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Artículos científicos

# Formación del profesorado ecuatoriano en autismo y asperger

Training of Ecuadorian teachers in Autism and Asperger
Formação de professores equatorianos em autismo e asperger

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#### Resumen

El presente trabajo pretende relatar la experiencia de formación que supuso la implementación de un módulo de sensibilización para la atención de estudiantes con trastorno generalizado del desarrollo (autismo y asperger) dirigido al profesorado de educación básica media y elemental de una institución educativa en Santo Domingo (Ecuador). En el módulo se plantearon los siguientes temas principales: conceptualización, diagnóstico, características y estrategias para atender a estudiantes diagnosticados con autismo y asperger. La investigación fue de corte cualitativo, aunque también se utilizaron técnicas cuantitativas para el análisis de datos, mientras que el diseño fue no experimental. Se aplicaron encuestas a 15 docentes de la educación básica media y elemental en dos momentos (pretest y postest) para conocer el impacto del referido módulo, denominado *Atendiendo a la diversidad sin exclusión*, el cual procuró fomentar una cultura inclusiva en la institución desde el reconocimiento de ese trastorno. Entre los resultados principales se pueden mencionar la



necesidad de formación docente actualizada sobre estrategias y metodologías de atención a estos estudiantes, así como la ausencia de una cultura inclusiva que reconozca los valores que aportan a la sociedad como consecuencia de una aparente cultura escolar asistencial. En cuanto a las conclusiones, se puede decir que en los participantes se reflejaron dificultades referidas a la identificación y diferenciación de los distintos trastornos, así como sobre el reconocimiento de las aportaciones que estas personas pueden realizar a la sociedad y a su grupo de iguales. En síntesis, se evidencia una predominante visión asistencial etnocéntrica e incompatible con una cultura educativa inclusiva.

**Palabras clave:** cultura, educación, evaluación, exclusión social, juicio de valor, formación.

#### Abstract

This paper intends to relate the training experience involved in the implementation of a sensitization module for the attention of students with Generalized Developmental Disorder (Autism and Asperger) aimed at teachers of elementary and elementary basic education, of an Educative Institute in Santo Domingo de los Tsáchilas (Ecuador). In the module they are raised as main themes: conceptualization, diagnosis, characteristics and strategies to work with Austism and Asperger' students diagnosed with Autism and Asperger. A qualitative investigation is carried out in which quantitative techniques were used for data analysis, with a non-experimental design; Surveys were applied to 15 teachers of elementary and basic education, in two moments (pretest and posttest) in relation to implement an Attending to Diversity without exclusion module with the aim of fostering an inclusive culture in the center since the recognition of this Disorder. Among the main results we can mention: the need for up-to-date teacher training on strategies and methodologies of attention to these students, and the absence of an inclusive culture that recognizes the values they contribute to society as a result of an apparent school attendance culture; In the same way, among the essential conclusions to mention: difficulties were identified and also differentiate many disorders, and in the recognition of the contributions that these people can make to society and its peer group, colliding in a predominant care vision ethnocentric, incompatible with an inclusive educational culture.

**Keywords:** culture, education, evaluation, social exclusion, value judgment, training.





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#### Resumo

O presente trabalho tem como objetivo relatar a experiência de formação que envolveu a implementação de um módulo de conscientização para o atendimento de alunos com transtorno invasivo do desenvolvimento (autismo e Asperger) dirigido a professores do ensino fundamental e médio de uma instituição de ensino em Santo Domingo (Equador). No módulo foram levantados os seguintes tópicos principais: conceituação, diagnóstico, características e estratégias para atender alunos com diagnóstico de autismo e asperger. A pesquisa foi qualitativa, embora técnicas quantitativas também tenham sido utilizadas para a análise dos dados, enquanto o delineamento foi não experimental. Foram aplicadas pesquisas a 15 professores do ensino fundamental e médio em dois momentos (pré-teste e pós-teste) para conhecer as repercussões do referido módulo, denominado Atendendo à diversidade sem exclusão, que buscou promover uma cultura inclusiva na instituição a partir do reconhecimento daquele transtorno. Dentre os principais resultados, podemos citar a necessidade de uma formação docente atualizada sobre estratégias e metodologias de atenção a esses alunos, bem como a ausência de uma cultura inclusiva que reconheça os valores que eles contribuem para a sociedade em decorrência de uma aparente cultura de atendimento escolar. Quanto às conclusões, pode-se dizer que os participantes refletiram dificuldades relacionadas à identificação e diferenciação dos diferentes transtornos, bem como ao reconhecimento das contribuições que essas pessoas podem dar à sociedade e ao seu grupo de pares. Em resumo, uma visão etnocêntrica predominante do cuidado é evidente e incompatível com uma cultura educacional inclusiva.

Palavras-chave: cultura, educação, avaliação, exclusão social, juízo de valor, treinamento.

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# Introduction

The current situation of inclusive education requires personalized attention that demands human resources trained in training and evaluation. In this sense, the reality of autism and Asperger's is one of the tasks that must be faced by any inclusive education policy (Beltrán, Martínez and Vargas, 2015; Durán and Giné, 2011), with a legal relevance in Ecuador that can be verified in the measure that aspires to a society of good living (Lara and Gestner, 2016; Lara and Jaramillo, 2019; Villagómez and Cunha de Campos, 2014).

In this sense, the right to education is enshrined in the United Nations Declaration of Human Rights, but its validity requires continuous discussion and reflection on its implementation in line with the 17 sustainable development goals (ODS) proposed by the United Nations Development Program. In fact, the fourth of these objectives refers to quality education, because by the year 2030 it seeks to "guarantee inclusive and equitable quality education and promote lifelong learning opportunities for all" (ODS, 2017, p. 7), that is, the educational community made up of parents, institutions, teachers, the media and society in general.

Along these lines, a proposal for a critical approach is provided by inclusive education --as mentioned by Correa Montoya and Rúa (2018) -, in which it is stated that "the educational environment is the one that must offer a differentiated response and adapt to the educational needs of people, within the regular educational system and in the company of teachers and other students with and without disabilities" (p. 100).

In Ecuador, the Ecuadorian Ministry of Education (from now on Mineduc) in 2017 approved the agreement number MINEDUC-MINEDUC-2017-00022-A in order to address inclusion as an educational horizon. In this way, it was established in the literal or one of the obligations of the State, that is, "to elaborate and execute the curricular adaptations necessary to guarantee the inclusion and permanence within the educational system of people with disabilities, adolescents and young pregnant women" (p. 1); However, this challenge implies the commitment of a process of cultural change that allows the incorporation of the participation of the diversity that each person offers. With this aim, different authors (García and Hernández, 2016) are committed to strengthening this objective through the training and promotion of an inclusive educational culture (Cruz Vadillo, 2018; Mogollón and Falla, 2014), of recognition and attention of the realities of people with autism and asperger.



For greater abundance, the Ecuadorian legal system poses a novel scenario in terms of education (Córdova, Lara and García, 2017; Lara, 2019a, 2019b; Lara and De la Herrán, 2016; Lara, De la Herrán and Arévalo, 2019; Lara, Sousa, De la Herrán, Nieto, and Gerstner, 2017), since the model proposed by inclusive education (De la Herrán, Ruiz and Lara, 2018) is established as a model to follow, which has meant an important change in the educational culture of the country (with the prudence that any movement of change requires) and in the definition of its next horizons. Thus, for example, the Organic Law of Intercultural Education (2017) establishes in its article 47 that "both formal and non-formal education will take into account the special educational needs of people in the affective, cognitive and psychomotor aspects" (p. 40).

In Ecuador, the presence of students with these personality disorders is found in 0.28% of students under 5 years of age, and 1.7% between 6 and 14 years of age (Ministry of Public Health of Ecuador, 2017); Thus, there is constant concern about teacher training and updating in the care of these students, and the possibility of reversing their experience in the classroom and in the educational center. Different studies carried out, such as the one by Viloria (2016) or Granada, Pómes and Sanhueza (2013), who affirm that "in general teachers do not feel competent or comfortable teaching children with different SEN" (P. 56).

According to the Diagnostic and Statistical Manual of Mental Disorders (hereinafter DSM-IV) (American Psychologycal Association, 2014), pervasive developmental disorder as (henceforth PDD) constitutes "a serious and generalized disturbance of several areas of development: abilities for social interaction, communication skills or the presence of stereotyped behaviors, interests and activities "(p. 69); On the other hand, PDD is also defined as a serious and generalized alteration in different areas of development, such as difficulty in the social sphere, communication problems (understanding of verbal and nonverbal language), repetitive behaviors and poor mental flexibility (Aguirre, Álvares, Angulo y Prieto, 2014).

People with autism show alterations in some of their psychological qualities, be they affective, communication or motor. The researchers Chicon, Oliveira, Garozzi, Coelho and Carvalho (2019) express that "studies have revealed that Autism is understood as a behavioral syndrome and characterized by deficits in social interactions, linguistic and behavioral OES alteration" (p. 170). As a complement to the previous definition, the Institute for Technological Evaluation in Health (2015) defines it as "a chronic neurological dysfunction



with a strong genetic basis that from an early age manifests itself in a series of symptoms based on the Wing triad that includes: communication, flexibility and imagination and social interaction "(p. 29). Autism, therefore, is one of the most complex and serious developmental disorders, as it has characteristics that affect the individual's social and learning areas:

Has been characterized by a lack of understanding and a limited production of implicit meanings in conversation; in other words, people with Autismo have particular weaknesses in areas of non-literal meaning (e.g., figurative or metaphorical expressions, humor, irony or sarcasm) and tend to use words and expressions literally (Rodríguez, 2019, p. 54).

On the other hand, Asperger's is a derivation of autism with certain similarities, but also differences: one of them is that people with autism have language difficulties, unlike students with Asperger's. The American Psychiatric Association (cited by Vives and Ascanio, 2012) defines it as "a generalized developmental disorder characterized by a qualitative alteration of social interaction, by the presence of restrictive interests and stereotyped behaviors" (p. 402). People with Asperger syndrome (from now on AS) present very noticeable characteristics in terms of their personality, such as difficulty in executive functions, repetitive speech patterns, peer relationship problems, mental and behavioral inflexibility, alteration of emotional expression and motor among others (Mineduc, 2016).

Asperger's and autism (from now on ASD) are treated in many cases as similar disorders; However, there are substantial differences related to gross motor skills, motor coordination and fine motor skills, characteristics that are present in people with Asperger's, but that are difficult to find in patients with autism (Pérez and Martínez, 2014). People with pervasive developmental disorder (autism and Asperger's), although they have singularities such as those described, possess essential abilities that must be assessed correctly so that they can become strengths for these individuals.

In this regard, Rey and García (2018) highlight the capacities that people with this condition have: sincerity, meticulousness, attention to detail, logic, honesty, curiosity, competence in mechanical and repetitive tasks, ability to listen without prejudice, among others.

In this context, teacher training is key to the formation of an inclusive culture that fosters positive reciprocal interactions between students with PDD and the different members of the educational community. Thus, Larraceleta (2020) defends a programmatic sequence



specified in a planning stage, another of implementation and, finally, an evaluation, focused on the development of social and academic skills necessary for the development of their lives.

The relevance of teacher training and their continuous training in the face of PDD is a conclusion of the study carried out by Zambrano and Orellana (2018), who highlight the need to promote the skills and attitudes that are essential to respond to the educational demands of a child with autism. In the same way, their continuous training is essential to create a space for continuous updating of teachers who regularly face new needs.

People with PDD are capable of contributing values to society, as indicated in previous lines; thus, although they may be perceived negatively by those around them, their main value is usually honesty. Any educational institution that wants to propose an inclusive education needs to foster a cultural panorama that promotes the essential values; In this work, their identification and recognition in relation to the values that these students can contribute is essential; otherwise, the educational culture would become vitiated by ethnocentric welfare content (Lara, 2019a, 2019b; Lara y De la Herrán, 2016).

Mazzer (2015) In his guide to inclusive education, he divides values into three groups: some emphasize structures (equality, rights, participation, community and sustainability), others on the relational character (respect for diversity, non-violence, trust, compassion, honesty and courage) and others in the spiritual (joy, love, hope and optimism and beauty).

In this work, as Picardo, Miranda, Escobar and Olivia (2014) point out, "the adaptation to the rhythms, potentials and aptitudes of students with Autism requires individualized educational planning in which long, medium and short objectives are established. terms "(p. 112). Likewise, in the Teacher Support Manual issued by the Chilean Ministry of Education (2010) the following is considered: "The adaptations of strategies will be in the teaching-learning process, they must be real, experiences and concrete" (p. 64). This same manual lists various learning strategies for students with autism: intensive and consensual support with parents and professionals, simple and clear language, pursuing the students' attention as a prior step to any communication, complementary use of gestures to support communication. oral, strengthen teaching through experiences with the concrete and the everyday, among others.

Among the silver methodological strategies, the use of didactic resources is required to facilitate their execution. Likewise, in the aforementioned Teacher Support Manual of the Ministry of Education of Chile (2010), it is stated that the choice of teaching resources and



materials should be followed according to a series of criteria such as the following: that they report on the requested activity, use of the material in a constant and coherent way, adapted to the chronological age of the student, manageable and easy to recognize.

After the above, in the present work it is intended to share an experience of teacher training carried out in Santo Domingo de los Tsáchilas (Ecuador), specified in a module entitled Attending to diversity without exclusion in an educational unit. The objective was to promote an inclusive educational culture of recognition and attention to the reality of TGD aimed at the educational community, especially teachers. The problem with this research arose from the poor training that teachers have about these disorders, which are often present in classrooms.

In this module, topics such as the following were worked: values that students with autism and Asperger's contribute to society, characterization and identification of autism and Asperger's, conceptualization of personality disorders and application of strategies according to these disorders. The methodology used was based on cooperative learning and flipped classroom; We also worked under the modality of group forum in order to share the experiences lived by teachers with stories whose protagonists are students with autism spectrum disorder or Asperger syndrome.

# Materials and methods

A qualitative investigation was carried out in which quantitative techniques were used for data analysis. The design was non-experimental. The explanatory type research was aimed at responding to the causes and physical or social phenomena, while the descriptive one focused on the events to later organize, tabulate and describe them (Abreu, 2013); finally, for the evaluation of the information and data collected, a statistical analysis was performed using the Excel program.

Likewise, a survey was applied at two different times: 1) prior to the completion of the module on the TGD included in the training - called Attending to diversity without exclusion, which tried to promote an inclusive culture in the educational center from the recognition of this disorder—, and 2) after developing the aforementioned module. The survey was prepared taking into account the main deficiencies shown in the initial evaluation, and was validated by experts.



The population was made up of 40 teachers from a private educational unit in Santo Domingo de los Tsáchilas (Ecuador). This institution offers the following levels of education: initial, preparatory, basic elementary and middle and unified general baccalaureate. The sample - made up of 15 teachers - was non-probabilistic, since the sub-level of education with which we worked was chosen intentionally (Otzen and Manterola, 2017). To collect information and data, a survey was applied to the 15 teachers of the elementary and middle basic sub-levels, as can be seen in table 1, with 73% women and 27% men; 40% are between 18 and 27 years old, and 60% are between 28 and 37 years old; finally, in terms of their training, 93% of teachers have third-level studies belonging to the area of education.

**Tabla 1.** Datos informativos de los participantes

Edad	Entre 18-27 años	6 (40 %)			
	Entre 28-37 años	9 (60 %)			
	Entre 38-47 años	0 (0 %)			
Sexo	Masculino	4 (27 %)			
	Femenino	11 (73 %)			
Años de	Menos de 1 año	0 %			
experiencia	1-5 años	10 (67 %)			
	6-10 años	3 (20 %)			
	11-15 años	2 (13 %)			
Nivel de	Tercer nivel	14 (93 %)			
educación	Cuarto nivel	1 (7 %)			
Área de formación	Educación	14 (93 %)			
	Otras áreas	1 (7 %)			

Fuente: Elaboración propia



# **Results**

The data collected before and after the implementation of the training module showed general features (with the caution that this analysis requires in the short term) in terms of knowledge of the conceptualization of autism and asperger disorder, understanding of the nature of its needs, as well as teaching strategies and curricular adaptations, and the disposition and recognition of the values that they can contribute to society.

Regarding the conceptualization of this disorder, it was found that approximately half of the teachers were not familiar with the definitions provided by the DSM-IV (2014): that is, PDD (53%), ASD (47%) and SA (60%). However, once the proposed training is implemented, an improvement of 13% (TGD), 27% (TEA) and 20% (SA) can be obtained (see table 2).

Tabla 2. Resultados del pretest y postest: conceptualización

PREGUNTAS	PRETEST					POS			
	FRECU ENCIA		PORCENT AJE		FRECU ENCIA				PORCEN TAJE DE AVANCE
	C	Ι	C	I	C	I	C	I	%
Concepto del TGD	8	7	53 %	47 %	10	5	67 %	33	13 %
								%	
Concepto del TEA	7	8	47 %	53 %	11	4	73 %	27	27 %
								%	
Concepto SA	9	6	60 %	40 %	12	3	80 %	20	20 %
_								%	

Fuente: Elaboración propia C: respuesta correcta I: respuesta incorrecta

Another aspect evaluated was the characterization of autism and Asperger's, because after tabulating the pretest (see table 3) it was determined that more than 50% of the teachers evaluated were unaware of issues related to the identification of the general and specific characteristics of these disorders. However, at the time after the application of the sensitization module, a 27% improvement was obtained in terms of recognition, which shows greater difficulty in the specific characteristics of AS with limited progress.



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**Tabla 3.** Resultados del pretest y postest: características del TEA y SA

PREGUNTAS		PRETEST			POSTEST					
	FRE	FRECU		PORCENT		FRECU		CENT	PORCENT	
	ENG	<b>ENCIA</b>		ENCIA AJE		ENCIA		AJE		AJE DE
									AVANCE	
	C	I	C	Ι	C	I	C	I	%	
Características que	7	8	47 %	53 %	11	4	73 %	27	27 %	
corresponden al SA								%		
Características que	6	9	40 %	60 %	10	5	67 %	33	27 %	
corresponden al TEA								%		
Características	8	7	53 %	47 %	12	3	80 %	20	27 %	
específicas que								%		
corresponden al TEA										
Características	8	7	53 %	47 %	9	6	60 %	40	7 %	
específicas que								%		
corresponden al SA										

Fuente: Elaboración propia

On the other hand, part of the teachers' knowledge about curricular adaptations and methodological strategies to interact with students with AS and ASD was evaluated in the pretest (see table 4). In this regard, a percentage of incorrect answers of 80%, 73% and 80%, respectively, was obtained. After the application, improvements of 40%, 33% and 47% were obtained on this subject.

Tabla 4. Resultados del pretest y postest: adaptaciones y estrategias

PREGUNTAS		PRI	ETEST			PO			
	FRECU ENCIA		PORCENT AJE		FRECU ENCIA		PORCENT AJE		PORCEN TAJE DE AVANCE
	C	I	C	I	C	I	C	Ι	%
Adaptaciones curriculares: TEA y SA	3	12	20 %	80 %	9	6	60 %	40 %	40 %
Estrategias metodológicas para trabajar con estudiantes con SA	4	11	27 %	73 %	9	6	60 %	40 %	33 %
Estrategias metodológicas para trabajar con estudiantes con TEA	3	12	20 %	80 %	10	5	67 %	33 %	47 %

Fuente: Elaboración propia



Finally, the teachers were evaluated on the perception towards the values that students with autism and Asperger's can contribute to society, and on the identification of those values; in the first case, high correct percentages were obtained in the first question (93%) destined to the positive perception of these students in educational institutions; However, in the second question asked about their recognition, the majority of them were unable to identify them, with only 27% correct answers. After the implementation of the module, it was possible to perceive a greater identification competence, although moderate, with only 33% (see table 5).

**Tabla 5.** Resultados del pretest y postest: valores que aportan las personas con autismo y asperger

PREGUNTAS	PRETEST					PO			
		FRECU ENCIA				ECU CIA	PORCENT AJE		PORCEN TAJE DE AVANCE
	С	Ι	С	I	C	I	C	I	%
Percepción sobre los valores que las personas con autismo y asperger pueden aportar a la sociedad	14	1	93 %	7 %	15	0	100 %	0 %	7 %
Identificación de posibles valores de las personas con autismo y asperger	4	11	27 %	73 %	9	6	60 %	40 %	33 %

Fuente: Elaboración propia

# **Discussion**

The following section aims to analyze and discuss the results obtained in order to recognize the weaknesses and strengths of teacher training on the care of students with PDD (autism and asperger) in an educational institution, as well as to verify the possible impact on the formative identity of the teaching staff to which the module Attending to diversity without exclusion was addressed.

In this sense, it was perceived that although there is a positive self-perception of teachers about their knowledge for the care of students with autism and Asperger's, it seems to contradict the scarce resources that they demonstrated to control, related to the use of curricular strategies and adaptations. This corroborates what De la Herrán (2019) warns that



teacher training is an essential aspect to reduce the ego in teachers and their tendency to question it for updating and improvement. In the case of autism and Asperger's, the awareness module proposed starts from the identification of the deficiencies in teacher training around this disability. This educational need responds to what was stated by Granada et al. (2013), who defend focusing part of teacher training on issues such as autism and asperger.

In line with the above, it was found that most teachers give greater importance to adaptations in the curriculum (development of skills), and not to the process; In this way, it seems that they work with a uniform and partial nature, since not all people with autism and Asperger's have intellectual disabilities or intellectual learning problems, as Picardo et al. (2014), who defend personalized attention. Another relevant aspect that should be discussed in this research is the difficulty of differentiating between autism and Asperger's, since a large part of the teachers do not distinguish between them; In this sense, exclusionary care practices can be promoted, as indicated by Pérez and Martínez (2014).

On the other hand, 93% of teachers consider that people with autism and Asperger's are capable of contributing values to society, although they do not know what they could be. In this sense, there seem to be speeches tending to the immaturity of academic opinion insofar as it does not integrate specifics that justify it, insofar as healthcare speeches are reproduced without a correspondence of responsibility with everyday reality. However, it is worth mentioning that a quarter of teachers identify various values that they can contribute to society, which corresponds to what was explained by Mazzer (2015).

Now, after observing the results of the pre-test - which shows a low level of knowledge about the TGD -, the application of an awareness module aimed at the teachers of the selected school was proposed with the aim of promoting an inclusive culture by attending to to the reality of these people and to the development of their personality.

This module could contribute (with the prudence that the concretion requires) to the formation and awareness about the reality of the Asperger's and autism; In this way, the majority of teachers were able to admit that people with these disorders are also capable of contributing values to society; Likewise, a large number of teachers recognized the values and contributions of these people in the final evaluation, which coincides with what was stated by Rey and García (2018). However, the absence of practices that could be transferred from theory to everyday reality was the greatest limitation to this training proposal.



Another important contribution of this module was found in the progress of teachers towards the recognition of methodological strategies to serve students with autism and Asperger's disease, as well as in the understanding that curricular adaptations must respond in most cases to certain rhythms, potentialities and aptitudes defined according to the needs of these students, instead of the dosage of the content, as pointed out by Picardo et al. (2014). Finally, another vital element was the improvement of teachers in terms of the conscious differentiation between autism and Asperger's.

# **Conclusions**

After analyzing the data collected, it can be concluded that the participants have a low level of knowledge about strategies to work with students with autism and Asperger's disease, since a high range of incorrect answers was obtained in the previous evaluation referred to i) if adaptations were necessary. curricula to students with autism and aspergers, ii) mention types of methodological strategies to work with these students, and iii) select appropriate strategies to work with children with autism and aspergers.

With these data, an intervention proposal was made that consisted of the elaboration and implementation of a module designed not only with the objective of training teachers in relation to the realities and attention required by students with PDD, but also with the in order to improve the teaching work in the teaching-learning process, and to promote a favorable attitude and appreciation of the values that they can contribute. In this sense, during the five intervention sessions that were planned, the teachers showed a positive predisposition towards the module and the topics that were discussed, as well as towards the active methodologies in the classroom that were proposed, such as cooperative learning and flipped classroom.

In fact, after the application of the intervention proposal, a post-test was applied with the aim of evaluating the knowledge acquired by the participants about the reality of the PDD. The results were favorable, since a significant increase was detected in the correct answers in the subjects where the teachers presented more deficiencies.

In summary, although the vision of a supportive educational culture is appreciated in most teachers, the teacher training that could be carried out proposed a reflection on responsibility with these students.



## **Contributions to future lines of research**

Some lines of research may be the following:

- Make visible the contributions that different students with PDD can make to the educational unit and their community.
- Propose training on the teaching ego and its relationship with the training of teachers in inclusive education.
- Incorporate groups such as families, members of the administration and services, as well as authorities of the institution into the training processes.

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