

**Sistematización de la actividad pedagógica desde la teoría dialéctica para el desarrollo del pensamiento crítico****Systematization of the pedagogical activity from dialectical theory to develop critical thinking.**AGUINAGA VÁSQUEZ, Silvia Josefina<sup>1</sup>; SÁNCHEZ TARRILLO, Segundo Juan<sup>2</sup>  
César Vallejo University, Chiclayo - Peru**RESUMEN**

La investigación tuvo como objetivo proponer la sistematización de la actividad pedagógica desde la teoría de la dialéctica para el desarrollo del pensamiento crítico en las estudiantes del cuarto año de educación secundaria de una institución educativa Lambayecana. La investigación surgió de la necesidad de desarrollar el pensamiento crítico, carente en las aulas del nivel secundario, el estudio se trabajó con una muestra de 87 estudiantes de la sección N (Grupo Experimental 42) y sección I (Grupo Control: 45) en el que se identificó el nivel del pensamiento crítico por medio de un cuestionario (pre test) cuyo diagnóstico llegó a reflejar que de los tres niveles del pensamiento crítico señalado por Priestley (1996) la mayoría de estudiantes se ubicaron en el nivel básico. La propuesta corresponde a una investigación cuantitativa con diseño cuasi experimental. Los resultados evidenciaron que después de la aplicación de la propuesta la mayoría de estudiantes del grupo experimental, 30 de ellas logró obtener puntuaciones que le permitieron ubicarse en el nivel superior, nivel más alto del pensamiento crítico. Por lo que se llegó a la conclusión que la propuesta de sistematizar la actividad pedagógica sustentada en la teoría dialéctica permitió desarrollar en los estudiantes del cuarto año de educación secundaria el pensamiento crítico en el nivel más alto.


**Palabras clave:** Sistematización de la actividad pedagógica, pensamiento crítico, teoría dialéctica.


**ABSTRACT**

The research objective is to propose a systematization of the pedagogical activity from dialectical theory to develop a critical thinking in secondary school students of an educational institution from Lambayeque. The investigation arose from the need to develop critical thinking, something that was not found in secondary level classrooms. The sample was constructed by 87 students from section N (Experimental Group 42) and section I (Control Group: 45) in which the level of critical thinking was identified by means of a questionnaire. The diagnosis of this questionnaire showed that most of students were at a basic level from three levels of critical thinking identified by Priestley (1996). The proposal corresponds to a quasi-experimental quantitative research. The results showed that after applying the proposal, most of students in the experimental group (30 of them) managed to obtain scores that allowed them to reach the upper level, the highest level of critical thinking. Therefore, it was concluded that the proposal to systematize the pedagogical activity based on the dialectical theory allowed the development of critical thinking at the highest level in fourth-year secondary students.

**Key words:** Systematization of pedagogical activity, critical thinking, dialectical theory.

---

<sup>1</sup> Graduated in Social Studies and Philosophy. Master's degree in Education Sciences (Teaching and research). Professor at César Vallejo university - Chiclayo. E-mail address: jaguinagasv@ucvvirtual.edu.pe  <https://orcid.org/0000-0001-7810-4625>, Peru.

<sup>2</sup> Graduated in Social Studies and Philosophy. Master's degree in Education Sciences (Teaching and research). Professor at César Vallejo university - Chiclayo. E-mail address: starrillosj@ucvvirtual.edu.pe  <https://orcid.org/0000-0002-6763-760X>, Peru

## INTRODUCTION

Today, society experiences multiple scenes with challenges and accelerated economic, political, social and cultural transformations, due to the disproportionate advance that science and technology have reached, causing an inevitably impact on the educational field.

Peruvian educational system faces a new trend that generates diverse challenges, other requirements and new life forms; that is why, it is crucial to train competent citizens in different areas in which they can show their high-level capacities. Thus, critical thinking has become an integral educational pillar that seeks to train students with critical conscience about reality, perceptual acuity, continued willingness to question things, open mind to understand distinct opinions, intellectual courage to face with strength and determination difficult situations, with emotional capacity to keep calm before adverse situations and with the capacity to set goals. However, it is noted that these characteristics or profiles are not manifested in classrooms of regular basic education institutions.

Every time, we are witnesses of how most of secondary school students are not responding to demands and development of established skills, students have difficulties to express ideas with clarity and order, to maintain the track of a presentation under control, to identify the main idea, to summarize a text, to reflect security and domain of a topic, to present convincing information, to handle a fluid language, to develop justified arguments, to clarify confusing thoughts, to express themselves with propriety and consistency, to formulate and resolve questions, to distinguish the main ideas from the secondary ones, to make summaries, to infer and draw conclusions, to identify similarities and differences of the objects, to analyze real-world situations and to reflect on it, to argue, to question and to respond critics, to respect the idea of their schoolmates, to identify and solve immediate problems, to assess alternatives, and finally to recognize the right way to learn, how to solve issues that have a direct link with one of the fundamental abilities, as is the critical thinking which, while it has been indicated, it has not been promoted yet.

According to the above mentioned information, it is advisable to ask the following question: What are the causes of the poor intervention of the students regarding to issues discussed and activities organized in classroom? Most of the students, basically in the national education system, show little reflexive and critical attitude before programmed activities, with disappointing results in that regard. El Programa de Evaluación Internacional de Estudiantes PISA ( International Evaluation Program of Students in English) 2013 states that Peru not only got very low scores in mathematics, languages and science, but also this result took it to occupy the last place on the list of the 65 participating countries. Overtaken by Colombia, Brazil, Argentina and Chile, this last one is one of the Latin American countries with best results, obtaining the position number 51 (El Comercio, 2013).

Other evidence is the information of the Evaluación Censal de Estudiantes (Students Census Evaluation in English) in 2015, which indicates that 15% of the students understand what they read clearly , and 9% are capable of solving mathematical problems; concluding that only 30% of these students will choose to continue with higher studies and the rest will have the tough task of facing defiances of the working life just with secondary school studies. (Gestión, 2017). From this, a new question emerges: What measures have been taken by the Peruvian Ministry of Education to deal with this reality?

This is an alarming situation, particularly for professionals who aspire to see Peruvian education making (in anytime) a qualitative change within a changing and demanding society. According to some teleology contributions, the ultimate aim of education is to achieve a full and integral development of human being capacities. In this sense, new questions arise to clarify the problem: Why secondary school students are not demonstrating this capacities and skills development that lead to an integral development?, what are the tasks or activities that must be carried out by teachers to achieve this goal? What is the role of the teacher today? And why there is a slope as to the academic performance and use of abilities or Peruvian students at global level?

Having in mind all these questions, there are many factors which explain the origin of this

problem, and it is analyzed from the little initiative of the government (government of the day) and directly responsible in investing in education. Out of 20 countries, Peru is one of those who have invested the least in education (3.7%) below Bolivia (6.5%) and Brazil (6.1%). Another cause is the misconception that people have with regard to continue promoting more instructional content than educational and developmental content, to focus more in theory than practice, to continue working with traditional methodological strategies, to continue with a formal and short-term education, with a curriculum which proposes to continue working more hours in classroom and with more tasks for both teachers and students, with regard to that, the *Gestión* newspaper (2017) states that "In the last 50 years the how-to-teach secondary school model has not changed significantly" (p. 3). High level of inequality and poverty, limited participation and compromise on the part of the families regarding to students formal education, the lack of interest in promoting healthy habits like reading, dialoguing, studying and researching are also part of this issue. Students and population have been influenced by an uncontrollable habit of depending on smart phones, tablets and social networks. Finally, there is the work carried out by particular institutions which provide an erroneous quality of education, since they are actually turning students into "machines" just to have, in that way, a result which may "lead" them to national universities.

The problem of limited development skills, and particularly students critical thinking, is not only seen in various regions of the country. Lambayeque is no stranger to this reality, either the Educational Institution under investigation; where most of fourth-year secondary students presented limited development skills related to critical thinking in the subject *Persona Familia y Relaciones Humanas* (or Individual, family and human relations in English) (PFRH). Direct references and explanations of the students were part of the study, since they were also part of the knowledge acquired to demonstrate that activities carried out by the teacher in charge of the subject did not have sense to students. The amount of information managed by students was constantly evaluated and aspects like range of interpretation, opinions and punctuality, responsibility was not considered. Strategies used during the whole year, considered as motivational ones, were always the

same, generating disinterest. Broadly, all this situations were generating limitations to the students, limitations that would impede them to get along properly before this changing, competitive and exigent environment.

To revert the problems observed, we proposed the systematization of the pedagogical activity from dialectical theory to develop critical thinking as a fundamental capacity for PFRH fourth-year secondary students. Specific objectives suggested in this research were: To diagnose the level of critical thinking development in PFRH fourth-year secondary students through pre-tests; to identify conceptual, pedagogical and epistemological system knowledge in PFRH teachers through a questionnaire; to design a proposal for systematization of pedagogical activity through learning lessons based on dialectical theory for a critical thinking development; to apply the proposal for systematization of the pedagogical activity through learning lessons based in dialectical theory for a critical thinking and finally to evaluate the results of the proposal for systematization of the pedagogical activity through learning lessons based in dialectical theory for a critical thinking through a post-test.

Achieving the goals set forth in the research, the hypothesis indicated was verified, in which the basis and proposal for the systematization of the pedagogical activity based in the dialectical theory allows the critical thinking development as a fundamental capacity in PFRH fourth-year secondary students.

The reasons why the fulfillment of the research was demanded were of academic, scientific and practical nature. Academic, given that a real problem was observed and identified: The limited development of critical thinking in PFRH students from "N" and "I" section, with characteristics clearly marked, that lead people responsible of the research to commit themselves to study it from a philosophical, psychological, sociological, and fundamentally pedagogical and didactic perspective in order to solve it.

Scientific, because it is based on two aspects. One of them is based on epistemological basis of the dialectical theory, laws and principles, the same ones that have contributed to consolidate a clear, coherent, and solid proposal. The second aspect is

based on psychology, biology, sociology, pedagogy, neuroscience; sciences that allowed the understanding of the object of study. And finally, practical in nature, because it establishes an applicative proposal through execution and design of life-wide learning sessions with a dialectical orientation which takes into account complexity, correlation and interconnection of the elements (theory and practice), the nature of the actions both intentional and operational, the role of the teacher, the significance of critical thinking, the levels and abilities that comprise it.

The significance of the research is shown in the technical-pedagogical and didactic proposal, under the dialectical theory which systematizes pedagogical activity in one learning session, considering actions and operations as an important and necessary part of the activity.

## METHOD

The proposal responded to a type and a research design ( a quasi-experimental design, divided into two groups with pre-test and post-test), for the information process, methods like documentary analysis, data collection (profiling) and fieldwork (observation, interview) with instruments as questionnaires, pre and post-tests that offer back up, support and seriousness to the research were used. The graphic representation of the selected design was the following:

**Table 1**

Research design

EG	01	-----	X	-----	03
CG	02	-----		-----	04

Groups	Sect.	Pre Test	Treatm.	Post Test
E: Exp.	NO	YES	YES	YES
C: Con.	YES	YES	NO	YES

## RESULTS

**Table 2**

Control group evaluation results

General average of critical thinking	Test			
	Pre test	%	Post test	%
Low	5	11	6	13
Medium	35	78	33	74
High	5	11	6	13
Total	45	100	45	100

As shown in Table, 2 taking into account the general rating scale used to evaluate the final score obtained by the students regarding the development of critical thinking, in the control group constituted by 45 students, the pre-test showed that most of them in the final score, 35 students obtained 78% achieving a medium average, and only 5 students reached a high average 11%.

Regarding the post test this has shown a better progress in the development of the critical thinking, this is the minimum because it was identified that most of the students, 33 of them with the 74% of the final scores reach the medium average and only 6 of them with the 13% reach a high and low average.

**Table 3**

Experimental group evaluation results

General average of critical thinking	Test			
	Pre test	%	Post test	%
Low	3	7	0	0
Medium	35	83	12	29
High	4	10	30	71
Total	42	100	42	100

To recognize the final score obtained by the experimental group students, regarding critical thinking, in Table 3, in the pre-test shows that from 42 students, 35 of them representing 83% obtained a medium average, and only 4 obtained 10% achieving a high average, while 3 students representing 7% remain in the low average.

However, the post-test provides favorable results based on the proposal made which indicates higher portion of students, in this case 30 of them representing 71%. The scores were ranked in the high average, and only 12 students with 29% obtained a medium average, while in the low average there is not student record. This allowed to establish the inference according to the propose made, in this case most students achieved scores that allowed them to be located in the medium and high levels and demonstrate that it is possible the development of critical thinking skills at a higher level.

**Table 4**  
Control Group at Literal Level evaluation results

Average	Test			
	Pre test	%	Post test	%
Low	7	16	6	13
Medium	30	67	31	69
High	8	17	8	18
Total	45	100	45	100

In Table 4, it is observed that the results of the pre-test in the LITERAL LEVEL the most students in "I" section, that is, 30 of them, representing 67%, reached a medium average and only a small number of 8 students that represent 17% obtained a high level. The result indicates that most students have difficulties to achieve a favorable score that allows them to obtain a high average, showing a lower level in the student's critical thinking levels.

Regarding the results of the post test, it can be seen that most students, 31 of them obtain 69% achieving a medium average, in which 6 students obtain 13% the score reached the low average, and only 8 of them representing 18% reached a high average. The result shows that despite of developed activities, the students have not yet achieved a higher score on the literal level, maintaining a lower level in critical thinking according to the average obtained in relation to their capacity and age.

**Table 5**  
Control Group at inferential level evaluation results

Average	Test			
	Pre test	%	Post test	%
Low	2	4	5	11
Medium	38	85	34	76
High	5	11	6	13
Total	45	100	45	100

In Table 5, it is observed that the results of the pre-test in the INFERENCE LEVEL control group, most students, 38 of them representing 85% reached a medium average very favorable. However only 5 students obtained 11% reached a high average. The result shows that few students achieved a high average with respect to the advanced level. However, this is alarming due to the small number presented.

Regarding the post test results, at this level there is no great variation in the figures because most students, 34 of them representing 76% reached a medium average in the development critical thinking and only 6 students representing 13% reached the high average. This means that during the activities, most students did not show a change according to development of their abilities.

**Table 6**  
Control Group at Critical Level evaluation results

Average	Test			
	Pre test	%	Post test	%
Low	13	29	11	25
Medium	30	67	29	64
High	2	4	5	11
Total	45	100	45	100

In the CRITICAL LEVEL, as shown in Table 6, most of the students, 30 of them representing 67% achieved a medium average despite being the highest level of critical thinking, only 2 of them representing 4% obtained a high average. The results confirm a medium and low average on the student's abilities. It represents a critical level by the degree of demand in the most advanced levels that require higher level skills, as evaluating, criticizing, judging, self-regulating, which confirms the problems that must be treated.

Regarding the results of the post test, the situation was almost similar, according to the activities and actions carried out by students and teachers. These confirmed that most of students, 29 of them representing 64% reached a medium average and only 5 of them representing 11% obtained a high average.

**Table 7**  
Experimental Group at Literal Level evaluation results

Average	Test			
	Pre test	%	Post test	%
Low	4	10		
Medium	30	71	11	26
High	8	19	31	74
Total	42	100	42	100

In the LITERAL LEVEL as shown in Table 7, the results present that most students, 30 of them representing 71% reached a medium average and only 8 students representing 19% reached a high average. This allowed to point that both control and experimental group were in the same situation respect to the development of student's abilities of this level.

However, the results of the post-test presented changes, after the application in relation to the situation of the student who showed a favorable development in the literal level whose scores allowed them to be located in the high and medium averages. The final result shows that it is possible to achieve a high average according to the result of the investigation.

**Table 8**  
Experimental Group at Inferential Level evaluations results

Average	Test			
	Pre test	%	Post test	%
Low	2	5	0	0
Medium	38	90	10	24
High	2	5	32	76
Total	42	100	42	100

In table 8, it is observed that the result of the pre-test in the INFERENTIAL LEVEL most students, 38 of them representing 90% achieved medium average, and only 2 representing 5% obtained a high average.

However, after the proposal applied the results of the post test was favorable in most of the students, 32 of them respecting 76% obtained a high average, and only 10 students representing 24% reached a medium average. After the applied proposal, the result favorably contributed to the development of the student's abilities.

**Table 9**  
Experimental Group at Critical Level evaluations results

Average	Test			
	Pre test	%	Post test	%
Low	4	10		
Medium	36	85	9	21
High	2	5	33	79
Total	42	100	42	100

In the CRITICAL LEVEL or higher level, according to the theory, Table 9 shows that it is possible to identify. Thus, it is observed that in the results of the pre test, 36 students, that means 85% of them were able to achieve a medium average, and that only 2 students, that means 5% of them achieved a high average. This was disheartening because they were fourth-year secondary school students and they were expected to demonstrate a development of the abilities in this level.

Regarding post-test, results in this level were meaningful since they help demonstrating that the implementation of the proposal was in favor because 33 students, that means 79% of them achieved the highest average and only 9 students, that means 21% of them achieved a medium average. With this result it was demonstrated that students in the most complex and superior level were able to develop the full potential of their abilities and therefore to strengthen their critical thinking thanks to programmed and implemented actions.

## CONCLUSIONS

The proposal and basis in relation to the pedagogical activity systematization the dialectical theory to develop a critical thinking as a core capacity in the PFRH area, shows essential aspects of dialectical theory and its epistemological pedagogical psychological basis. The function of the pedagogical activity is to contribute in the development according to actions, as intentional and operational, are necessary for the development the learning session. The importance of the already developed skills are based on the student's knowledge about the nature and essence of the teacher.

The diagnosis carried out in the pre-test indicated that most fourth-year students of secondary school in the PFRH area in both, control and experimental group, presented limitations according to the critical thinking development got by the scores obtained which led them to place the medium average (C.G: 45 students, only 5 high average, 35 medium average and 5 low average, EG: 42 students, 4 in high average, 35 with medium average and 3 in low average).

According to the design of the pedagogical activity systematization proposal, based on the dialectic theory, allowed to develop and structure the learn-

ing session contributing the planning and execution of the development critical thinking.

The post-test results obtained according to the established application shows that most students belonging to the experimental group, 42 of them only 30 achieved a favorable score based on the development of critical thinking, after formatting the information according to the skills required in the literal level were taken into consideration : identify skills, observation skills, perceive skills. This score achieved a high average.

In the case of the inferential level, the following skills were considered: analyze, compare, classify, describe, establish cause and effect, summarize and solve problems, also considered in the critical level with significant achievements in relation to evaluation skills, critical skills and meta-cognitive skills.

## REFERENCES

- Álvarez, M. & Maggio, E. (2010). *Personalidad*. Recuperado de <http://www.angelfire.com/ak/psicologia/personalidad.html>
- Barrera, P. (2010). *¿Cómo funciona nuestro cuerpo?* Revista española nuestro cuerpo. Recuperado de [www.pediatraldia.cl](http://www.pediatraldia.cl)
- CADE Educación. (04 de septiembre de 2017). *La educación secundaria en el Perú no ha cambiado en los últimos 50 años*. Gestión. Recuperado de: <https://gestion.pe/tendencias/cade-educacion-educacion-secundaria-peru-no-ha-cambiado-ultimos-50-anos-2199274>
- Castellano, G. (2005, 01 de octubre). *Crecimiento y hormonas en el adolescente*. Revista Esthetic World. Recuperado de <http://www.tuugo.com.co/Companies/esthetic-tan/12300042558>
- Colegio Oficial de Psicología (2007). *Apuntes de Psicología*. 25 (3), 239-254. De Andalucía Occidental y ISSN 0213-3334
- Dowshen, S. (2010). *Todo lo que querías saber sobre la pubertad*. Enciclopedia médica: Medline Plus (A.D.A.M). España.
- EDUTEKA (2006) *¿Por qué el pensamiento crítico?* Recuperado de <http://www.eduteka.org/modulos/6/134/474/1>
- Ennis, R. (1991). *“Congreso internacional de psicología y educación”* Madrid.
- González, P. & Marteles, (1998). *¿Qué es el afecto?* Recuperado de [http://www.biopsychology.org/biopsicologia/articulos/que\\_es\\_el\\_afecto.html](http://www.biopsychology.org/biopsicologia/articulos/que_es_el_afecto.html)
- Grupo editorial norma (2008). “Pensamiento crítico”. Revista el educador. N° 16. Año 4, 1-36
- Guzmán I. (2008). Las emociones en la adolescencia. Revista Expresa. Recuperado de <http://www.cetis143.edu.mx/revista/expressa13/emociones.pdf>
- Ley General de Educación N° 28044. Art. 09. (12 de diciembre de 2016). Diario Oficial El Peruano. Recuperado de <http://extwprlegs1.fao.org/docs/pdf/per161555.pdf>
- Marín, M. (2007). Cambios hormonales y psicológicos en la adolescencia. Madrid: McGraw-Hill/Interamericana de España S. Merke DP.
- Martínez, I. (2006.) El Pensamiento del Adolescente. Recuperado de [http://sepiensa.org.mx/contenidos/2006/f\\_micro\\_adoles/f\\_pensamadolesc/pensadoles\\_2.htm](http://sepiensa.org.mx/contenidos/2006/f_micro_adoles/f_pensamadolesc/pensadoles_2.htm)
- Miller, L. M. (2008). Una aproximación sociológica a la noción de convención social. Revista Mexicana de Sociología, 70(5), 649-673.
- Ministerio de educación y ciencia (2007, 23 de diciembre). El cerebro adolescente sigue en maduración, dicen los científicos. Revista de Educación, 344. Septiembre-diciembre 2007
- Mongeotti, P. (2001). *¿Escolar o adolescente?*. Revista Cubana de Psicología. 18 (3). Recuperado de [http://pepsic.bvsalud.org/scielo.php?script=sci\\_arttext&pid=S0257-43222001000300007](http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S0257-43222001000300007)
- Montealegre, R. (2005). La actividad humana en la psicología histórico – cultural. Avances de psicología latinoamericana. (23). 33- 42
- Morales, R. Á. (2008, 13 de diciembre). El profesor en el aula. Revista innovación y experiencias educativas. Recuperado de [http://www.csi-csif.es/andalucia/modules/mod\\_ense/revista/pdf/Numero\\_13/RAFAEL\\_A\\_MORALES\\_2.pdf](http://www.csi-csif.es/andalucia/modules/mod_ense/revista/pdf/Numero_13/RAFAEL_A_MORALES_2.pdf)
- Oliva, A. (2007) Desarrollo cerebral y asunción de riesgos durante la adolescencia. 25 colegio oficial de psicología universidad de Sevilla.

- Osio, M. (2011). Un neurotransmisor que se las trae dopamina. Recuperado de <http://lamedicinaholistica.wordpress.com/2007/11/12/dopamina-adicciones-y-felicidad/>
- Papalia, Diane E., Wendkos Olds, Sally & Dusky Feldman, Ruth. (2005). Psicología del desarrollo. De la infancia a la adolescencia. México: Editorial Mc. Graw Hill.
- Pérez, R. (2007, marzo - junio). La orientación educativa en la educación de la personalidad de adolescentes de educación básica: un análisis desde la realidad pedagógica cubana. Revista Mexicana de Orientación Educativa volumen (11),.32. Recuperado de <http://www.remo.ws/REVISTAS/remo-11.pdf>
- Priestley, M. (1996). Técnicas y estrategias del pensamiento crítico. México: Editorial Trillas.
- Quiños, V. (2008). Fisiología de las emociones. Recuperado de <http://cenace.wordpress.com/article/fisiologia-de-las-emociones-125f649imcsod-39/>
- Ramírez, S. I. & Herrera, C. F. (2008). El desarrollo intelectual en la adolescencia. Revista Crece. (2005, 05 de agosto). El cerebro del adolescente. Recuperado de <http://www.creces.cl/new/index.asp?tc=1&nc=5&imat=&art=1949&pr=#>
- Scriven, M y Paul. R. (1992.). Critical thinking defined. Handout given at Critical Thinking Conference. Atlanta. G.A
- Tomaschewsky, K. (1986). Didáctica General. México: GRIJALDO.
- Torres, E. (2008). Desarrollo Psicológico: adolescencia y las hormonas. Recuperado de <http://desarrollopsiadollescente.blogspot.com/>
- Vallejo, R. (2005). La conducta humana. Recuperado de: <http://es.scribd.com/doc/123435606/Psicologia>
- Vidal Castaño, Gonzalo. (2008). La actividad del profesor. Recuperado de <http://www.educar.org/articulos/LaActividaddelProfesor.asp>
- Wallis, C. (2004). Por qué son tan raros los adolescentes. El Semanal. Recuperado de: <http://www.jesuitastudela.es/descargas/JUVENTUD/Porque%20son%20tan%20raros%20los%20adolescentes.pdf>.