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BEYOND THE COGNITIVE APPROACH IN EARLY EDUCATION, FROM A MODEL THAT IMPACTS TEACHERS' KNOWLEDGE AND PRACTICES

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Summary. The study was oriented to the design and validation of a model of Early Childhood Education second cycle, focused on child development from the perspective of teachers, who are key players in the interaction with children, through curricular and didactic contents and instruments to promote child development. The impact of the model in this process is presented based on teachers who have been trained to assume from the classroom an educational process that takes into account the dimensions of child development beyond the traditional cognitive approach. The role of education and its vital importance in the first six years of life for the construction of synapses in the human brain is highlighted. Methodologically, a quasi-experimental design with a non-equivalent control group was used to intervene in cognitive aspects and practices of the teachers of early childhood education in the second cycle of Nicaragua, in order to favor the potentialities of girls and boys in relation to child development. The results of the intervention in the post-test situation show that the differences are statistically significant in favor of the experimental group, indicating that the program applied has had a positive effect on the aforementioned group of teachers, by transforming their knowledge, know-how and attitude, through theoretical-conceptual training, sensitization and training in pedagogical instruments.

Key words: Faculty, Child Development, Early Childhood Model, Teaching Competencies.

MÁS ALLÁ DEL ENFOQUE COGNITIVO EN LA EDUCACIÓN INICIAL, DESDE UN MODELO QUE IMPACTA SABERES Y PRÁCTICAS DEL PROFESORADO

Resumen. El estudio se ha orientado al diseño y validación de un modelo de Educación Inicial segundo ciclo, centrado en desarrollo infantil desde la perspectiva del profesorado, quienes se constituyen en protagonistas claves de la interacción con la niñez, mediante contenidos e instrumentos curriculares y didácticos para procurar desarrollo infantil. Se presenta la incidencia del modelo en el mencionado proceso a partir de docentes que se han capacitado para asumir desde el aula un proceso educativo que toma en cuenta las dimensiones del desarrollo infantil más allá del tradicional enfoque cognitivo. Se destaca el papel de la educación y su vital importancia en los primeros seis años de vida para la construcción de sinapsis en el cerebro humano. Metodológicamente se utilizó el diseño cuasi-experimental con grupo control no equivalente, realizando intervención en aspectos cognitivos y prácticas del profesorado de educación inicial segundo ciclo de Nicaragua, para favorecer las potencialidades de niñas y niños en relación al desarrollo infantil. Los resultados de la intervención en situación posttest, muestran que las diferencias son estadísticamente significativas a favor del grupo experimental, indicando que el programa aplicado ha ejercido efecto positivo en el mencionado grupo de profesores, a partir de transformar saber, saber hacer y actitudinal del profesorado, por medio de capacitación teórica-conceptual, sensibilización y entrenamiento en instrumentos pedagógicos.

Palabras clave: Profesorado, Desarrollo Infantil, Modelo Primera Infancia, Competencias Docentes.

Introduction

The nature of the interaction process in early education places the teacher in a privileged role to stimulate child development; the space provided by the school, scheduled time, curricular content and interaction with families, constitute exceptional opportunities for this purpose. The present article responds to a broader study on: "Design and application of a model of Early Education second cycle, focused on Child Development", carried out to a sample taken from the national population of public school teachers in Nicaragua, who attend the level of Early Education second cycle, based on previously established criteria.

It addresses the way in which the educational interaction between teachers and children can transcend the traditional cognitive approach, focused on preparing for entry to elementary school and go beyond, assuming with special emphasis the pursuit of child development, from an intentional model to knowledge, practices and attitudes consistent with the vital stage represented by the first years of life of boys and girls, in accordance with the nature of the educational process (Gutiérrez-Duarte and Ruiz-León, 2018).

The present study has considered that teachers, by incorporating knowledge, know-how and attitude, related to the dimensions of child development (CD), as well as appropriate curricular instruments, complemented with guidelines for interaction with mothers, fathers and tutors, to care for children, can modify the process and achieve better results at the level of physical, cognitive, emotional and social dimensions, from the mediation performed in second cycle early childhood education, hence the relevance of these aspects in initial and continuing teacher training (Rodríguez-Fuentes, et al, 2021).

There are several reasons that demonstrate the need to provide adequate and timely care for child development, namely: historical context, social, psychological, health, educational, neuroscience contributions, as well as arguments that show that the shortcomings in terms of proper stimulation, training, care and attention will result in cumulative consequences for the deployment of their potential.

The scientific certainty gathered to date is abundant and unprecedented, expressing consensus that early childhood is a fundamental stage in the development of human beings, while cementing the need for appropriate and timely interventions, taking into account that these "in the early ages condition the scope of capabilities, skills, competencies, learning, health levels, adaptation, among others, throughout the life cycle" (Santi-León, 2019, p.144).

For its part, it is becoming increasingly relevant to link teacher training with their practice and attitude towards the comprehensive education of students (Martínez-Chairez et al, 2020).

Literature review

The previous introduction leads to a bibliographic review of the central aspects addressed in this work, with the aim of providing reference arguments that can support the results of the study presented.

According to Mattioli (2019) the chronology of main events that have shaped the process of making Early Childhood visible in the public debate can be found among others in: Universal Declaration of Human Rights (1948); Covenant on Economic, Social and Cultural Rights, (1968); Covenant on Civil and Political Rights, (1968); Signing of the Convention on the Rights of the Child, (1989); most recently the 2030 Agenda for Sustainable Development Goals.

As knowledge of the importance of early childhood education and its effect on child development advances, there is a growing willingness to act intentionally to invest in and prioritize early childhood education and protection, as well as the need to foster the creation of programs that promote development and learning. However, beyond the compelling scientific evidence on the relevance of early childhood education, putting this vision into practice requires articulating through an educational model the factors and intentions aimed at making education contribute significantly to child development (Agus & Suzani; 2018; Fiske, 2000).

There are multiple factors linked to child development that make up an exciting web of impact in this life cycle; construction of neural connections, timely social investment, environment, quality of interaction in the educational process, among others, which condition the potential results that can be achieved and in which the contribution of the educational process is fundamental (Gutiérrez-Duarte and Ruiz-León, 2018).

According to the United Nations Children's Fund [UNICEF], (2019) "the world is facing a learning crisis, the roots of which lie in the early years of childhood" (p.15) so it urges governments to improve investment in quality education at this stage, obtaining long-term impact, benefiting children, education systems and society as a whole.

Child development requires, as Santi-León (2019) indicates, essentially a social relationship that results in enhancing cognitive, emotional, physical, social and cultural skills and abilities, which will make the individual reach favorable conditions to develop his or her life. Therefore, it is important to pay attention to early education, taking into account the role that the educational process can play in the schooling stage, as well as the context in which it develops.

In the multidimensional fabric that configures initial education, Robledo et al., (2019), state that:

"(...) the teacher is positioned as one of the hinges between the goals set by these policies and their implementation; for this reason, the training of early childhood educators has been postulated as a major challenge when it comes to materializing child care and education". (p.184)

Children's early classroom experiences, in particular their interactions with teachers have in the view of Lippard et al., (2018) implications for their academic performance and behavior, taking into account that these constitute ongoing interpersonal connections that develop over time between teachers and children in the classroom. Therefore, they call for teacher development programs to take into account that establishing relationships with young children requires certain skills that must be included in their training.

Teachers, in general, regardless of their pedagogical training, tend to be guided by paradigms and intuitions built during their pedagogical work, (Lorenzo, M, 2020) so incorporating attitudinal development is important for the change of interaction practices in classrooms.

Studies conducted in Latin America, in relation to continuous teacher training, show that the process impacts both pedagogical knowledge and practice for the improvement of student learning, thus the development of continuing education programs have a positive impact on the pedagogical skills of teachers, which underlines the importance of its inclusion as an educational policy of the states (Aguirre-Canales, et al, 2021)

On the other hand "Teacher training and updating is nothing more than the improvement of their work, which allows a better performance and fulfillment of the pedagogical task" (Pamplona-Raigosa, J. et al 2019, p.25) so any modification of knowledge and practices of teachers has an impact on the interaction with students.

The present study gathers evidence on how teachers improve their mediation in the classroom to ensure child development as they increase their knowledge, relevant instrumental mastery and improve their attitude to achieve it.

Method

The paradigm of the present research is the rational-technological one, which assumes the control of independent variables in the framework of an intervention study, for which a situation has been generated in order to determine how it affects those who participate in it, compared to those who do not, that is, variables are controlled, which involve the application of an intervention program to an experimental group, as referred to by (Hernández-Sampieri, Fernández-Collado, & Baptista-Lucio, 2016).

A quasi-experimental design with a non-equivalent control group was used (García-Gallego, 2002), since we worked with groups formed naturally, and not randomly, in such a way that it allowed us to verify the effectiveness of the application of a program, referred to the cognitive development, practices and attitudes of teachers in relation to child development, to favor the potentialities of girls and boys in the framework of the evolutionary transformation of education in Nicaragua. A pretest and posttest were elaborated and applied to a non-equivalent control group of teachers, and an experimental group was defined for the application of the treatment, focused on raising teachers' competencies, knowledge and practices, so that they would understand and use didactic procedures that, from the process of educational interaction, would enhance child development.

The process followed was developed as follows: first, prior to the application of the program, a pretest study was carried out, based on the difference of means between the experimental group and the control group, in order to determine whether the starting situation in both groups was similar, in order to prevent differences that would invalidate the research; secondly, once the program had been applied to the experimental group, a

difference of means was carried out in the control group in pretest-posttest situation, to determine that no extraneous variables had intervened to modify the initial opinions of the informants in this group, with respect to the posttest analysis; thirdly, an inferential study, difference of means, was carried out between the control group and the experimental group, in posttest situation, to check whether or not there were statistically significant differences. It is emphasized that as in quasi-experimental studies "the type of design lacks a random selection of the members of each group" (Salinas Meruane and Cárdenas Castro, 2009, p. 87).

Formulation of hypotheses

Regarding the formulation of research hypotheses: prior to the analysis of differences in average scores between the experimental and control groups, the following research hypotheses were formulated:

- H₀: There is no statistically significant difference between the pro-mean score of the groups compared.
- H₁: There is a statistically significant difference between the mean scores of the groups compared.

Comparison of the mean scores for this test was performed with a 95 percent confidence interval percentage. That is, with a significance coefficient of less than or equal to 5 percent. Therefore, by rejecting the null hypothesis, it is equivalent to saying that there is a statistically significant difference between the groups compared; otherwise, we accept the null hypothesis (there is no statistically significant difference between the groups compared). By means of tests of comparison of means between groups, we discerned with respect to the condition of the hypotheses, with the objective of assessing whether the intervention in the experimental group has made a difference between the knowledge and practices of this group with respect to those of the control group.

Population and sample

The target population for the research was composed of teachers of Early Childhood Education, second cycle, attending Levels I, II and III, regardless of gender, although it is important to note that 97.4% of the teaching staff at this educational level are women. The selection of the sample was based on a universe of 3,171 teachers, with the following criteria being taken into account for its calculation:

- Early Childhood Education teachers of the regular modality.
- Early Childhood Education teachers from public schools.

The sample was calculated using the online tool "Sample Size Calculator for a proportion (Absolute Margin): <http://www.berrie.dds.nl/calcss.htm>", which enables the calculation of an appropriate sample from established populations, with certain particularities, carrying out an incidental sampling, which allows a selection of the members of the population, both for their location and whether or not they are willing to participate in the research (López-Roldán and Fachelli, 2017). The margin of error of the sample was 5%, with a reliability level of 95% and a probability of selection of 50%.

The selection of geographic departments for the formation of the control and experimental groups was carried out by means of a randomized-probabilistic process, considering for the experimental group that they were accessible for travel when the intervention was carried out. It was ensured that the number of teachers was proportional between the two groups. The sample consisted of 351 teachers, 165 in the control group and 186 in the experimental group.

Instrument design

A Likert scale was designed, "consisting of a set of items presented in the form of statements or judgments, to which participants are asked to react." (Hernández-Sampieri et al., 2016, p. 238), considering the evidence provided by the literature, personal experience of the researcher, reality of the educational processes of Early Education in Nicaragua, as well as coherence with the operational variables. The items were written as statements, both positive and negative, with the scale of measurement ranging from "strongly disagree, 1" to "strongly agree, 5"

The scale was initially composed of 9 dimensions, originally containing 116 items, so that teachers' strengths and weaknesses could be determined based on aspects related to knowledge (updating and knowledge), know-how (application of curricular instruments) and attitude (promotion of motivational and results-oriented processes).

Validity and reliability

The scale was subjected to a validation process as follows: expert judgment assessment (content validity), which made it possible to determine the degree to which the instrument reflects the specific domain of the content of what it measures, using Lawshe's (1975) Content Validity Index (CVI) modified by Tristán (2008). In this index, if 50% of the judges consulted consider each item as "essential", it is assumed to be valid. In this case the CVI calculation determined values between (0 and 1), in an initial correlation between (- 1 and + 1). In the present case, all but twelve of the items achieved a CVI between (0.33 and 1). The calculation of the general CVI of the questionnaire was 0.6, showing that the items of the scale adequately measure the trait it represents, leaving the scale integrated by one hundred and four items

To determine the number of factors of the scale, an exploratory factor analysis (EFA) was carried out using principal components and subsequent varimax rotation, since it provides greater interpretability of the factors, to the extent that it provides a clearer separation between them (Hair et al., 2009), to determine the number of factors, the latent root criterion was used (corresponding eigenvalue greater than unity), using a minimum weight for the correlation of (.5)

A pilot exercise was carried out to identify the initial reliability of the questionnaire by applying it to a sample of 93 early childhood teachers.

The information collected was digitized for factor analysis using SPSS format (Version 2003). The exploratory factor analysis consisted of determining how the selected item-statements measure the expected trait for each dimension.

The process was contrasted using Bartlett's test of sphericity and the Kaises-Meyer-Olkin (KMO) sample adequacy measure, procedures that determine whether the magnitudes of the partial correlations between scale variables are significant. Adequacy by the significance level of Bartlett's test of sphericity ($P=5\%$) and by a KMO measure > 0.8 (Hair et al., 2009). In both cases, Bartlett's test of sphericity: $\chi^2(2016 \text{ gl}) = 7415$, $P = 0.000$ $0 < 0.001$ y medida de adecuación muestral (KMO = 0.815 $>.800$). indicate, respectively, that the null hypothesis is rejected and sample adequacy is met, as shown in Table 1 $<0.001>$.

Table 1
KMO and Bartlett's test

Kaiser-Meyer-Olkin measure of sampling adequacy		.815
Bartlett's test for sphericity	Approx. Chi-square	7415.319
	Gf	2016
	Sig.	.000

The level of variance explained by each dimension of the scale is also observed through the communalities of the dimensions, ranging from $(D_{(5)} = .944 > 479 = D_{(8)})$. That they are adequate.

The construct validity resulted in 8 dimensions and fifty-two items, as presented in Table 2.

Table 2
Varimax rotation

Dimensions	Items	
D-1:	I1, I2, I3, I4, I5, I6, I7	
D-2:	I8, I9, I10, I11, I11, I12, I13, I14, I15, I16, I17	
D-3;	I18, I19, I20, I21, I21, I22, I23	
D-4:	I24, I25, I26, I27, I27, I28, I29, I30	
D-5:	I31, I32, I33, I34, I35	
D-6:	I36, I37, I38, I39 I40	
D-7	I41, I42, I43, I44, I44	
D-8:	I45, I46, I47, I48 I49, I50, I51, I52	
Total variance explained		61.161%

Note: Own elaboration, based on statistical processing of the study data, reflecting the dimensions and items contained in each dimension.

Reliability of the instrument

The overall reliability of the scale presents a $(\alpha = .908)$. Regarding the two halves, the even half contributed an alpha of $(\alpha = .897)$ and the odd half $(\alpha = .875)$, indicating that there is balance of consistency between the two parts and, therefore, there is high stability. Spearman-Brown coefficient = .888, which corroborates the high convergence between the two halves. It has not been necessary to delete any items.

Results

The comparative analysis of the results has been carried out both from the perspective of intra-group analysis, where the results obtained by the Experimental Group in the pretest versus the posttest have been compared separately with the results obtained by the Control Group in the pretest versus the posttest, as well as from the perspective of inter-group analysis, comparing the results of the Experimental Group versus the Control Group in the posttest.

The Likert-type instrument, applied to the teachers of both groups, compiles general information such as age, sex, level attended, among others. Both groups coincide in that they concentrate an average of 67% of teachers between the ages of 30 and 49 years; teachers with more than 7 years of service predominate, reaching an average for both groups of 51.4%. This is followed by faculty with experience of between 4 and 7 years, with an average of 21.8%, and those with less than one year and between 1 and 3 years of service have the lowest proportion.

In the pretest situation, we found relevant results related to:

In general, the averages observed in the Control Group are higher than those observed in the Experimental Group, at the level of the total instrument and by dimensions.

There are no statistically significant differences when years of service are evaluated (teachers with more and less years of service) versus knowledge, know-how and attitude, although the average is higher for those who say they have more years of service. On the other hand, when level of preparation is evaluated (more prepared and less prepared) versus knowledge, know-how and attitude, there is a statistically significant difference in terms of attitude, in favor of those who are more prepared, but not in terms of "know-how" and "know-how". This is very important to consider, because a positive attitude towards something that is not known and, therefore, cannot be applied, denotes a major flaw in teacher training.

Always in the pretest situation, it is found that teachers who have received courses specifically in child development show higher scores than those who have not, however, they do not represent statistically significant differences in this case, as shown in Table 3 below.

Table 3

Mean difference analysis for teachers who did or did not receive Child Development courses, for the characteristics of Knowing, Know-how and Attitude

DIFFERENCE IN AVERAGES: RECEIVED OR DID NOT RECEIVE COURSES IN DES. INF.					
CUDI		N	Media	Standard deviation	Mean standard error
Physical dimension	YES	284	4.	.27903	.01656
	NO	39	4.	.25955	.04156
Cognitive dimension	YES	284	4.	.27149	.01611
	NO	39	4.	.25382	.04064
Emotional dimension	YES	284	4.594	.33603	.01994
	NO	39	4.593	.31652	.05068
Social dimension	YES	284	4.	.32318	.01918
	NO	39	4.	.31118	.04983

INDEPENDENT SAMPLES TEST						
		Levene's test for equality of variances		t-test for equality of means		
		F	Sig.	T	gl	Sig. (bilateral)
Physical dimension	Equal variances are assumed	.013	.909	1.339	321	.181
	Equal variances are not assumed			1.415	50.847	.163
Cognitive dimension	Equal variances are assumed	.216	.642	1.	321	.247
	Equal variances are not assumed			1.	50.710	.228
Emotional dimension	Equal variances are assumed	.796	.373	.013	321	.990
	Equal variances are not assumed			.013	50.511	.989
Social dimension	Equal variances are assumed	.029	.865	.245	321	.807
	Equal variances are not assumed			.252	49.944	.802

As can be seen, the mean of teachers who say they have received courses in Child Development is higher for all three characteristics, when compared to those who say they have not received courses in Child Development. However, the bilateral significance coefficient shows that in none of the cases is the test less than five percent, i.e., the difference in the means between teachers who receive courses and those who have not received such courses is statistically insignificant.

When assessing origin (working in the capital city of Managua or in another geographic department), the difference is statistically significant in the three levels:

knowledge, know-how and attitude, in all cases in favor of teachers working outside Managua.

In the context of the pretest, there are statistically significant differences between the Experimental and Control groups when knowledge, know-how and attitude are assessed; this difference is in favor of the teachers in the Control Group. The intervention focuses on increasing the knowledge and practices of the teachers of the Experimental Group. In this sense, teacher training has been aimed at underpinning three basic competencies for the application of the model: Appropriation of the nature of child development and its importance in early education; mastery and management of the adjusted curriculum, based on dimensions of child development, didactic guidelines for interaction with children in the second cycle of early education; mastery of the protocol for interaction with families.

Pedagogical mediation strategies were applied that allowed feedback in both ways to strengthen teachers' classroom practice. During the implementation process, the teachers showed growing enthusiasm for learning and richness of interaction with children and families, while the families of the students of the schools involved in this study were open and interested in interacting with the teachers for the development of children's potential.

Results in post-test situation:

Once the intervention was concluded and the post-test was applied and processed, it is evident that the results obtained by the Experimental Group after the intervention in this group show an increase in the knowledge and practices of the teachers as a result of growth in knowledge, know-how and attitude, linked to the dimensions evaluated in the instrument.

As shown in Table 4, the average score observed in the knowledge, know-how and attitude of the instrument, result in average scores above 4, i.e., on average, the teaching staff achieves a high mastery of the topics associated with Child Development.

Table 4

Statistical significance analysis: Comparison of average scores based on Knowledge, Know-How and Attitude (Posttest vs Pretest Control)

COMPARISON OF POST-TEST MEANS: Experimental vs Control			
Definition	Group	Media	T-test for equality of means Sig. (bilateral) ^{1/}
Total instrument average	Experimental	4.	0.
	Control	4.	
Average knowledge	Experimental	4.	0.
	Control	4.	
Average know-how	Experimental	4.	0.
	Control	4.	
Average attitude	Experimental	4.	0.
	Control	4.	

Note:

H0: There is no statistically significant difference between the mean scores of the groups.

H1: There is a statistically significant difference between the mean scores of the groups.

1/: The following is a list of the (bilateral) must be less than or equal to 5% (0.05) to reject H0.

Source: Own elaboration.

The teacher's attitude was the one that experienced the greatest increase in average score after the intervention. The mean differences between the control and experimental groups in the post-test situation were statistically significant, which confirmed the impact of the applied program on the improvement of the teachers in the experimental group.

Discussion and conclusions

The validity of the treatment applied to teachers has been contrasted through the quasi-experimental study carried out through this research, with a very large sample of teachers of the educational level of reference, who have been protagonists of a training process that enables important teaching competencies for this educational level, in addition to the design, validation and pedagogical mediation, placing children at the center, which is considered relevant for the achievement of a model that, from its curriculum, didactics, teacher training, interaction with families, role of school managers and design of environments, promotes development of the dimensions of child development, within the framework of the nature of the educational process, taking into account that the strategies applied in the classroom are closely related to the training and qualification of teachers (Pamplona-Raigosa, J. et al 2019).

The study has made it possible to identify teachers' strengths and weaknesses in terms of knowledge, practices and attitudes to ensure child development, which is relevant for the design of the country's early childhood education model. The positive effects that the intervention has implied are highlighted, based on the variable knowledge

of the teaching staff, in this way the increase in knowledge and practices allows a social relationship that results in enhancing cognitive, emotional, physical, social and cultural skills and abilities for life (Santi-León 2019).

The teachers of the experimental group in the post-test situation showed a greater mastery of elements that allow the empowerment and stimulation of child development in the four dimensions: Physical, Cognitive, Emotional and Social (Rodríguez-Fuentes, et al, 2021), as well as the respective curricular treatment, showing a better attitude in the educational interaction, thus compensating one of the deficiencies detected in the pretest situation, the experimental group having surpassed the control group in the posttest situation, which shows that the training of these teachers, through the applied program, allows them to contribute decisively to the development of the children in their charge (Fiske, 2000).

It should be noted that the application of the program has not only improved the theoretical knowledge of the teachers in the experimental group, but has also enabled them to put it into practice in the classroom (Robledo et al., 2019), generating statistically significant differences, favorable to the experimental group, with respect to attitudinal "knowledge", "know-how" and "favorable dispositions" (Rodríguez-Fuentes, et al., 2021).

In the pretest situation, the control group presented higher scores than the experimental group, with average scores higher than those of the experimental group, with statistically significant differences in favor of the control group, in terms of knowledge, know-how and attitude, taking into account that the composition of the control and experimental groups was randomly-probabilistic and establishing as the only criterion in the case of the experimental group, that they were accessible at the time of the intervention.

This implied that in the selection of the geographic departments, teachers from the capital city of Managua were included in the experimental group, thus influencing the demographic factor, given that teachers who work outside the capital city show statistically significant differences in knowledge, know-how and attitude in relation to those who work in Managua, in favor of those who are located in schools in the interior of the country, which is not associated with the model applied and should be studied in depth in subsequent and specific studies for this phenomenon.

However, in the post-test situation, after applying the intervention, the differences have been statistically significant in favor of the experimental group, which shows important changes from the conceptual training, awareness, attitudinal promotion and training in pedagogical instruments, which have improved the performance of teachers to ensure child development. This indicates that relevant and contextualized refresher courses lead to "greater commitment on the part of teachers who, being directly involved with their own reality, allow them to re-signify and re-dimension their own classroom practices" (Lorenzo, M, 2020, p.18).

Another relevant aspect in the pretest situation was the evidence regarding the average score, which, although higher among those with more years of service, did not represent statistically significant differences. In other words, time alone does not determine an increase in knowledge, know-how and attitude, as pointed out by Martínez-Chairez et al. (2020) in a previous study "there is no relationship between teacher performance and the number of years the teacher has worked in the institution" (p. 17),

Always in the pretest situation, it was found that the more studies accumulated by the teachers, the greater the attitude to promote Child Development, this was evidenced by a statistically significant difference; however, this is not the case in relation to knowledge and know-how, which reiterates the need to deepen the design and contents

of teacher training, which according to these results presents deficiencies in terms of knowledge and instruments for pedagogical practice. Attitude is important since it is transversal, conditions the teacher's role in the classroom and should be taken into account in the design of different pedagogical initiatives (Hernández-Ramos, J and Martínez-Abad, F, 2021), given the importance of integrating teachers' perceptions. However, there must also be consistency with what is known and what is done, since it is not enough to have teachers with a good attitude, but with deficiencies in knowledge and practices in the classroom.

In the pretest, it was found, as mentioned in the results, that teachers who have received courses specifically in child development show higher scores than those who have not received them, however, they do not represent statistically significant differences. This draws attention to the design of the courses taught to teachers, suggesting that to achieve better results it is necessary that their contents include, in addition to concepts and beyond the cognitive, relevance in relation to curriculum, didactics, instruments and awareness of the teaching role.

These coincidences about shortcomings in teacher training in general, invite to review the quality and congruence with the results that are proposed to be achieved as a result of educational interaction in classrooms, which allows to deduce not only the importance of training teachers in knowledge, but also in know-how, aiming at the development of specific skills for the management of the curricular and didactic field, as well as knowledge of family realities and ability to guide families in different situations, as pointed out by Robledo et al., (2019)

When comparing the results of the pretest versus posttest control group, in order to define whether there were statistically significant differences in the results of the group for both evaluations, the difference in the scores obtained by the control group in the pretest versus the posttest was observed by means of the evaluation of the bilateral significance coefficient, reflecting that in all cases the coefficient is greater than 5 percent (0.05), so we can conclude that the null hypothesis (H_0) cannot be rejected, which indicates that there are no statistically significant differences between the scores obtained by the control group in the posttest versus the pretest, and consequently, no extraneous variables have influenced.

This result corroborates the fact that the control group, not having been subjected to any type of intervention, the results in the post-test situation are very similar to those in the pre-test situation; therefore, no extraneous variables have intervened. The control group continued to carry out the educational process in the classroom under the same conditions in terms of sociodemographic variables, without modifying the independent variable knowledge, especially those referring to elements to enhance the dimensions of child development in their interaction with children, likewise the dependent variables pedagogical practices and teacher attitude have not been altered by not receiving the training that was applied in the intervention to the experimental group.

The results of the post-test, once the intervention was carried out, reflect an increase in knowledge, know-how and attitude on the part of the teachers of the experimental group, in terms of procuring child development, being the teaching attitude the one that reflects a higher score, in relation to pretest data, showing the potential that the model has to channel the interaction with students.

The statistical significance analysis between the difference of average scores by dimensions obtained by the experimental group in pretest and posttest situation and the bilateral significance coefficient in the comparison of means for knowledge, know-how and attitude allowed rejecting the null hypothesis H_0 , since there are statistically significant differences between the average scores obtained by this group.

The research concludes by accepting the alternative hypothesis_{H1}, which states that the difference between the means of the control and experimental groups is statistically significant in favor of the experimental group, so that the intervention carried out has caused improvements in the experimental group.

Regarding the methodological limitations, two aspects are considered, the first one referring to the fact that the equivalence between the groups has only been determined in terms of their initial training in terms of how they train the children, but a longitudinal-historical analysis of the initial training of the teachers and their psychological profile has not been considered: personality, vocational sense, nor commitment to teacher training and professional identity, the second is related to the possibility of having conducted a hybrid study, QUANT- and QUALI-, which would have allowed in the results to carry out a process of methodological triangulation between results of the qualitative and quantitative study, which would have clarified situations described in the questionnaire, through narratives of the teachers.

It is considered important to take this study as a baseline for expanding the application of the Nicaraguan Model of Early Education and subsequent longitudinal studies on the evolution of knowledge, know-how and attitudes in pursuit of child development from the interaction generated in the classroom.

In prospective, it is important to indicate that the involvement of key areas of the Ministry of Education of Nicaragua such as the Directorate of Teacher Training and Early Education has generated awareness in the institution about the relevance of incorporating in the initial and continuing teacher training contents extracted from this process such as general knowledge of child development, neuroscience applied to education and life cycles, complemented with attitudinal treatment, as well as the need to make curricular adjustments, with emphasis on didactics for the stimulation of dimensions of child development, reinforced from mediation and the development of a new curriculum, neuroscience applied to education and life cycles, complemented with attitudinal treatment, as well as the need to make curricular adaptations, with emphasis on didactics for the stimulation of child development dimensions, reinforced by mediation and pedagogical accompaniment in classrooms. The good climate in the class groups, the motivation of the children's families and the enthusiasm of the teachers of the experimental group demonstrate the potential of implementing and sustaining actions to bring the educational process closer to the intentions of the children's integral development.

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