new challenges of the 21st century. In this regard, Hasanah and Malik (2019) indicate that critical thinking provides students with a set of skills needed to face this new industrial 4.0 era, hence the importance of promoting its constant practice in the educational system.

However, reality shows that Peruvian students at the secondary level lack these skills and they are evident in the worrying results obtained in national and international evaluations, in which they are placed in the categories beginning and in process; that is, they are just beginning to acquire the competencies and skills of the level. In addition, critical thinking skills are not developed or widely practiced during primary and secondary education; moreover, early practice of this skill is essential for good development in university life (Hayes and Devitt, 2008).
It is evident that today's humanity requires the development of critical thinking skills so that each of its members acts with commitment and responsibility when making decisions, in addition to being able to solve economic, social, scientific, and cultural problems. Currently, there are various strategies that promote this type of thinking; however, taking into account the characteristics, needs and interests of students, it has been decided to develop and apply a program on academic debate for the reasons expressed in the theoretical framework.

The reason for the study will offer results which will demonstrate the effectiveness of the theoretical and practical contributions of the cognitive, socio-cultural and constructivist approaches in education, since it would be providing outstanding information on critical thinking and academic debate. On a methodological level, it will allow the program to be validated with its respective learning sessions for practical and research use.

It was considered as a general hypothesis that the application of academic debate has a significant effect on critical thinking in secondary education students. The specific hypotheses are that the application of academic debate has an effect on the literal, inferential, and criteria level of critical thinking.

The general objective of the study was to determine the effect of academic debate on critical thinking in high school students. The specific objectives were to determine the effect of academic debate on the literal, inferential, and criteria level of critical thinking.

Critical Thinking

Since ancient Greece in the 7th and 6th centuries B.C., there has been reference to critical thinking; in each era, it has had different approaches and definitions; but it is from the 20th century, specifically in the 1960s, that more research is being done on this concept and its importance in education. One of the first scholars was Ennis (1991), who defined critical thinking as a cognitive process that involves reflection, reason and evaluation. The scientific production of Ennis (1991) has been the motivation for subsequent research and, in each of his works; he has highlighted the importance of critical thinking at different levels of the educational system.

Strengthening critical thinking implies developing a set of competencies, abilities, and attitudes. In this regard, Ennis (2005) stated that the ideal critical thinker is characterized by the practice of a set of dispositions and skills. He or she is willing to be clear about what he or she intends to communicate, to be firm in his or her position, to take into account the entire situation for evaluation, to seek and offer well-founded reasons, to try to be informed of the entire situation, to seek reasoned and well-founded alternatives, to seek precision in terms of the situation analyzed, to practice reflective thinking, to be open-minded to different points of view other than his or her own, to abstain from making his or her own judgments when the evidence is insufficient, to avoid taking a position when the evidence is verifiable, and to use the cognitive skills of critical thinking.

The ideal critical thinker with skills recognizes the central theme of the issue, analyzes the reasons, elaborates and answers clarifying questions, defines terms, evaluates the credibility of sources, makes inferences, analyzes and evaluates information, elaborates conclusions based on deductions and inductions, performs the process of metacognition, takes into account reasons, premises or assumptions, even when he does not agree, makes decisions based on the integration of other skills, acts in an orderly manner for the resolution of the problem, supervises his own thinking, uses rhetorical strategies in an oral or written manner for the presentation of his conclusions and, finally, is empathetic with the group in which he works (Ennis, 2016).

On the other hand, Bloom (1971) hierarchized the cognitive processes in levels; his taxonomy goes from a lower level to the higher one; that is, learning is progressive; it starts with the content that means gathering information, understanding and interpreting the information; applying knowledge; analyzing knowledge in parts; synthesizing that would be the union of the parts in a whole to reach conclusions and, finally, the evaluation that consists of making judgments or assessments. The model shows the progressive character of learning and the process of critical thinking that deepens the knowledge to be applied not only in educational contexts, but also in different realities.

A critical thinker formulates essential problems and questions; identifies, analyzes, interprets, and evaluates relevant information in order to reach general conclusions; and thinks with an open mind, which allows him to
recognize and evaluate the implications or consequences of his decisions and then propose appropriate solutions to the problem (Factions, 2007; Madariaga and Schaffernicht, 2013; Paul and Elder, 2003).

This research was based on the work carried out by Priestley (2015), who indicated that the teaching of critical thinking allows students to develop capacities to process, think and apply information in the different contexts in which they develop; in other words, what is learned becomes a learning process for life.

After reviewing the literature on the subject, it is understood that this type of thinking is developed through a sequence of phases, starting from the simple perception of a fact, object or phenomenon to higher levels such as analyzing, evaluating and proposing alternative solutions to the problem found. To achieve this journey, one begins by developing the skills of the literal level, followed by the inferential level and ending with the critical level. These were considered the dimensions and indicators of the dependent variable.

The literal phase, considered as the first dimension, seeks to process the information at an explicit level. The abilities or capacities found are to observe, that is, to fix the attention on characteristics of the objects, phenomena, persons or situations; to discriminate, which means, to find basic differences between two or more phenomena, elements or processes; to identify, which implies pointing out details, assigning meanings or coding information to be used later and to sequence, that is, to arrange in an orderly way ideas, phenomena, objects according to certain criteria.

The inferential phase, second dimension, tries to process the information at an implicit level. The skills of this level are to infer, that is, to acquire new information from explicit data; to classify, which refers, to gather ideas, processes, phenomena and objects under certain criteria; to analyze, that is, to divide the whole into its parts in order to explain the relationships between them; to synthesize or express the essence of a text, situation or process; indicating cause and effect, recognizing why a situation is the consequence of another; interpreting or translating a situation or phenomenon into a more understandable language; predicting, that is, formulating assumptions based on explicit information; solving the problem based on viable alternatives to solve a difficulty. To achieve the last skill, it is necessary to have developed all the previous ones.

The critical phase, third dimension, is the superior level of critical thinking; to reach it implies having developed all the cognitive skills of the first two phases. Here we find the ability to argue, support points of view, defend a position with reasoning based on a theoretical framework, and judge, evaluate or assess a given theme, object, process or phenomenon, taking into account a set of pre-established criteria.

Society, and especially the educational system, must be made aware of the development of critical thinking in its citizens from an early age because they will be able to perceive, question their context, value the capacity of others, grant responsibilities, and achieve the proposed objectives, as well as build a more just and egalitarian society (De Miguel, Melendo, Fernández, and Razquin, 2016).

**Academic debate**

Debate as an educational tool was used for 4000 years in ancient Egypt; but it was in Greece and Rome where it reached its peak; even during medieval times, in the first European universities, students had to demonstrate what they had learned by means of arguments, thus succeeding in convincing their teachers, by means of arguments. Today, no one can doubt the usefulness of this strategy because it helps our students to defend their position, to stand on their own feet, giving them not only knowledge, but also values, principles and habits of behavior (Delgado, 2018).

It is defined as a process of dialectical exchange between two teams who, through a set of arguments, will try to obtain the favorable vote of the evaluating jury (Cattani, 2003 and Sanchez, 2012). To carry out this activity, it is necessary to develop a set of actions before, during and after the event (Sánchez, 2015). The program that was elaborated was based on this theoretical approach; it was applied to the experimental group in a set of 15 learning sessions. In each session, the competencies of academic debate and critical thinking skills were developed progressively until the final product was achieved.

Before the debate, the teacher and the students carry out previous activities such as determining the pedagogical objectives, selecting the topic, the motion for debate, forming the teams, explaining the way of working, establishing the times and shifts of participation, designing the evaluation report, orienting the teams on the use of
verbal and paraverbal resources, selecting the juries and organizing the space where the academic debate will take place.

During the debate, the participation of the teacher is minimal because he or she directs himself or herself with respect to the times and shifts set. The jury will evaluate the participation of the students individually and in groups. Both teams present their arguments, then both rebuttals and counter-rebuttals are presented, and finally the conclusions are drawn. Each of the team members must, through their arguments, convince the jury that their position is correct so that the decision is in their favor.

The program of academic debate that was applied consisted of the presentation of two positions (for and against) around the proposition: Is animal experimentation necessary? each team was made up of 4 members: one that introduces, two that refuse, and one that concludes; both teams had 5 minutes to make the introduction and presentation of their arguments, then the counter-refutations of three minutes and, finally, the one for concluding makes a summary of the arguments, in addition to highlighting the weaknesses of the other team to convince the jury of its position.

After the debate, the jury, according to the criteria established in the minutes or rubric, will give an assessment of individual and team performance to establish a winner of this activity. It is also important to carry out the reflection of the activity with the students; that is to say, that they recognize their achievements, difficulties, experiences and establish commitments for improvement.

The academic debate promotes critical thinking skills because it fosters problem analysis, research, and evaluation of their arguments; it is a dynamic and playful way to learn how to learn, as well as to improve the self-esteem and security of the participants (Brenifier, 2005; Sánchez, 2012 and Ayala, 2020).

Debate, as an educational method, is very effective in evidence-based teaching by promoting a deeper approach to learning so that it can help students learn meaningfully and improve their critical thinking skills; it ensures good student responsiveness and involves the entire class in an interactive and participatory setting (Qutieshat, Maragha, Abusamak and Eldik, 2019).

At the same time, debate can be considered an active methodology, applicable in all curricular areas because of the great potential in the formation of critical thinking because, through its dialectic dynamics, it motivates the student to investigate, analyze, elaborate and value his or her arguments in order to defend his or her point of view, work in a team and, above all, practice values of respect and tolerance (Rangel, 2007). Given the theoretical framework exposed and the benefits offered by this variable, it was decided to elaborate and apply a program on academic debate to improve the critical thinking of secondary school students.

II. MATERIALS AND METHODS

It was a quantitative and applied-type approach study. A program on academic debate was developed with the aim of improving the level of critical thinking in third grade students. In the same way, the quasi-experimental design was used; that is, it was necessary to work with a control and experimental group, being the latter the one that received the academic debate sessions.

The sample consisted of 49 students from an educational institution in Metropolitan Lima. The sample was intentional and the designation of control and experimental group was based on the results of the pretest. Therefore, section B, made up of 24 students, was considered an experimental group because it obtained a lower average than section A, and made up of 25 students, which was nominated as the control group.

For the collection of data in the pre-test and post-test, the instrument of critical thinking was used, which is based on the theoretical approaches of Prietsley (2015); its objective was to measure the level of critical thinking; the administration was individual and its duration of application was 60 minutes. The test consisted of 20 items, divided into 3 dimensions and 14 indicators, with dichotomous responses and a twenty-four point score (see table 1). Likewise, its validity was demonstrated by the judgments of experts in the subject and, for its reliability, Kuder Richardson's technique (KR-20) was applied, obtaining as a result a 0.81, determining a very high reliability.
The operationalization of the critical thinking variable was carried out; the indicators of the literal dimension were to observe, discriminate, identify and sequence or order; in the case of the inferential dimension, to classify, analyze, indicate cause and effect, interpret, synthesize, predict, solve the problem and infer; in the criteria dimension, to argue and judge. It was considered as levels of organization of the results, the outstanding achievement, in which the student demonstrates a higher level than expected regarding the competence; the expected achievement in which the student demonstrates the expected level regarding the competence; the process, in which the student is on the way to achieve the competence and requires accompaniment and the initial level that evidences the difficulties for the development of the activities.

The program on academic debate applied to the experimental group consisted of 15 learning sessions. Each session was focused on developing the communicative competencies of debate and the cognitive skills of critical thinking. In addition, the program was divided into a set of activities in the before, during and after the debate, developing in the student cooperative work, research and critical thinking.

For the descriptive analysis, the descriptive frequency in numbers and percentages of students from the two comparison groups was used. As for the inferential analysis, the Shapiro-Wilk normality test was used given the amount of study sample; the results indicated that the data differed from the normal distribution; therefore, the non-parametric test was used for independent samples as it is the Mann-Whitney U Test that compares the mean between the control and experimental groups. For the analysis, Excel statistical software and SPSS version 22.0 were used.

Results

The descriptive analysis shows that, after fifteen learning sessions on academic debate and having applied the post-test, the results showed a great advance in the experimental group, 50% of students were located in outstanding achievement, none of them being in the beginning. These results demonstrate the effectiveness of the program.

Table 1

<table>
<thead>
<tr>
<th></th>
<th>Control Group</th>
<th>Experimental Group</th>
<th>Control Group</th>
<th>Experimental Group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Thinking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At the beginning</td>
<td>7</td>
<td>11</td>
<td>9</td>
<td>0</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>28,0%</td>
<td>45,8%</td>
<td>36,0%</td>
<td>0,0%</td>
<td>27,6%</td>
</tr>
<tr>
<td>In the process</td>
<td>11</td>
<td>10</td>
<td>11</td>
<td>2</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>44,0%</td>
<td>41,7%</td>
<td>44,0%</td>
<td>8,3%</td>
<td>34,7%</td>
</tr>
<tr>
<td>Expected achievement</td>
<td>6</td>
<td>3</td>
<td>5</td>
<td>10</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>24,0%</td>
<td>12,5%</td>
<td>20,0%</td>
<td>41,7%</td>
<td>24,5%</td>
</tr>
<tr>
<td>Outstanding achievement</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>4,0%</td>
<td>0,0%</td>
<td>0,0%</td>
<td>50,0%</td>
<td>13,3%</td>
</tr>
<tr>
<td>Total</td>
<td>25</td>
<td>24</td>
<td>25</td>
<td>24</td>
<td>98</td>
</tr>
<tr>
<td></td>
<td>100,0%</td>
<td>100,0%</td>
<td>100,0%</td>
<td>100,0%</td>
<td>100,0%</td>
</tr>
</tbody>
</table>

According to the results and inferential values of posttest at the general level of critical thinking, it was obtained that the value of $p = 0,000 < 0,05$ ($p < \alpha$) and $Z = -5,262 < -1,96$, which implied rejecting the null hypothesis, concluding that the application of the program on academic debate has a significant effect on critical thinking; that is, the students developed and expanded cognitive skills of the literal, inferential and critical level.

Table 2

<table>
<thead>
<tr>
<th>Level of significance of critical thinking</th>
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<tbody>
<tr>
<td></td>
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</tbody>
</table>

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With respect to the results and inferential values of the post-test in the literal dimension, it was obtained that the value of \( p = 0.000 < 0.05 \) \((p<\alpha)\) and \( Z = -5.693 < -1.96 \), which implied rejecting the null hypothesis, concluding that the application of the program on academic debate has a significant effect on the literal level of critical thinking; that is, the students strengthened their abilities to observe, discriminate, identify and sequence; primary and essential abilities to reach higher levels.

### Table 3

**Level of significance of the literal dimension**

<table>
<thead>
<tr>
<th>Test</th>
<th>N</th>
<th>Average Rank</th>
<th>Addition of Ranks</th>
<th>U de Mann-Whitney</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Thinking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postest Control Group</td>
<td>25</td>
<td>14.84</td>
<td>371.00</td>
<td>U=46,000</td>
</tr>
<tr>
<td>Postest Exp Group</td>
<td>24</td>
<td>35.58</td>
<td>854.00</td>
<td>Z= -5.262</td>
</tr>
<tr>
<td>Total</td>
<td>49</td>
<td></td>
<td></td>
<td>Sig. asintotic (bilateral) = ,000</td>
</tr>
</tbody>
</table>

Regarding the results and inferential values of the post test in the inferential dimension, we obtained that the value of \( p = 0.000 < 0.05 \) \((p<\alpha)\) and \( Z = -4.977 < -1.96 \), which meant rejecting the null hypothesis, we could conclude that the application of academic debate has a significant effect on the inferential level of critical thinking; that is, they developed implicit skills such as summarizing, analyzing, recognizing cause and effect, interpreting, synthesizing, predicting and solving problems.

### Table 4

**Inferential Dimension Significance Level**

<table>
<thead>
<tr>
<th>Test</th>
<th>N</th>
<th>Average Rank</th>
<th>Addition of Ranks</th>
<th>U de Mann-Whitney</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inferential Thinking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postest Control Group</td>
<td>25</td>
<td>15.86</td>
<td>396.50</td>
<td>U=71,500</td>
</tr>
<tr>
<td>Postest Exp group</td>
<td>24</td>
<td>34.52</td>
<td>828.50</td>
<td>Z= -4.977</td>
</tr>
<tr>
<td>Total</td>
<td>49</td>
<td></td>
<td></td>
<td>Sig. asintotic (bilateral) = ,000</td>
</tr>
</tbody>
</table>

Finally, in table 5, the results and inferential values of the post test in the critical dimension indicated that the value of \( p = 0.000 < 0.05 \) \((p<\alpha)\) and \( Z = -3.555 < -1.96 \), which implied rejecting the null hypothesis, reaching at the conclusion that the application of academic debate has a significant effect on the inferential level of critical thinking; in other words, students managed to strengthen their superior critical thinking skills such as arguing and judging or evaluating.

### Table 5

**Level of significance of the critical dimension**

<table>
<thead>
<tr>
<th>Test</th>
<th>N</th>
<th>Average Rank</th>
<th>Addition of Ranks</th>
<th>U de Mann-Whitney</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Thinking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postest Control Group</td>
<td>25</td>
<td>14.84</td>
<td>371.00</td>
<td>U=46,000</td>
</tr>
<tr>
<td>Postest Exp Group</td>
<td>24</td>
<td>35.58</td>
<td>854.00</td>
<td>Z= -5.262</td>
</tr>
<tr>
<td>Total</td>
<td>49</td>
<td></td>
<td></td>
<td>Sig. asintotic (bilateral) = ,000</td>
</tr>
</tbody>
</table>
Developing critical thinking skills requires systematized work in educational plans or programs, hence the results showed significant differences between control and experimental groups after the application of the program on academic debate; students improved their skills corresponding to the literal, inferential and critical dimension. Likewise, we can find that the experimental research conducted by Tao and Griffith (2020) was successful because the explicit demonstration of critical thinking skills, through live debates on current political issues, significantly improved the skills of their students. Consequently, students' critical skills can be improved through explicit and engaging pedagogy that is not only cost-effective in practical and pragmatic terms. It has also been shown to have at least significant immediate short-term effects in an environment where academic performance is low.

The same results are reported by Changwong, Sukkamart, and Sisan (2018) in their quasi-experimental work with secondary school students in Thailand; their results indicated that the experimental group had higher average scores in terms of critical thinking skills and academic performance after applying a program aimed at developing critical thinking skills. Therefore, students who master critical thinking skills will perform better academically in high school and will also be better prepared for the academic demands and expectations of university.

Researchers Yılmaz-özcan and Tabak (2019) concluded that argumentation-based learning in social studies courses positively influenced students' academic performance, attitude toward the course, and critical thinking tendencies. Therefore, we can indicate that academic debate, as a methodological tool, promotes autonomy, the capacity to learn how to learn, collaborative work and critical thinking, which is essential for reflection, evaluation and decision making in the solution of problems.

With respect to the literal dimension of critical thinking, the results showed significant differences between the control group and the experimental group after the application of the program on academic debate; that is, they managed to improve their skills of observing, discriminating, identifying and sequencing or ordering. The opposite result was that of Uddin, Shimizu and Widiyatmoko (2020), who carried out a study to measure critical thinking skills about the environment in secondary school students in Bangladesh. They concluded that students' critical thinking on environmental issues was at the poor and very poor level. The ability to identify 79.28% of students was at the very poor level and only 1.35% was very good. This research refers to the application of educational plans or programs that improve these skills, hence, after applying our program, 91.67% were located in outstanding achievement and none in the beginning of the literal dimension.

With respect to the inferential dimension of critical thinking, after applying the learning sessions on academic debate, the students in the experimental group showed great progress since they were placed in outstanding achievement with 70% and no students in the beginning or in process. This means that they were able to develop cognitive skills such as inferring, classifying, indicating cause and effect, interpreting, synthesizing, predicting and proposing alternative solutions. These results are also corroborated by the quasi-experimental study conducted by Rashtchi, and Sadraeimanesh (2011), who pointed out that the debate as a strategy of critical thinking improved the inference skills of Iranian students, promoted deep understanding of written text, allowing them to read between the lines and improve their language skills; in other words, from being passive students they became active, reflective and critical.

With respect to the critical dimension, considered the highest level of critical thinking, the results showed that the experimental group, after the application of the program on debate, was located at the beginning with 12.50% and in outstanding achievement with 50.00%. This shows that half of the group managed to develop cognitive skills such as argumentation and judgment. In the same way, Martinez, Ballester and Ibarra (2018), in their quasi-experimental research on the effect of literary education on critical thinking, emphasize that it is necessary to

<table>
<thead>
<tr>
<th>Critical</th>
<th>Posttest Control group</th>
<th>Posttest Exp group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>25</td>
<td>24</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>18,12</td>
<td>32,17</td>
<td></td>
</tr>
<tr>
<td></td>
<td>453,00</td>
<td>772,00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>U=128,00</td>
<td>Z= -3,555</td>
<td></td>
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<tr>
<td></td>
<td>Sig. asintotic (bilateral) = .000</td>
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</tbody>
</table>

III. DISCUSSION
continue working on the construction of alternative discourses and the defense of personal positions, indicators of divergent thinking, which coincide with the indicators of the critical level. This phase is considered to be the highest, requiring the implementation of the other cognitive skills that precede it.

The research developed around the two variables demonstrates the effectiveness of the program on academic debate in critical thinking; for this reason, Chun and Lee (2016), in their experimental research, were able to demonstrate that academic debate is an effective method for improving the competencies of critical thinking, problem solving, communication skills and cooperation skills. For this reason, it is necessary to develop methodological strategies that promote this type of thinking from the initial level to higher education, with the objective of forming competent, analytical, reflexive people who question, evaluate and make accurate decisions that help build a society that provides quality of life to each of its members.

IV. CONCLUSIONS

It has been demonstrated that the application of the program on academic debate has a significant effect on critical thinking in high school students, having obtained the value of \( U = (Z = -5.262 < -1.96) \) and \( p = 0.00 < 0.05 \), which shows significant differences between the control and experimental groups.

The same is observed in the different dimensions: in the literal one, the value of \( U = (Z = -5.693 < -1.96) \) and \( p = 0.00 < 0.05 \) was obtained; in the inferential one, \( U = (Z = -5.693 < -1.96) \) and \( p = 0.00 < 0.05 \) and in the critical one, \( U = (Z = -5.693 < -1.96) \) and \( p = 0.00 < 0.05 \).

The academic debate as an educational tool promotes collaborative work, the investigative spirit, the development of communicative skills, autonomy in learning and, mainly, the development of the cognitive skills of critical thinking of the secondary level student, preparing him/her for the new challenges of university or higher education. In addition, any methodological strategy or curriculum that promotes critical thinking must be applied at all levels and in all modalities of the educational system.

The development of these skills will allow the student to learn how to learn, learn to unlearn, and above all learn for life. It is hoped that the methods, strategies, and findings reported in this research will provide insight and inspiration for educators at different levels to take on the common challenge of developing students’ critical thinking skills for their best performance in society.

REFERENCES