Learning Experiences and the Development of Critical Thinking in Students of Early Childhood Education at Public Universities - 2023

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Abstracts

Introduction: This study explores how learning experiences at public universities impact the development of critical thinking in early education students in 2023. Objective: To determine the influence of learning experiences on the critical thinking of early education students, identifying effective didactic strategies for its promotion. Methodology: Utilizing a quantitative approach, data were collected from 247 early education students across various public universities in Peru through structured surveys. These surveys were designed to measure students' perceptions of their learning experiences and their impact on critical thinking, including items related to communicative, reflective, and problem-solving competencies. The instruments' validation was ensured through reliability and validity analysis, and data were statistically analyzed using SPSS V.25 software to examine the relationships between variables. Results: The findings indicated a positive and significant correlation between carefully designed learning experiences and the enhancement of students' critical thinking. This link underscores the critical value of adopting didactic strategies focused on fostering critical thinking, showing that when students are immersed in learning environments that challenge their abilities and promote reflection, their capacity to analyze, synthesize, and evaluate information significantly improves. Conclusions: The findings highlight the necessity for universities to continuously implement and adapt their pedagogical methods to foster meaningful and critical learning. This research contributes to understanding how educational experiences can be designed to enhance critical thinking, providing a foundation for future curricular and pedagogical developments in higher education.

Keywords: learning experiences; development of critical thinking; early education; problem-solving.

Introduction

Within the curriculum planning process, the teacher, as part of his pedagogical practice, designs a set of strategically organized learning experiences in order to develop competencies of the subject in his charge. Currently, within the new paradigms and transformation, these activities are no longer a simple set of actions to become complex activities. According to the Ministry of Education (Minedu, 2020), learning experiences should allow students to face complex situations

of challenges that promote the development of complex thinking, responding to the principles of: "complexity, organization and emergence; the principle of relationship; multidimensionality and transdisciplinarity; the dialogical principle; the principle of self-eco-explanation; the hologrammatic principle; the principle of eventuality; the principle of multiplex nails; and the principles of feedback and recursion", as mentioned by Edgar Morin (cited in Solana, 2019). In Vice Ministerial Resolution No. 094-Minedu-2020, it is established that learning experiences must respond to the needs of students and start from a challenging and challenging situation.

Cantú & García (2011) define the learning experience as "a way of organizing the student's significant learning, making him or her co-responsible for his or her own learning" through concrete actions. Therefore, the praxis of the university teacher must establish new strategies that allow him to organize and systematize his educational action under the new paradigms of complexity and be part of the transformation of higher education. In this sense, according to Cantú Hinojosa & García Gonzáles (2006), the organization of learning under the competency-based approach considers the following components:

- competition;
- meaningful learning;
- the learning experience. The following figure, presented by the journal de Vasconcelos (Cantú Hinojosa & García Gonzáles, 2006), clearly expresses that in order for students to have the ability to know, do, be, live together and live, it is necessary to promote significant learning that allows the connection between previous and new knowledge. This, according to Ausubel (2000), will make it possible to give meaning to knowledge and the evolution of knowledge.

As a result of numerous studies aimed at evaluating the relationship between the learning of university students and the teaching of their professors, it has been concluded that the most profound learning is that in which students perceive that the learning experience is constituted by a set of strategies that are based on their previous knowledge and situations that are significant to them. Along the same lines, Huang et al. (2019) mention that the learning experience is intrinsically linked to the student, since it refers to the experience that the student has in the interaction with educational resources and environment. However, they also point out that this learning experience is influenced by the perceptions generated by the student in relation to this relationship with the teaching space. This includes the presence of educational instruments that teachers use with the aim of achieving meaningful learning in the classroom.

Currently, according to Giannakos et al. (2018), the learning experience should not only be understood as the student's link with the academic physical space, but should also consider the digital environment. This is because learning is now deeply immersed in the design, development and use of technology, with the aim of complementing and enhancing the learning process.

Structure of the learning experience

In the planning and design of learning experience sessions, the following aspects should be taken into account (Educar, 2021):

- Situation: It is the specific context, whether at a personal, family, local, regional, national or global level, as well as real or simulated circumstances. These are identified

and described with the aim of building a challenging and valuable situation for the student.

- Learning purpose: Specifies the competencies that need to be developed to respond to the challenge posed. In other words, it is the learning objective that you want the student to learn or enhance.
- Cross-cutting approaches: These are both personal and social aspects, and of the environment, individual or collective, that guide towards a specific way of acting of people. It is important to consider them since they are expressed in the daily dynamics of the educational center.
- Evaluation criteria: These refer to the indicators used to determine an assessment of the range of development of competencies.
- Production/acting: It is the demonstration that the student makes based on the development of competencies. This can be through the performance of specific behaviors, as evidenced in an integrative product.
- Sequence of suggested activities: The activities must present a coherent structure to achieve the proposed objectives. These dynamics or strategies vary depending on the curricular approaches or the areas to which they belong

Didactics and learning experiences

Didactic strategies, in the educational environment, are understood as those activities designed to direct students towards learning. In this sense, they represent the set of techniques, strategies and methods used in teaching. The main objective of these didactics is to ensure that the internalization and development of competencies are effective and meaningful (Zambrano et al., 2022).

Within this process, there are several types of strategies depending on their functionality (Delgado et al., 2018):

- Didactic teaching strategies: These are those actions designed to facilitate student learning. The importance of creating a student-centered learning context is emphasized, in addition to employing methods oriented to conflict resolution and project management.
- Learning strategies: These are the activities that the student carries out with the aim of consolidating the knowledge presented by the teacher.
- Assessment strategies: These are dynamics whose purpose is to determine the level of achievement of the learning acquired by the student.

Didactics and the learning experience are complementary concepts, since the former refers to the way in which learning experiences are designed and implemented. Well-applied didactics significantly improves the quality of learners' learning experiences and, therefore, contributes to more effective learning (Casasola Rivera, 2020).

Critical thinking

According to Paul & Elder (2005), teachers currently focus on covering curricular content, leaving aside the teaching of how to learn how to learn. They conclude that, due to this situation, teaching has failed to provide students with the necessary tools so that they can commit to their own learning.

The concept of critical thinking is immersed in controversies and confusions typical of any scientific discipline. The review of different theses formulated in reference to the aforementioned thought shows the various meanings that are handled under that same name (Fierro & Di Doménico, 2017), closely related to the disciplinary and epistemological framework from which they derive (Moore, 2013).

Critical thinking is that way of thinking—about any topic, content, or problem—in which the quality of initial thinking is improved. As a result, a critical and exercised thinker emerges who formulates vital problems and questions with clarity and precision; accumulates and evaluates relevant information, uses abstract ideas to reach conclusions and solutions, testing them with relevant criteria and standards; thinks with an open mind and communicates effectively (Paul & Elder, 2003, p. 4).

Critical thinking is a process through which knowledge and intelligence are used to effectively arrive at the most reasonable and justified position on an issue, seeking to identify and overcome the numerous barriers or obstacles that prejudices or biases introduce. According to Lara Coral (2012), it allows the processing and reprocessing of the information received, having a basis for supporting their own beliefs, which enables intellectual activity aimed at achieving objectives effectively, not only in the academic field but also in daily life. In this type of thinking, skills such as reasoning, problem-solving, and decision-making are employed.

There are different forms of thinking: analytical, systemic, reflective, logical, creative, analogical, divergent, lateral, convergent, interrogative, deliberative, discursive, collegial, practical, deductive, inductive, critical (Villa & Poblete, 2007). What is common in these styles of thinking is that everyone thinks, and sometimes it is complicated and difficult to distinguish them from each other. Each of them has its own distinctive and uniform characteristics.

For his part, Facione (1990) states that "critical thinking is the formation of a self-regulated judgment for a specific purpose, the result of which, in terms of interpretation, analysis, evaluation, and inference, can be explained according to the evidence, concepts, methods, criteria, and context that have been taken into consideration to establish it" (p. 21).

Basic Critical Thinking Skills

There are numerous types of skills with a cognitive component. The first classification, made by Bloom (1956), under the name of Taxonomy of Educational Objectives, stands out for its proposal of hierarchization of skills. In this classification, memory occupies the first step, ascending towards understanding, analysis, synthesis and evaluation until it reaches the top of the pyramid, thus shaping critical thinking.

For his part, Piette (1998) suggests grouping skills into three broad categories: The first refers to skills linked to the ability to clarify information, such as asking questions, conceiving and judging definitions, distinguishing the different elements of an argument, a problem, a situation or a task, and identifying and clarifying important problems. The second category encompasses skills related to the ability to make a judgment about the reliability of information, such as judging the credibility of a source or information, identifying implicit assumptions, and judging the logical validity of an argument. The third category addresses skills related to the ability to

evaluate information, including drawing appropriate conclusions, making generalizations, inferring, formulating hypotheses, and personally generating and reformulating an argument, problem, situation, or task.

In addition, there is a classification that transcends the cognitive component of thought, developed by Ennis (2011). This classification makes a distinction between two main classes of critical thinking activities: dispositions and abilities. Dispositions refer to the personal traits that each individual brings to a thinking task, such as open-mindedness, striving to be well-informed, and sensitivity to the beliefs, feelings, and knowledge of others. Capacities, on the other hand, refer to the cognitive skills necessary to think critically, such as focus, analysis, and judgment (Bruning et al., 1999).

Ennis (2011) presents a comprehensive framework on critical thinking, highlighting fifteen essential skills ranging from focusing on the key question, analyzing arguments, formulating and answering clarifying questions, to judging the credibility of sources and evaluating reports based on observation. This skill set also includes the ability to deduce and induce judgments, make judgments, define terms, identify underlying assumptions, and decide and interact effectively with others. In addition, Ennis (2011) stresses the importance of combining diverse skills and dispositions to defend decisions, to proceed in an orderly manner in various situations, to show empathy towards the feelings and levels of knowledge of others, and to employ effective rhetorical strategies both in discussions and in oral and written presentations. These capabilities outline a comprehensive view of critical thinking as a multifaceted and dynamic process, essential for effective and reflective navigation in a variety of contexts.

According to Ennis (2011), some subskills are applicable to any type of thinking, whether critical or creative, while others, such as making value judgments, may seem less important for solving specific problems, such as physics.

Hypotheses and variables

General hypothesis: There is a direct and significant relationship between learning experiences and the development of critical thinking in early childhood students at public universities in 2023.

Specific hypotheses:

HE1. There is a significant relationship between the didactic dimension and argumentation in early education students of public universities in 2023.

HE2. There is a significant relationship between the didactic dimension and problem solving in early childhood education students at public universities in 2023.

HE3. There is a significant relationship between the reflective dimension and metacognitive ability in early childhood education students at public universities in 2023.

Variables:

a. Learning Experience

b. Critical thinking

Table 2 Operationalization of variables

Variable	Conceptual definition	Dimnesiones
Learning Experiences	The learning experience is a set of activities designed to lead students to face complex situations, challenges, or problems (MINEDU, 2020).	Communicative
		Didactics
		Reflective
Critical Thinking	It is the intellectually disciplined process of activating and employing skills to conceptualize, apply, analyze, synthesize, and/or evaluate information collected or generated through observation, experience, reflection, reasoning, or communication, serving as a guide for belief formation and decision-making.	Argumentation
		Troubleshooting
		Metacognitive ability

Methodology

Research approach: This research work adopts a quantitative approach, which is based on the collection of data to test hypotheses, establish patterns of behavior and validate theories through numerical measurements and statistical analysis (Hernández-Sampieri & Mendoza).

Type of research: The nature of this research is applied, corresponding to the field that encompasses educational, social and applied psychology researchers. According to Sánchez and Reyes (2006), its objective is to acquire knowledge for practical purposes to do, act, build and modify.

Research design: For this study, a descriptive correlation design has been selected, chosen because the purpose of this design is to measure the degree of relationship between two or more variables.

Where:

- X= learning experience
- Y = critical thinking
- R = ratio

1.1. Method

Deductive method: This method will facilitate the collection of the information necessary to develop the research instruments. Its purpose is to identify the key items that will be considered in the surveys, allowing a prior structuring based on theoretical principles that will be applied to the observed reality.

Inductive method: Through this method, the direct observation of the subjects under study and the application of the designed instruments will begin. This will make it possible to generate specific conclusions applicable to the realities or similar situations observed, starting from particular cases towards broader generalizations.

Analysis method: This method will be crucial to identify the dimensions, variables, and indicators that will be used in the data collection instruments. It will make it possible to establish and understand the relationship between the different elements investigated, facilitating a detailed interpretation of the data obtained.

1.2. Population and sample

The study population was composed of students of the Initial Educational Program in the following public universities: Daniel Alcides Carrión, Hermilio Valdizán, Universidad Nacional de Trujillo, Enrique Guzmán y Valle, and Universidad Pedro Ruiz Gallo, adding a final sample of 247 students.

1.3. Technique and instrument:

To carry out this research work, the survey technique was used as a method of information collection. A questionnaire was used as an instrument, which facilitated the collection of extensive data on a variety of previously defined aspects or problems. This questionnaire was composed of questions structured into items, organized according to the first and second study variables.

1.4. Validity and reliability of instruments

The evaluation of the validity and reliability of the instruments used in the study was carried out through a detailed analysis of two specific questionnaires: the Learning Experience Questionnaire and the Critical Thinking Development Questionnaire. Both instruments were designed to measure crucial aspects of the educational process in university students from various universities in Peru.

The Learning Experience Questionnaire, composed of 20 items with five answer alternatives ranging from "Never" to "Always", was applied collectively, requiring approximately 30 minutes to complete. The typification of this instrument was based on a sample of 247 students, and was appropriately adapted to the target population through established procedures to guarantee its validity and reliability. The reliability of the questionnaire was determined through Cronbach's Alpha, obtaining a coefficient of 0.956, which indicates a very high reliability.

Regarding validity, both content and construction validity were considered. Construct validity was verified through exploratory factor analysis, focusing on three specific dimensions: Argumentation, Metacognitive Ability and Problem Solving. The results of the KMO and Bartlett tests confirmed the adequacy of the sample and the one-dimensionality of each dimension, demonstrating a strong association between the items and empirically validating the uniqueness of the dimensions evaluated.

On the other hand, the Questionnaire on the Development of Critical Thinking, also composed of 20 items with similar answer options, followed an application and classification procedure comparable to the first instrument. Reliability, evaluated using Cronbach's Alpha, yielded a coefficient of 0.958, also reflecting high reliability. The validity of the instrument was examined through content and construction validity, with a particular focus on the dimensions of Communicative, Didactic and Reflective. The KMO and Bartlett analyses supported the adequacy of the sample and the one-dimensionality of the dimensions, corroborating the association between the items and the consistency of the measurements.

In conclusion, both questionnaires proved to have high reliability and solid validity, supported by factor analyses that confirmed the coherence and cohesion of the dimensions evaluated. These

results support the use of these instruments for the measurement of learning experiences and the development of critical thinking in the Peruvian university context, providing a robust empirical basis for the interpretation of the data collected in the study.

1.5. Statistical data processing

Descriptive statistics were used to process the data produced by the questionnaire. The statistical processing of the data will be done electronically through SPSS V.25.

1.6. Ethical aspects

In this study on learning experiences and critical thinking development in early childhood students at public universities in 2023, rigorous ethical considerations were adopted to protect participants and ensure the integrity of the research. The anonymity of the informants was respected, ensuring the confidentiality of their information. In addition, all procedures were carried out under criteria of reliability and credibility, emphasizing the importance of respect in dealing with the participants. This ethical approach underscores researchers' commitment to healthy human development, respecting theoretical and personal diversities, and promoting a research environment that respects the dignity and rights of study subjects (Manzini, 2020).

Results

After applying the questionnaires to the sample selected for this research and once the information obtained had been processed (through qualification and grading), we proceeded to analyze the data. This analysis was performed at both the descriptive and inferential levels, which allowed us to carry out the measurements and comparisons necessary for the study. The results of this analysis are presented below.

Table 1 Learning Experiences

Dimension		F*	%**
Communicative			
Valid	Has no ability to communicate with others	13	5,3
	Has poor communication skills with others	99	40,1
	Has communicative skills	135	54,7
	Total	247	100,0
Didactics			
Valid	Didactic processes to be developed	32	13,0
	Underdeveloped didactic processes	148	59,9
	Develop good didactic processes	67	27,1
	Total	247	100,0
Reflective			
Valid	There is a poor reflective capacity	31	12,6
	There is a moderate reflective capacity	132	53,4
	There is a good capacity for reflection	84	34,0
	Total	247	100,0

*Frequency / ** Percentage

Table 1, regarding the communicative skills of the participants, categorized according to their level of ability to communicate with others. Out of a total of 247 participants, 13 individuals, representing 5.3% of the sample, were identified as not having the ability to communicate with others. A significant portion of the participants, specifically 99 individuals equivalent to 40.1%, show that they have poor communication skills. Most of the participants, with a total of 135 people who constitute 54.7% of the sample, demonstrated their ability to communicate with others.

Related to the didactic dimension, out of a total of 247 participants, 32 people, representing 13.0% of the sample, indicated that the didactic processes are yet to be developed. The majority of participants, with a total of 148 individuals equivalent to 59.9%, considered that the didactic processes are poorly developed. On the other hand, 67 participants, constituting 27.1% of the sample, recognized the development of good didactic processes.

Finally, related to the reflective skills of the participants, out of a total of 247 participants, 31 individuals, representing 12.6% of the sample, were identified as having poor reflective ability. The majority of participants, with a total of 132 individuals equivalent to 53.4%, showed moderate reflective capacity. In addition, 84 participants, constituting 34.0% of the sample, demonstrated good reflective capacity.

Table 2 Variable 2. Critical Thinking

Dimension		F*	%**
Argumentation			
Valid	It does not present arguments in its support	21	8,5
	It presents little argument in its support	122	49,4
	Argue your livelihoods well	104	42,1
	Total	247	100,0
Troubleshooting			
Valid	No problem-solving skills	47	19,0
	There is little problem-solving capacity	125	50,6
	Problem-solving capabilities exist	75	30,4
	Total	247	100,0
Metacognitive Ability			
Valid	Low metacognitive ability	52.12	21,1
	Moderate metacognitive ability	107.94	43,7
	High metacognitive ability	86.94	35,2
	Total	247	100,0

*Frequency / ** Percentage

In Table 2, in relation to the argumentation dimension, the majority of respondents, specifically 49.4% with a total of 122 individuals, present little argumentation in their supports. On the other hand, a significant 42.1%, equivalent to 104 participants, argue well their supports, demonstrating a more developed capacity in this area. In contrast, a smaller percentage, 8.5% that corresponds to 21 people, does not present arguments in their supports.

As for metacognitive ability among the study participants, categorized into three levels: low, moderate and high. Of the 247 participants in total, 52, approximately 21.1%, were identified with low metacognitive ability. The majority of participants, totaling approximately 108,

representing 43.7%, showed moderate metacognitive ability. In addition, about 87 participants, equivalent to 35.2%, were classified as having high metacognitive ability.

In relation to problem solving among the study participants, they were classified into three levels: lack of capacity, low capacity and ability to solve problems. Out of a total of 247 participants, 47 individuals, representing 19.0% of the sample, were identified as having no problem-solving capacity. The majority of participants, with a total of 125, equivalent to 50.6%, showed little problem-solving ability. On the other hand, 75 participants, who constitute 30.4% of the sample, demonstrated problem-solving skills.

1.- Statistical test for the determination of normality

For the analysis of the results obtained, the type of distribution presented by the data will be determined initially. This applies both to observational test data on learning experiences and critical thinking development. To do this, we use the Kolmogorov-Smirnov goodness-of-fit test, which allows us to measure the degree of agreement between the observed distribution of a dataset and a specific theoretical distribution.

Based on the value obtained in the distribution test, it will be decided whether the use of parametric statistics (such as Pearson's correlation) or non-parametric statistics (such as Spearman's Rho or Chi-squared) is appropriate for the subsequent analysis of the data.

Table 3 About Normality Test

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistical	Gl	Gis.	Statistical	Gl	Gis.
Learning Experiences	,053	247	,092	,957	247	,000
Critical Thinking	,069	247	,007	,955	247	,000

to. Lilliefors Correction of Significance

For the variable Learning Experiences, the Kolmogorov-Smirnov test yields a statistic of 0.053 with 247 degrees of freedom (gl) and a significance value (Sig.) of 0.092, suggesting that the normality hypothesis at a common significance level (e.g., 0.05) cannot be rejected, indicating that the data could follow a normal distribution. However, the Shapiro-Wilk test shows a statistic of 0.957 with the same number of degrees of freedom and a significance value of 0.000, indicating a significant deviation from normal.

For the Critical Thinking variable, the Kolmogorov-Smirnov test shows a statistic of 0.069 with 247 degrees of freedom and a significance value of 0.007, indicating a significant deviation from normality. Similarly, the Shapiro-Wilk test presents a statistic of 0.955 with 247 degrees of freedom and a significance value of 0.000, reaffirming the significant deviation from normality.

Table 4 Significant relationship between learning experiences and the development of critical thinking

Correlations				
			Learning Experiences	Critical thinking
Spearman's Rho	Learning Experiences	Correlation coefficient	1,000	,621**
		Sig. (bilateral)	.	,000
		N	247	247
	Critical Thinking	Correlation coefficient	,621**	1,000
		Sig. (bilateral)	,000	.

	N	247	247

**. The correlation is significant at the 0.01 level (bilateral).

Table 4 reveals a significant relationship between learning experiences and the development of critical thinking, based on Spearman's correlation analysis. The correlation coefficient between these two variables is 0.621, indicating a moderate to strong positive correlation. This result is statistically significant, with a bilateral p-value of 0.000, which is well below the conventional threshold of 0.05 to determine statistical significance. Given that the number of participants (N) is 247 for both variables, the strength of the association is considered robust and representative of the population studied.

The bilateral significance at the 0.01 level reinforces the robustness of this correlation, suggesting that the relationship between learning experiences and the development of critical thinking is not accidental. Therefore, the null hypothesis, which would postulate the absence of a significant relationship between these variables, is rejected.

In conclusion, the findings indicate that there is a direct and significant relationship between learning experiences and the development of critical thinking in students of early childhood education at public universities in 2023. This result underscores the importance of fostering enriching learning experiences to enhance the development of critical thinking, a key component for students' academic and professional success.

Discussion

This section focuses on the relationship between learning experiences and the development of critical thinking in early childhood education students at public universities in Peru during 2023. This study, following a quantitative approach and using survey techniques, has identified significant relationships between several dimensions of learning experiences and aspects of critical thinking, confirming the hypothesis that these variables are significantly interrelated.

Critical thinking is widely recognized as an essential goal of higher education, crucial to students' academic and professional success. Paul & Elder (2003) highlight its importance as a core competency for the effective evaluation and synthesis of information, which is critical to addressing complex challenges in the real world. In this context, Facione (1990) stresses that critical thinking significantly improves the quality of analysis, synthesis and evaluation of information. Early education, therefore, plays a crucial role in laying the foundations for the development of these advanced cognitive skills.

Recent research provides additional evidence on the importance of explicitly focusing on critical thinking within education to foster the development of cognitive skills. For example, a recent study found that an explicit focus on critical thinking in nonprofit management education is linked to significant improvement in critical thinking skill performance (Jones et al., 2023). This finding suggests that both motivation and skill shifting, which benefit from an explicit focus on critical thinking, are essential for students' cognitive development in higher education.

Another study underlines that the development of critical thinking skills is not only necessary for students, but also for teachers, as these skills are fundamental for decision-making based on logical and neutral thinking (Suparno & Giartika, 2019). In this way, the need for pedagogical

strategies that promote critical thinking through all levels of education is highlighted, preparing students to face complex challenges and make informed decisions in their professional and personal lives

Our results reveal that there is a direct and significant relationship between the learning experiences designed within universities and the development of critical thinking skills in students. This aligns with existing literature suggesting that the quality and design of learning experiences are key determinants in the development of critical thinking (Cantú Hinojosa & García Gonzáles, 2006; Educate, 2021). Learning experiences, when well-structured and challenging, can stimulate students' ability to critically analyze, synthesize, and evaluate information.

Research relevant to our results underscores the importance of preparing students for critical thinking before they enter university, highlighting the crucial role of secondary education in this process. In this sense, Van der Zanden et al. (2020) explored how secondary school teachers perceive and promote critical thinking skills to prepare their students for university, finding a great variation in the perceptions and teaching practices related to critical thinking. In addition, Vero & Puka (2018) examined the role of higher education institutions in fostering critical thinking among young people, arguing that critical thinking should be more effectively integrated into the teaching process to enable students to engage more deeply with knowledge, identify social problems, and improve their problem-solving skills.

The correlation found between the communicative dimension and argumentation reinforces the importance of communicative skills in the process of developing critical thinking. This relationship suggests that students' ability to argue effectively is closely linked to their communicative competencies, which is consistent with previous research that underscores communication as a central aspect of critical thinking (Ennis, 2011). Similarly, the association between the didactic dimension and problem-solving highlights the importance of problem-solving teaching strategies to foster critical thinking. This finding is in line with studies that indicate that teaching strategies that involve solving real or simulated problems promote the practical application of critical thinking (Delgado et al., 2018). In addition, the significant relationship between the reflective dimension and metacognitive ability emphasizes the role of reflection and self-evaluation in the development of critical thinking. This is consistent with the literature that metacognition, or the ability to reflect on one's own thought process, is an essential component of critical thinking (Piette, 1998).

The statistical significance of the relationship between learning experiences and the development of critical thinking validates the overall hypothesis of the study and confirms the importance of designing learning experiences that are not only relevant and challenging, but also actively promote critical thinking. This implies a need for continuous revision and adaptation of curricula and pedagogical methods to include activities that stimulate critical analysis, the evaluation of information and the resolution of complex problems. In this sense, recent studies underline the relevance of integrating specific didactic strategies that promote critical thinking through well-structured learning experiences. For example, Yau et al. (2023) highlight students' positive perception of the impact of critical thinking on their learning performance, both in academic and non-academic contexts, underscoring the importance of including critical thinking in the

teaching and learning process (Yau et al., 2023). Ekayanti et al. (2022) demonstrate how the discovery learning model can significantly improve students' critical thinking skills, supporting the need to adapt curricula to include these types of pedagogical strategies. Laabidi & Laabidi (2023) explore the relationship between teachers' level of use of critical thinking and their attitudes, highlighting the importance of integrating critical thinking into education to facilitate the development of problem-solving and decision-making skills in students. Finally, Rimiene (2002) offers evidence of the effectiveness of specific critical thinking development programs, which reinforces the importance of integrating didactic strategies that promote critical thinking.

Therefore, for the success of educational processes, the inclusion of pedagogical strategies that facilitate the development of critical skills, such as argumentation, problem solving and metacognition, should be considered. This will not only prepare students for academic success but also for their effective participation as critical and thoughtful citizens in a complex and ever-changing society.

Conclusions

The study carried out on the learning experiences and development of critical thinking in early childhood education students at public universities in Peru during 2023 sheds light on a fundamental interaction in the educational process. Through detailed analysis and rigorous methodology, a direct and meaningful relationship has been established between structured learning experiences and the evolution of critical thinking skills among students, thus highlighting the importance of innovative and conscious pedagogical practices within the educational field.

The study's findings underscore that learning experiences, when well designed and executed, not only enrich students' academic knowledge, but also effectively promote the development of critical thinking skills. This direct relationship between specific learning experiences and the strengthening of critical thinking is crucial, as it prepares students to face complex challenges and make informed, thoughtful decisions in an increasingly complex and connected world.

The evidence collected demonstrates that the communicative, didactic, and reflective dimensions of learning experiences are intrinsically related to fundamental critical thinking skills, such as argumentation, problem-solving, and metacognitive ability. These links highlight the importance of pedagogical strategies that actively encourage interaction, debate, critical reflection and questioning, essential components for the development of an effective critical thinker.

In addition, the results of the study emphasize the relevance of adapting pedagogical approaches to students' specific needs and contexts, suggesting that flexible, student-centered curriculum planning may be more effective in promoting critical thinking. This adaptive approach not only supports students' cognitive development, but also prepares future educators to implement teaching practices that respond dynamically to the changing demands of the educational and work environment.

The implications of this study are broad and significant, providing a solid foundation for future research in the field of education. The clear relationship between learning experiences and the development of critical thinking invites deep reflection on how educational institutions can

design and implement programs that not only transfer knowledge, but also cultivate critical thinking skills among students. This holistic approach to education is essential to preparing students for the challenges of the 21st century, equipping them not only with technical knowledge, but also with the ability to think critically, solve problems creatively, and contribute meaningfully to society.

Recommendations

In view of the findings and implications of this study, it is recommended that future research focus on exploring in depth the specific pedagogical strategies that are most effective in fostering critical thinking in different educational contexts. In addition, it would be valuable to examine the long-term impact of enriched learning experiences on students' professional and personal development. Further research could also look at the interplay between critical thinking and other essential learning skills, such as autonomous learning and emotional intelligence, to provide a more holistic understanding of how educational and personal success can be fostered in the modern era.

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