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LEARNING STRATEGIES OF THE EDUCATIONAL MODEL AND DEVELOPMENT OF RESEARCH COMPETENCE OF THE PROFESSIONAL PROFILE OF EARLY CHILDHOOD EDUCATION GRADUATES IN A PRIVATE UNIVERSITY IN CHIMBOTE, 2024

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ABSTRACT

The cultivation of research aptitudes constitutes a pivotal facet within the professional development program, particularly within the domain of Early Childhood Education. In this regard, the educational paradigm employs a multifaceted array of learning methodologies to fortify these competencies in its graduates. However, there is a need to evaluate the influence of these strategies on the development of research competencies. For this reason, the objective was proposed to determine the influence of the learning strategies of the educational model on the development of the research competence of the professional profile of graduates of Early Childhood Education from a private university in Chimbote, 2024.The study corresponds to a quantitative research with a non-experimental, cross-sectional correlational research design. The sample population comprised 109 graduates of the Professional Career in Education. The findings yielded scores of considerable significance, with a Rho Spearman coefficient that exhibited a robust and positive correlation ($r = 0.830$). Moreover, the bilateral value ($p = .00 < 0.05$) falls below the statistical threshold of significance, thereby validating Hypothesis (H1) and reinforcing the positive and significant relationship between the variables, as demonstrated by the statistical relationship D of Somers, which indicates a value less than 0.05. It is evident that the variables demonstrate a robust relationship, underscoring the profound impact of the synergistic integration of the learning strategies inherent within the educational model on the cultivation of research competence among the professional profile of the graduates. This observation is substantiated by the attainment of substantial scores.

Keywords: Learning context, situational research, Educational model.

RESUMEN

El desarrollo de las competencias investigativas constituye un componente esencial en la formación de profesionales, especialmente en el contexto de la Educación Inicial. En este sentido, el modelo educativo implementa diversas estrategias de aprendizaje para fortalecer dichas competencias en los egresados. No obstante, se evidencia la necesidad de evaluar la influencia de estas estrategias en el desarrollo de las competencias investigativas. Por lo tanto, se planteó el objetivo de determinar la influencia de las estrategias de aprendizaje del modelo educativo en el desarrollo de la competencia investigativa del perfil profesional de los egresados de Educación Inicial de una universidad privada de Chimbote en el año 2024.

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El estudio corresponde a una investigación cuantitativa con un diseño de investigación no experimental, correlacional y transversal. La muestra del estudio está compuesta por 109 egresados de la Carrera Profesional de Educación. Los resultados del estudio alcanzaron puntuaciones altamente significativas, con un Rho Spearman, que indica un índice de correlación positiva muy fuerte (r = 0,830). Además, el valor bilateral (p = 0,00 < 0,05) se sitúa por debajo del umbral de significación estadística, lo que permite aceptar la hipótesis (H1) y reafirmar la relación de manera positiva y significativa entre las variables, como se presenta en la relación estadística D de Somers, que indica un valor significativo menor de 0,05. En conclusión, se evidencia una correlación significativa entre las variables, manifestada en una relación de alta intensidad. Se observa que la vinculación de las estrategias de aprendizaje del modelo educativo se encuentra significativamente relacionada con el desarrollo de la competencia investigativa del perfil profesional de los egresados, lo que se refleja en puntuaciones estadísticamente relevantes.

Palabras clave: Contexto de aprendizaje, investigación situacional, Modelo educativo.

INTRODUCTION

In the context of higher education, the cultivation of research competencies is a pivotal element in the education of education professionals. This necessity arises from the imperative to nurture education professionals who are adept at confronting the challenges of the twenty-first century, thereby ensuring their readiness for ongoing professional development (Chong & Ramos, 2024). The absence of adequate research skills in prospective education professionals can have deleterious consequences over time, both in their professional performance and in the quality of the education they provide. In the context of higher education, university students continue to encounter substantial challenges in applying research skills to their professional practices (Gallardo & García, 2024). The necessity of reformulating and developing the capacity to formulate relevant research questions, design appropriate methodologies, and analyze data critically is paramount. This reformulation must be integrated into learning activities. Therefore, it is imperative to identify the learning strategies that genuinely contribute to the development of research competencies. The issue arises from the fact that, despite the intention behind learning strategies to cultivate research competencies, they are not executed in a contextualized manner and do not form an integral component of the professional's graduation profile (Castro & Barreto, 2023). As previously stated, the issue of the general problem was addressed. The present study seeks to ascertain the relationship between the learning strategies employed by the educational model and the development of the investigative competence of the professional profile of graduates of Early Childhood Education at a private university in Chimbote, 2024.

This fundamental question guided the development of the proposal, which centered on the adequacy and effectiveness of the learning strategies that must be implemented from the orientation and proposal of the educational model of the universities. The proposal also allowed for improvements to be made in teaching and learning. In this regard, the educational paradigm must incorporate a range of learning strategies with the objective of enhancing the competencies of Early Childhood Education graduates. However, there is a need to evaluate the effectiveness of these strategies and their real impact on the development of research competencies (Balta et al., 2024).

The problematic situation made it possible to understand the need to monitor and evaluate the learning strategies that are declared in the educational model and that allow the adequate development of research competence in Early Education graduates that contribute to the construction of processes in competent professional training (Gutiérrez et al., 2024). The timely identification of these students will facilitate the implementation of updates and improvements in the planning of subjects, activities, evaluation, and management of learning in higher education. These updates and improvements will be reflected in the graduate's profile to a significant extent.

The objective of this study was to identify learning strategies and implement improvements that enhance the research capacities of future education professionals, thereby contributing to more robust and effective training. The contributions of this research will be significant because the expected results of this study will have a positive impact on both students and the university. The findings will enable students to identify areas that require improvement with regard to learning strategies, thereby contributing to more solid and effective training.

Consequently, students pursuing a degree in Early Childhood Education will directly benefit from the implemented improvements, developing research skills that will distinguish them in their chosen professional field and contribute meaningfully to the field of Early Childhood Education. To this end, the primary objective was to ascertain the impact of the learning strategies employed by the educational model on the development of research competence among initial education graduates in 2024. The specific objectives were twofold: first, to identify the learning strategies that contribute to the development of research skills, and second, to establish the

relationship between the learning strategies of the educational model and the dimensions of research competence exhibited by graduates of early childhood education in 2024.

The central hypothesis posited was as follows: there is a significant relationship between the learning strategies of the educational model and the development of research competence among graduates of a private university in Chimbote in 2024.

METHOD

The research design was quantitative, with measurement based on the collection and processing of information, sequential processes in the measurement of variables, analysis with statistical methods, and conclusion drawing (Arias & Covinos, 2021). The research design was non-experimental in nature, and no manipulation of variables was performed. Cross-sectional correlational, establishing the relationship between the variables in a given context. (Naupas et al., 2023). The sample population comprised 109 graduates of Early Childhood Education. The established variables are as follows: The following is a list of the learning strategies employed by the educational model, as well as the research competence. The technique entailed administering a survey and utilizing a questionnaire as an instrument, thereby facilitating the integration of items pertinent to the research design. (Suárez & Ronceros, 2022). The data analysis employed descriptive statistics, utilizing the Microsoft Office Excel program to depict the results obtained. In the hypothesis test, Spearman's Rho statistical test was implemented through the SPSS program to evaluate the normality of the data for the variables and to test the hypotheses (Yuni & Urbano, 2020)

RESULTS

DESCRIPTIVE RESULTS

Variable: Learning strategies of the educational model
Table 1 Descriptive analysis by frequencies according to scores Learning strategies of the educational model

Levels	Frequency	Percentage
Deficient	5	4,6
Regular	33	30,3
Well	71	65,1
Total	*109*	*100,0*

Note. Exposed scores extracted from SPSS software

Table 2 *Analysis of each descriptive dimension by frequencies of the Learning strategies of the educational model*

	Deficient		Regular		Well	
	Recount	Percentage	Recount	Percentage	Recount	Percentage
Active Strategies	7	6,4%	39	35,8%	63	57,8%
Teaching Resources	6	5,5%	29	26,6%	74	67,9%
Evaluation	4	3,7%	35	32,1%	70	64,2%

Note. The exposed scores have been extracted from the SPSS software

As shown in Table 2, the variable "learning strategies" of the educational model demonstrates a satisfactory level of performance in the "active strategies" dimension, with 57.8% of the sample under study achieving the highest level of performance. Similarly, in the "didactic resources" dimension, 67.9% of the sample demonstrated a satisfactory level of performance, and in the "evaluation" dimension, 64.2% of the sample exhibited a satisfactory level of performance, considering the average of educational quality at a satisfactory level.

Variable: Research Competence
Table 3 *Descriptive analysis according to scores by frequencies of the Research Competence*

Levels	Frequency	Percentage
Low	7	6,4
Middle	28	25,7

High	14	67,9
Total	109	100,0

Note. Scores extracted with SPSS software

In the distribution of Table 3, the variable Research Competence is analyzed, the high level represented by 12.8% representation of the sample under study and in the discussion a medium level represents 25.7% and finally with a low level of 6.4%.

Table 4 *Descriptive analysis of each dimension by frequencies Research Competence*

	Low		Middle		High	
	Recount	Percentage	Recount	Percentage	Recount	Percentage
Information processing	10	9,2%	28	25,7%	71	65,1%
Generation of new knowledge	7	6,4%	27	24,8%	75	68,8%
Dissemination of information	6	5,5%	22	20,2%	81	74,3%

Note. The exposed scores have been extracted from the SPSS software

As illustrated in Table 4, the dimensions of the Research Competence variable are organized and analyzed. For the "information processing" dimension, the "good level" is represented as the highest in 65.1% of the sample under study. For the "generation of new knowledge" dimension, the "good level" is represented as the highest in 68.8%. Finally, for the "dissemination of information" dimension, the "good level" is represented as the highest.

Table 5 *Tests of assumptions of normality in the strategies of the educational model and the development of research competence of the professional profile of Early Childhood Education graduates in 2024*

	Kolmogorov-Smirnova		
	Statistical	Gl	Gis.
Active Strategies	,362	109	,000
Teaching Resources	,417	109	,000
Evaluation	,401	109	,000
Learning strategies of the educational model	,404	109	,000
Information processing	,399	109	,000
Generation of new knowledge	,421	109	,000
Dissemination of information	,450	109	,000
Research Competence	,416	109	,000

Note. The exposed scores have been extracted from the SPSS software

In consideration of the data presented in Table 5, the results of the normality test are hereby presented, confirming that the data collected are not normally distributed. The variables demonstrate a significance of less than 0.000, as indicated by the Kolmogorov-Smirnov coefficient. In the context of samples with more than 50 units of analysis, it was sufficient to use a statistical significance level of less than 0.05 (sig. = 0.00 < 0.05) and determine its adequacy. The non-parametric test was used to determine if it was adequate, and Spearman's Rho correlation coefficient (Rho) was used to analyze the hypotheses.

HYPOTHESIS TESTING

H1: There is a significant relationship between the strategies of the educational model and the Processing of information on the professional profile of Initial Education graduates in 2024

Table 6 *Correlational indices between the strategies of the educational model and the Processing of information on the professional profile of Initial Education graduates in 2024*

Spearman's Rho		V1: Learning strategies of the educational model
D1: Information processing	Correlation coefficient	,830**
	D for Somers	,741 (,000)
	Sig. (bilateral)	<,001
	N	109

Note: Data processed with SPSS 27 statistical software, relevance.
** The correlation is significant at the 0.01 level (bilateral).

As demonstrated in Table 6, the scores corresponding to the levels of statistical correlation between the strategies of the educational model and the development of the information processing of the professional profile of initial education graduates are highly significant. The Rho Spearman index shows a very strong positive correlation with an r = 0.830 (Hernández & Mendoza, 2018). Furthermore, the bilateral value (p = .00 < 0.05) is below the threshold of statistical significance. It has been confirmed that H1 is accepted. When there is a relationship between variables that is positive and significant, the intensity of the relationship is indicated by the Somers D statistic. A value of less than 0.05 indicates a strong relationship between the variables.
H2: There is a significant relationship between the strategies of the educational model and the dimension of generation of new knowledge of the professional profile of Initial Education graduates in 2024

Table 7 *Correlational indices between the strategies of the educational model and the dimension of generation of new knowledge of the professional profile of Initial Education graduates in 2024*

Spearman's Rho		V1: Learning strategies of the educational model
D2: Generation of new knowledge	Correlation coefficient	,812**
	D for Somers	,782 (,000)
	Sig. (bilateral)	<,001
	N	109

Note: Data processed with the relevant SPSS 27 statistical software.

The scores corresponding to the levels of statistical correlation between the strategies of the educational model and the dimension generation of new knowledge of the professional profile of initial education graduates are represented in Figure 1. The scores are highly significant, with a Rho Spearman, showing a strong positive correlation index of R=0.812 (Hernández & Mendoza, 2018). It is verified that the bilateral value (p=.00 < 0.05) is below the threshold of statistical significance. By confirming the acceptance of H1 and reaffirming the positive and significant relationship between variables, we are able to indicate the intensity of the relationship with the Somers D statistic and provide a Sig. value of less than 0.05. This conclusion indicates that the variables correlate and have strong intensity.
H3: A relationship has been identified between the strategies employed by the educational model and the dissemination of information concerning the professional profile of initial education graduates in 2024.
Table 8 *Correlational indices between the strategies of the educational model and the dimension Dissemination of information on the professional profile of Initial Education graduates in 2024*

Spearman's Rho		V1: Learning strategies of the educational model
D3: Dissemination of information	Correlation coefficient	,739**
	D for Somers	,723 (,000)
	Sig. (bilateral)	<,001
	N	109

Note: Data processed with SPSS 27 statistical software with valid data relevance.

As demonstrated in Table 8, the scores pertaining to the levels of statistical correlation between the strategies of the educational model and the dimension "Dissemination of Information" of the professional profile of initial education graduates in 2024 are highly significant, as evidenced by the application of Rho Spearman. This indicates a strong positive correlation index, r = 0.739 (Hernández & Mendoza, 2018). Furthermore, it was verified that the bilateral value (p = .00 < 0.05) is below the threshold of statistical significance. Upon confirming the acceptance of H1 and affirming the positive and significant relationship between the variables, it is important to note that the intensity of the relationship with the Somers D statistic indicates a significant value of less than 0.05. This finding suggests that the variables are related and that the relationship is of strong intensity.

DISCUSSION

Following a thorough examination of the results, we are now in a position to present significant aspects related to the results obtained. It is imperative that we develop and implement strategies that enable students to learn autonomously and self-regulate, as is outlined in the educational model. In this model, students select and activate their knowledge to respond to professional and personal demands, depending on the conditions of the educational situation. The term "learning strategies" is defined in relation to the decision-making process concerning the needs demanded by a professional profile. (García et al., 2021).
The integration of the competency-based model fosters learning that emphasizes the consolidation of the requisite skills and abilities that must be actualized during vocational training. These competencies facilitate the implementation and consolidation of the competency-based educational model (Hidalgo et al., 2024).
The existing correlation is evidenced in the tests of scores of assumptions of normality in the strategies of the educational model and the development of the research competence of the profile. This allows the specific research competencies to be fulfilled in the context of information processing, the generation of new knowledge, and the dissemination of information in a context of learning in their professional field (Espíndola, 2022).
In the context of higher education, it is imperative to underscore the necessity of integrating research in specific contexts. This integration facilitates the application and dynamization of the knowledge contained within the mantera. Furthermore, it fosters a critical understanding of the reality in their professional training and promotes substantial changes in their learning (Sánchez et al., 2024).
Balta et al. (2024) demonstrated in their scientific research that strategies must be established to ensure adequate training in relation to the ability to apply technological resources. These resources are instrumental in developing research and facilitating the creation of scientific knowledge.

CONCLUSIONS

The impact of the significant linkage of the learning strategies of the educational model and the development of the research competence of the professional profile of Initial Education graduates with highly significant scores, with a Rho Spearman, showing a strong positive correlation index with an R= 0.812, was evidenced.
The development of the learning strategies of the educational model by frequencies according to scores is represented as 65%, grouped in the good level of the sample under study.
The relationship between the strategies of the educational model and the development of the research competence of the graduates' professional profile is of significant importance. The results of the scoring are highly significant, with a strong positive correlation (r = 0.739), as indicated by the Rho Spearman coefficient.
The evaluation of students' perceptions regarding the efficacy of the educational model's learning strategies and the development of their research competence has been found to be associated with a positive and significant relationship between the variables. The Somers D statistic, which is indicative of a significant value less than 0.05, demonstrates a high degree of intensity in the relationship between the variables.

RECOMMENDATIONS

-Teachers must implement learning strategies based on the proposal of the educational model during professional training.
-Likewise, they must develop the learning activities contextualizing the information and adapting it to the learning needs in the context of the study program.
Thank you to students for their research support

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REFERENCES

- Arias Gonzáles, J. L., & Covinos Gallardo, M. (2021). Diseño y metodología de la investigación. *Enfoques Consulting EIRL*, *1*(1), 66-78.Disponible en https://gc.scalahed.com/recursos/files/r161r/w26022w/Arias_S2.pdf
- Balta, G., Urquizo, R., Velásquez, M. Y Bello, V. (2024. Las percepciones de la competencia investigativa en el desarrollo de investigación científica en la educación superior. *Revista InveCom, 5*(1). https://doi.org/10.5281/zenodo.11110120
- Castro, O. J. C., & Barreto, G. E. R. (2023). Estrategias didácticas para el desarrollo de competencias investigativas en estudiantes universitarios. *Prohominum*, *5*(1), 126-143.
- Chong, B. M. F., & Ramos, R. E. A. (2024). Educación del siglo XXI frente a los desafíos del mundo actual. *Revista RETOS XXI*, *8*(1).
- Espindola Juarez, M. de la L. (2022). Importancia del desarrollo de la competencia en investigación en el estudiante de nivel superior. *Ingenio Y Conciencia Boletín Científico De La Escuela Superior Ciudad Sahagún*, *9*(18), 36-41. https://doi.org/10.29057/escs.v9i18.8854
- Gallardo, A. A. M., Jaramillo, K. A. C., & García, M. E. L. (2024). Habilidades Investigativas en Estudiantes de Grado en Carreras Pedagógicas. Un Saber Necesario en la Sociedad Globalizada. *Ciencia Latina: Revista Multidisciplinar*, *8*(3), 5877-5899.
- García, H. C., Alfredo, B. S. L., & Ponte, I. F. D. (2021). Estrategias de aprendizaje. *TecnoHumanismo*, *1*(8), 1-20
- Hernández-Sampieri, R. & Mendoza, C (2018). Metodología de la investigación. Las rutas cuantitativa, cualitativa y mixta**,** Ciudad de México, México: Editorial Mc Graw Hill Education, Año de edición: 2018, ISBN: 978-1-4562-6096-5, 714 p.
- Hidalgo Cajo, I. M., Solis Cartas, U., Hidalgo Cajo, B., & Huaraca Morocho, B. C. (2024). El modelo educativo basado en competencias como expresión de calidad en la educación médica superior. *Revista Cubana De Reumatología*, *26*, e1273. Recuperado a partir de https://revreumatologia.sld.cu/index.php/reumatologia/article/view/1273
- Naupas, H., Mejia, E., Trujillo, I., Romero, H., Medina, W., & Novoa, E. (2023). *Metodología de la investigación total: Cuantitativa–Cualitativa y redacción de tesis 6a Edición*. Ediciones de la U.
- Paiz-Malespín, G., JirónGutiérrez, M., & Gutiérrez-Soza, N. (2024). Resignificando el modelo educativo de la universidad comunitaria e intercultural URACCAN. Estrategia y Gestión Universitaria, 12(1), 1-14. https://doi.org/10.5281/zenodo
- Sánchez Rivera, L. E., Cardenas Palacios, L. E., Paltin Pindo, M. K., & Contreras Puco, S. F. (2024). El rol de la investigación en la Educación Superior. *RECIAMUC*, *8*(2), 196-202. https://doi.org/10.26820/reciamuc/8.(2).abril.2024.196-202
- Suárez, I. T., Varguillas, C. S., & Ronceros Morales, C. (2022). Técnicas e instrumentos de investigación. Diseño y validación desde la perspectiva cuantitativa.
- Yuni, J. A., & Urbano, C. A. (2020). *Metodología y técnicas para investigar: recursos para la elaboración de proyectos, análisis de datos y redacción científica*. Brujas. https://ri.conicet.gov.ar/handle/11336/160315