

ARTICLES

Kindergarden teacher training for inclusion of students with special educational needs: a collaborative research¹

Formação de professores de Educação Infantil para inclusão de alunos com necessidades educacionais especiais: uma pesquisa colaborativa

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Abstract: The aim of this article is to describe the results of a collaborative research on teacher training for the inclusion of students with special education needs (SEN) in an early childhood education center. The methodological processes were based on the prospect of reflexive teacher training such as knowledge about the care of students with SEN in a school context. The methodological process complied with the premises of collaborative research and was carried out in three phases: training needs assessment, collaborative intervention process and final evaluation. Ten teachers participated in the training. The results showed that in the initial phase the teachers had difficulties carrying out the inclusion of students with SEN in the class. By means of study cycles, reflections about the teaching practices based on theoretical contents studied and the participation of the researcher in the classroom with the teachers, it was possible to identify that the teachers became more confident to carry out the inclusion of these students with SEN.

Keywords: teacher training, school inclusion, students with special education needs, early childhood education, collaborative research

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Resumo: Este trabalho descreve os resultados de uma pesquisa colaborativa que objetivou a formação de professores para inclusão de alunos com necessidades educacionais especiais (NEE) em um Centro de Educação Infantil. Este processo se baseou na perspectiva de formação de professores reflexivos, bem como em conhecimentos sobre o atendimento de alunos com NEE em contextos escolares inclusivos. Os procedimentos metodológicos seguiram os pressupostos da pesquisa colaborativa e ocorreram em três fases: levantamento das necessidades de formação, processo de intervenção colaborativo e avaliação final. Participaram da pesquisa dez professores. Os resultados obtidos evidenciaram que, na fase inicial, os professores enfrentavam dificuldades para efetivar a inclusão dos alunos com NEE. Por meio de ciclos de estudos, reflexões sobre a prática à luz dos conteúdos teóricos estudados e da participação da pesquisadora em sala de aula, foi possível identificar que os professores se tornaram mais seguros para efetivar a inclusão de seus alunos com NEE.

Palavras-chave: formação de professores, inclusão escolar, alunos com necessidades educacionais especiais, Educação Infantil, pesquisa colaborativa

Introduction

The interest in carrying out this study began after realizing that an Early Childhood Education Center (ECEC), which is part of an Application College linked to a large public university in the state of Paraná, Brazil, had students with special educational needs (SEN) presenting significant difficulties linked to autism and cerebral palsy, but which did not have the structure, guidance or support to assist them. In addition, when we established direct contact with the school, we were able to verify that particularly the teachers, who were responsible for assisting these students, had difficulty in dealing with them, to the point of presenting reactions associated with emotional stress, such as crying and feelings of anguish when reporting their experience in the classroom. This context allowed the research proposal to be accepted and to be welcomed by school administration and teachers.





The ECEC in question, similar to most schools in our country, showed a lack of: pedagogical resources; architectural adaptations; furniture and adequate tools to fulfill the SEN presented by the students; specialized professionals to follow and guide this process. In addition, the teachers and the administrator did not have enough training in the inclusion process they should implement. These shortcomings prevented the adequate assistance of students with SEN, as has been shown by several studies in the area that analyze the inclusion process of students with SEN in our country, among which we highlight those by Gomes and Mendes (2010); Leonardo, Bray and Rossato (2009); and Toledo (2011).

The process of inclusion in our country has been implemented by external stipulations, resulting from world events that resulted in declarations, the main ones being the World Declaration on Education for All in 1990; the Salamanca Declaration of 1994; and the International Convention on the Rights of Persons with Disabilities, published in 2007 in New York and became a Decree in Brazil in 2009 (Decree Br 6.949, 2009). These declarations present guidelines that reflect a reform in the ways of organizing the schooling of students with SEN: above all, the regular class becomes the most suitable place for their learning, and it is the school's duty to organize and adapt to assist them. This leads to:

A first demand from teachers for inclusive policies is that they must meet the basic learning needs and the special educational needs of each and every child, which means that they must understand and know how to deal with any developing situation in which a child could become part of their group. (Dainez & Naranjo, 2015, p.1197) ³:

Considering this context, the present study was developed, focusing on teachers, but did not start from the premise that the difficulties to achieve the inclusion of pupils with SEN in school are restricted to their lack of training or teacher competence or because they have biases regarding students with disabilities. In spite of the inclusive educational policies, in the form of laws, decrees and edicts (Brazil, 2008, Law Br, 1996, Law Br, 2015), which establish several conditions for their implementation in schools, these conditions, in practice, are lacking especially in regard to the support and preparation of the regular class teachers to actually develop the inclusion of these students. We understand that the obstacles and barriers for educational inclusion are also forged within the conditions in which the teaching and learning process takes place (Dianez & Naranjo, 2015, p. 195)⁴.

⁴ Translation of: "los obstáculos y barreras para la inclusión educativa se forjan también en las condiciones en que se produce el proceso de enseñanza y aprendizaje" (Dianez & Naranjo, 2015, p. 195)



³ Translation of: "Una primera demanda para los docentes por las políticas inclusivas es que ellos deben satisfacer las necesidades básicas de aprendizaje y las necesidades educativas especiales de todos y cada uno de los niños y niñas, lo cual implica que deben conocer y saber lidiar con cualquier situación de desarrollo en que un niño pudiera llegar a ser parte de su grupo. Dainez & Naranjo, 2015, p.1197.



This demand motivated us to organize this study, with the objective of promoting the training of teachers for the inclusion of students with SEN of the ECEC by means of a collaborative research. We chose the collaborative research methodology proposed by Ibiapina (2008), considering that it integrates with the assumptions that we consider important for teacher training, when dealing with the inclusion process of students with SEN.

But what type of training should be provided to teachers? In what way? In order to organize the proposed process, research was carried out in relevant literature, regarding guidelines and answers to these questions. Several authors were found who contribute with knowledge that allowed the proposed work to be planned with relative reliability and, of which, (Duk (2006), Ibiapina (2008), Jesus (2005, 2008), Nozi and Sanches (2005, 2011) among others, are highlighted.

Teacher training for the inclusion of students with SEN

Nowadays, the inclusion process implies in a challenge to teachers which, according to Sanches (2011), would be like "managing the rainbow".

In the same class, different rhythms and learning capacities can be found, different levels of academic and experiential knowledge, different cultures, different ways of seeing and dealing with the school, different access codes to knowledge and communication, many differences to manage at the same time, making the teacher's performance very complicated. (p.145)⁵

The same author still considers that the teacher training did not prepare the teachers to deal with this diversity. Apart from this, the proposal that traditionally provides their preparation, in which one learns first, so as to later do it, may not be effective, because the knowledge taught often has nothing to do with the knowledge needs felt in the everyday situations of the classroom. According to Sanches (2011), the proposal of teacher training, in order to deal with the diversity of their students, is that of "learning by doing", which is a proposal that we undertake in this research, since continuing education should enable:

⁵ Translation of: Na mesma classe encontram-se hoje diferentes ritmos e capacidades de aprendizagem, diferentes níveis de conhecimentos académicos e experienciais, diferentes culturas, diferentes formas de ver e de estar face à escola, diferentes códigos de acesso ao saber e à comunicação, muitas diferenças para gerir ao mesmo tempo, tornando muito complicada a atuação do professor. (Sanches 2011, p.145).



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education professionals to build their educational practice within the theoretical-practical conflict. To do this, there must be space-time and availability, and one of the possible paths is study meetings with all the school staff, ... direct teacher support within the classroom, ... in the planning and regular monitoring of teaching activity in the classroom, ... specific support/guidance/demonstration meetings in the study/planning/evaluation/follow-up of specific cases that require a very different educational project. (Jesus, 2008, p. 79)⁶

Regarding the need to follow-up on specific cases, Sanches (2011) warns that when we talk about the process of inclusion of students with SEN, we are talking about cases, that is, each student presenting SEN is a case and therefore needs specific procedures that should be discovered - there is no possibility of using ready-made recipes. Thus, each case is unique and requires a unique response, where there is the need to experiment with new/other methodologies and reflect on them and to develop teachers who become investigators of their practices⁷. (p. 151).

Briant and Oliver (2012) emphasize that: investment in studies that consider the policies, actions, practical difficulties encountered by the school community in their daily work⁸ (p.145) is necessary to develop actions that effectively favor the inclusion process of students with disabilities in the regular school.

When we speak of the process of forming teachers in general, especially continued teacher training, which is the aim being discussed herein, we conceive that it must take place in a reflexive way, based on theoretical and methodological knowledge and, above all, taken with responsibility by the professionals involved, since it entails what Alarcão calls triple dialogue: a dialogue with yourself; with the context; and with the knowledge⁹ (Jesus, 2008, 79). Based on this perspective, we consider it important for the formation process to be concerned with emancipating the teacher, emancipation understood as:

the possibility of making teachers in general, become empowered professionals to act in order to transform both the classroom and the school, using, in this process, a critical and reflexive analysis of the problems that affect the teaching work. (Ibiapina, 2008, p.10)

⁹ Translation of: "pressupõe o que Alarção nomeia de triplo diálogo: um diálogo consigo próprio, com o contexto e com o conhecimento". (Jesus, 2008, 79)
¹⁰ Translation of: a possibilidade de tornar os professores, em geral, profissionais com mais poder (empowerment) para agir no sentido de transformar tanto a sala de aula quanto a escola, utilizando, nesse processo, a análise crítica e reflexiva dos problemas que afligem o trabalho docente. (Ibiapina, 2008, p.10)



⁶ Translation of: os profissionais da educação possam ir construindo no embate teórico-prático a sua prática pedagógica. Para tal, há que haver um espaço-tempo e disponibilidade, e uma das vias possíveis são os encontros de estudo com toda equipe escolar, ... apoio direto ao professor dentro da sala de aula, ... no planejamento e acompanhamento regular da atividade docente em sala de aula, ... encontros específicos de apoio/ orientação/ demonstração no estudo/ planejamento/ avaliação/ acompanhamento de casos específicos que demandem um projeto educativo muito diferenciado. (Jesus, 2008, p. 79)

⁷ Translation of: "de uma resposta única, donde a necessidade de experimentar novas/outras metodologias e refletir sobre elas e a necessidade de formar professores investigadores das suas práticas". (Sanches 2011, p. 151).

⁸ Translation of: "investimento em estudos que considerem as políticas, as ações, as dificuldades práticas encontradas pela comunidade escolar em seu trabalho cotidiano". (Briant and Oliver, 2012, p.145)



Sanches (2005) understands that the to and fro of the continuous and systematic reflection-action carried out by the teacher gives rise to a more informed, more rigorous, more scientific *praxis* (p.139)¹¹. Rodrigues (2008), on the other hand, analyzes that:

it is not about training teachers for students who are educated in a segregated model, but rather teachers who are able to work effectively with groups that are admittedly heterogeneous. This requires a new vision of the knowledge, skills and attitudes that are necessary to work with inclusive classes. The importance of training strategies is also highlighted as being inseparable from the training process: innovation and the appreciation of difference are essential parts of teacher training¹². (p.7)

The same author emphasizes that the formation process does not only occur through theoretical knowledge, but also together with opportunities, allowing the teacher to apply the knowledge in the real context. He also points out that given the complexity of teaching work today, it is necessary for the teacher to abandon the idea that their work should be developed in an isolated and solitary way in the carrying out of their class. It is important for the teacher to realize that they must work cooperatively with administrators, other teachers, specialists and family members.

Rodrigues (2008), in addition, distinguishes three dimensions that should be contemplated in teacher training. The first refers to knowledge of a more theoretical nature, which involves knowledge, which underlies the process of intervention¹³ (p.12). Specifically, with regard to inclusive education, it would be:

knowledge of the development and learning characteristics of students with unusual conditions to know how to evaluate, how to plan, how to develop an educational process and learning for students with difficulties or disabilities ... the educational model that most closely resembles the conception of learning as a process, ... to know diversified forms of group animation, ... bases on working with families and with communities on different scales of ecological understanding. 14(pp. 12-13)

¹⁴ Translation of: conhecimento das características de desenvolvimento e de aprendizagem de alunos com condições não habituais....conhecer como se avalia, como se planeja, como se desenvolve um processo educacional e de aprendizagem em alunos com dificuldades ou com deficiências ... o modelo educacional que mais se aproxima da concepção da aprendizagem como um processo, ... conhecer formas diversificadas de animação de grupos, ... bases sobre o trabalho com famílias e com comunidades em diferentes escalas de compreensão ecológica. (Rodrigues 2008, pp. 12-13)



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¹¹ Translation of: "o vaivém da ação-reflexão sistemático e continuado feito pelo professor dá origem a uma *práxis* mais informada, mais rigorosa, mais científica". (Sanches 2005, p.139)

¹² Translation of: não se trata de formar professores para alunos que são educados num modelo segregado, mas, sim, professores que são capazes de trabalhar com eficácia com turmas assumidamente heterogêneas. Para isto é necessário um novo olhar sobre os saberes, as competências e as atitudes que são necessárias para se trabalhar com classes inclusivas. Realça-se, ainda, a importância das estratégias de formação como inseparáveis do processo de formação: a inovação e a valorização da diferença são partes essenciais da formação de professores. (Rodrigues 2008, p.7)

¹³ Translation of: "que fundamentam o processo de intervenção" (Rodrigues 2008, p.12)



The second dimension is "competence", related to knowing how to, that is, the ability of the teacher to successfully lead all his students' learning process. The main elements would be the skills to assess, plan and intervene in heterogeneous classrooms and the ability to deal with students with different levels of group learning. According to Rodrigues (2008), this is the dimension, which teachers most complain that they have no mastery.

Finally, the third is configured in the teachers' attitudes towards the process of inclusion of students with SEN. Rodrigues (2008) considers that knowledge and skills would not be useful if teachers did not have positive attitudes towards students' progress¹⁵ (p.15). He argues that to be positive, it is important that teachers have access to successful inclusion experiences, through direct experience or knowledge of real cases.

In this perspective, Nozi (2013) adds the dimension regarding teachers' personal characteristics, which includes the teacher's ability to reflect on their practice, be flexible, autonomous, critical, creative and have self-knowledge.

Pedagogical procedures favoring the inclusion of students with SEN

In addition to the necessary knowledge, we identify authors that explain the already studied and tested procedures that are adequate for the process of inclusion of students with SEN. Among them, Duk (2006) can be highlighted based on his work called *Educar na diversidade* [Educating in Diversity], where he gives guidance on the administrative organization of inclusive schools, as well as on class planning. He points out the importance of working in groups and in a cooperative way, to establish partnerships between specialist teachers and class regents; detailing the process of SEN evaluation and the programming of activities, outlining procedures of curricular flexibility and pedagogic differentiation, among other aspects.

Other educational material which we consider to be an important guide to assess and direct the ways of building inclusive schools is the Index for Inclusion: *Developing Play, Learning,*

¹⁵ Translation of: "pouco serviriam os saberes e as competências se os professores não tivessem atitudes positivas face à possibilidade de progresso dos alunos". (Rodrigues 2008. P.15)



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and Participation in Early Years and Childcare, developed by Booth, Ainscow and Kinston (2006), which helps schools to self-evaluate in terms of their inclusive culture and practices. Although it has been developed in the English school context, this book contributes to the explanation of practices and ways of organizing schools in an inclusive way. It is specifically a guide on how to support the students' learning process, arguing that it is more important to develop the teacher's skills to plan activities so that everyone can participate, rather than making the teacher be an exclusive support to the student with SEN. It particularly highlights the importance of encouraging peer collaboration.

Silva (2011) also highlights the importance of peer learning and explains the theoretical foundations underlying the indicated procedures. For this author, classroom practice requires a diversity of pedagogical strategies, preferably developed through activities in cooperative groups, to promote meaningful learning, according to the level of development of each student. According to her, "Piaget (1966), Vigotsky (1987) and Bandura (1969)" offer contributions that helped to better frame this strategy¹⁶ (p.123), as

interaction that underlies cooperative learning is critical to everyone's development Those who have no difficulties have the opportunity to better systematize their learning whenever they have to help their colleagues with more difficulties. These, based on the interaction that develops through the work of or within a group, because they see it being done, learn better¹⁷. (p. 123)

In general, these were the subsidies taken as a basis for proposing the training process in question.

Characterization of collaborative research

This research was set within applied research that, in the conception of Sanches (2005), aims to achieve results that can be used in the improvement of the program implementation and in the taking of practical decision. The same author explains that one of the modalities of applied research is action research, the objective of which is to promote social change, focused here on the field of education¹⁸ (p.128). He also adds, that based on the fact that change implies

¹⁸ Translatión of: "das modalidades da investigação aplicada é a investigação-ação, cujo objectivo é promover a mudança social, enfocada, aqui, no campo educativo" (Sanches 2005, p.128).



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¹⁶ Translation of: "contributos que ajudaram a um melhor enquadramento desta estratégia" (Silva 2011, p.123)

¹⁷ Translation of: interação que está subjacente a aprendizagem cooperativa é fundamental para o desenvolvimento de todos. Os alunos que não têm dificuldades têm oportunidade de sistematizar melhor as suas aprendizagens sempre que têm que ajudar os seus colegas com mais dificuldades. Estes, com a interação que se desenvolve através de um trabalho de ou em grupo, porque vêem fazer, aprendem melhor. (Silva 2011, p.123)



complicated action, due to it involving people's life traits; their beliefs; lifestyles; and behaviors, it is important to involve them in the process, especially in decision-making about the desired changes.

According to Ibiapina (2008), there are different ways of developing action research, one of them being collaborative research, which consists of a type of research that brings two dimensions of research closer in education, knowledge production and continuous teacher training¹⁹(p.7). By presenting such a characteristic, it allows advances in knowledge in academic and school contexts, since it addresses both practical and theoretical issues, triggering study processes of problems in a practical situation that meet the needs of professional action²⁰ (p.7).

The same author (Ibiapina, 2008) comments that action research aims to transform schools into critical communities of teachers who problematize, think and reformulate practices²¹ (p.9). In addition, it assures that a study of this nature must meet three conditions: it is triggered by a certain social practice which is susceptible to improvement; it is carried out taking into consideration the spiral of planning, action, observation, reflection, new action; it is preferably developed collaboratively]²²(p.9).

Another aspect that contributed to their choice was the positive results identified by several researchers, among them Capellini (2004), Jesus (2005) and Toledo (2011), who carried out research that had similar objectives.

Methodology

The study was carried out in an ECEC that assisted approximately 106 children, children of employees from a large university in the northern region of the state of Paraná. This ECEC was one of the four schools that comprised the College of Application of that university. It was chosen due to the fact that it had two children with SEN who were very committed to carrying out the proposed activities, and also because teachers complained that they did not know how

²² Translation of: "é desencadeado a partir de determinada prática social suscetível de melhoria; é realizado levando-se em consideração a espiral de planejamento, ação, observação, reflexão, nova ação; é desenvolvido, preferencialmente, de forma colaborativa" (Ibiapina 2008, p.9).



¹⁹ Translation of: "um tipo de investigação que aproxima duas dimensões da pesquisa em educação, a produção de saberes e a formação contínua de professores" (Ibiapina 2008, P.7).

²⁰ Translation of: "uma vez que aborda questões tanto de ordem prática quanto teórica, desencadeando processos de estudo de problemas em situação prática que atendam às necessidades do agir profissional" (Ibiapina 2008, p.7).

²¹ Translation of: "transformar as escolas em comunidades críticas de professores que problematizam, pensam e reformulam práticas" (Ibiapina 2008, p.9).



to assist them. One had autism (L.) and the other cerebral palsy (T.). Both also attended a Specialized Educational Care Center that offered them only clinical care. Until the beginning of the research, the teachers had only made one visit to this Center to get to know the work developed there. According to teachers' reports, the Center did not offer them any support or pedagogical guidance for the care of the students in question.

In addition to these students, there were other cases (Behavior Problems, Asperger's Syndrome) in the ECEC, but which did not involve difficulties to accompany the academic contents and, although they required the teachers to study and to understand them, they did not receive direct monitoring in the classroom.

Participants

Ten teachers participated in the research. Table 1 presents the description of their characteristics.

UNDER **EXPERIENC IDENTIFICATION GRADUATION AGE POST- GRADUATION E PERIOD** T1 23 Education School Administration 1 to 5 years T2 31 Education Special Education 5 to 10 years T3 51 Education School Evaluation 10 or more years <u>T4</u> 56 Education Special Education 10 or more years T5 45 Education Early Childhood education 10 or more and Initial Grades years T6 39 Education Special Inclusive 10 or more Education vears T7 23 Education Early Childhood 1 to 5 years Education Τ8 28 Education Special Education 1 to 5 years T9 33 Education Special Education 10 or more vears T10 29 Education Early Childhood 5 to 10 years

Table 1 - Characterization of the research participants

Source: Data available in the questionnaires applied

Education

Apart from the teachers, we counted on the participation of the director of the school, who, having taken on the direction and educational supervision in the second year of the research, became interested in monitoring the activities developed and organizing the necessary





conditions for the inclusion of students with SEN. She was 36 years old, graduated in Education, with a Masters in Education and previous experience teaching in Early Childhood Education, school management and school supervision.

Procedures

Considering Ibiapina's guidelines (2008), we organized the procedures in phases: 1) identification of the characteristics of the context; 2.) development of the intervention process; 3.) evaluation of the intervention process. The research was developed during three years, the first semester being dedicated to phase 1 and the remaining two and a half years to phase 2 and, the last month to phase 3.

1st Phase: Identification of the characteristics of the context

The procedures for data collection were selected according to Sanches' guidelines of (2005):

Interviews, observations, questionnaire surveys, etc., as well as documentary analysis, are used to provide a good collection of information, the use of which, when collecting data and analyzing them, demands discipline, ethics and professionalism. The crosslinking of the information gathered with the various techniques and their careful interpretation allows us to better understand the problem situation, its involvement and the variables that trigger the phenomena to be eliminated/lessened, the strong and the weak, in the various areas.]²³ (p. 138)

We started the data collection applying a questionnaire to the teachers, aiming to identify: their knowledge about the inclusion process of students with SEN; a description of their practices to carry out said process; the possible difficulties they felt to carry out this task; topics of interest for training. After applying the questionnaire, we made observations in the classrooms that had students with SEN in order to identify the teachers' practices; the development of the activities; the academic performance; and the socialization of students with SEN; as well as the behavior of the other students of the class in relation to students with SEN.

²³ Translation of: As entrevistas, as observações, o inquérito por questionário, ..., bem como a análise documental, são técnicas postas ao serviço de uma boa recolha da informação, cuja utilização, na colheita dos dados e na sua análise, exige rigor, ética e profissionalismo. O cruzamento da informação recolhida com as várias técnicas e a sua cuidada interpretação permite compreender melhor a situação problemática, o seu envolvimento e as variáveis desencadeadoras dos fenómenos a eliminar/atenuar, as fortes e as fracas, nas várias áreas. (Sanches 2005, p. 138)





In all, there were three observation sessions, with continuous recording of an entire class, in the rooms where there were students presenting SEN.

After collecting and analyzing the data through a triangulation process, a report was drawn up, highlighting the most relevant aspects identified as the school's strengths and weaknesses in relation to the issue in focus. In a meeting with the participants involved, this report was presented to them, in order to discuss the results obtained in the first phase of the research. Activities for the second phase were also proposed.

2nd Phase: Description of the intervention process

The procedures performed with the teachers were:

- Study cycles on theoretical and methodological contents. This activity, held every two weeks with the group of teachers and allied to the reflective practices about the classes, aimed at meeting the needs identified in the initial phase of data collection. In the study cycles, work was carried out on the subjects of participants' interest described in the applied questionnaire. The reflections on the practices occurred not only in the biweekly meetings of the group but also in pairs or even individually, especially with the teachers who were responsible for attending students with SEN. For Altet (cited by Ibiapina, 2008), reflection on practice helps the teacher to exercise the '... learn, the know-how to analyze, the know-how to reflect, the know-how to justify' [emphasis on the original] practices²⁴ (P.48). Ibiapina (2008) adds that, in this way, the teacher can break away from a naive vision, transcending technical rationality, routine, that which is legal, that which is established²⁵ (page 48) and, consequently, reach critical and transformative thinking.
- Participation of the researcher in the classroom. This procedure, which occurred approximately once a month, was made up by the researcher's collaborative performance with the teachers in the classrooms and was aimed to favor the learning process of the academic content of students with SEN as well as their socialization. At

²⁵ Translation of: "pode romper com uma visão ingênua, transcendendo a racionalidade técnica, a rotina, o legal, o instituído" (Ibiapina, 2008, p. 48).



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²⁴ Translation of: "o professor a exercitar o "... aprender, o saber-analisar, o saber-refletir, o saber-justificar" [ênfase no original] as práticas" (Altet cited by Ibiapina, 2008, p. 48).



these times, the researcher entered the room, observed, set up some specific guidelines regarding students with SEN and helped to carry out an activity with them.

Class planning in a collaborative way. This was carried out with classroom teachers (who had students with SEN) together with the school principal. The curricular proposal of the school was taken as a basis, aiming to find procedure and resource alternatives as well as strategies of classroom organization that favor the learning of students with SEN. In addition to this, four specific meetings were held with the director to discuss the organization/implementation of some conditions to favor the inclusion process.

3rd Phase: Evaluation.

In order to evaluate the effects of the developed intervention process, we applied a questionnaire to the teachers, then carried out observation sessions in the classrooms of the students with SEN and an interview with the director of the school.

Results and discussion

The results will be presented according to the data obtained in each of the research phases.

Survey of teacher training needs

Considering that the teachers were free to participate or not in the research, out of the 14 ECEC teachers, 10 agreed to answer the questionnaire and 4 gave it back unanswered. Therefore, the following analyses refer to 71.4% of the ECEC teachers.

Nine out of the ten participants reported having already had students with SEN in their classroom. And they stated that those that they assisted presented learning difficulties, which could be seen during the carrying out of the proposed activities. Faced with such difficulties, it was necessary to make some adjustments to their teaching procedures, but they were made





according to the situation produced by the student, not being based on any theoretical background, but taking into account the experience they already had in teaching.

All participants, including those who had specialization in Special Education or Inclusive Education, responded that they had difficulty developing their work with students with SEN and described their difficulties and possible reasons for it having taken place. Here are some of their reports:

In the elaboration of activities (mainly the part of stimulation) and theory. At the time I had no specific training. (T6)

How do we adapt the activities to their interest. How do we interact with the activities. (T8)

How do we feed him, since the child does not speak, and the parents did not have much contact with the ECEC, and the educators were also not informed and trained in this area. (T3)

Our pupil did not speak and would shriek when someone approached him, and he was and still is resistant in accepting or accomplishing everything offered, so I am distressed about not knowing if what I do has helped in his development. (T3)

Planning with other children requires several adaptations for him. Since we have no pedagogue, when the doubts arise, we have no one to turn to. (T2)

Analyzing these reports, we found that, in general, the participants showed a lack of training, revealed that they "did not know" how to adapt activities and deal with certain situations, and they lacked support to carry out the process of inclusion of students with SEN. Briant and Oliver (2012), in conducting a research with teachers, also identified, as more recurring complaints, the reports of insecurity, uncertainty and lack of knowledge to meet the demands of students with SEN.

The initial observation data also showed these difficulties. On one occasion when the student with cerebral palsy (CP) was being fed by the teacher, we found that the student had broken teeth and asked the teacher if she knew why her teeth were in that state. The teacher replied, "When we give her food, she closes her mouth tightly and, because the spoon is stainless steel, this movement causes her teeth to break."

This situation called our attention, especially because of the consequence suffered by the student due to the teacher's lack of knowledge about the appropriate utensils. The teacher





did not identify the need to provide a silicone spoon nor the school's obligation to provide adequate conditions to meet the student's needs.

The observations also revealed that both the student with CP and the student with autism, most of the times, did not perform the proposed group activities. The latter, most of the time, walked around the room looking around and shaking his hands, sometimes screaming or crying, whirling and turning away from contact with the other children. On the other hand, the student with CP remained on a mattress lying on the floor or in the wheelchair, with few stimuli and contacts. The most frequent procedure observed in relation to this student was one of the teachers approaching to wipe the drool or to give her baby food. One of the teachers, at the time of the first contact with the researcher, when introducing the student and talking about her, cried and reported her feeling of powerlessness due to her difficulties. Because the student had no control over any of her movements, the teacher believed that she was unable to understand the world and said, "How can there be a child like that, poor thing." Her reports clearly expressed her low expectations regarding the possibilities of the student's development and, as a result, her work was concentrated on taking care of her basic hygiene and nourishment needs.

In this situation, we clearly identified the predominance of the so-called "medical model" conception, which initiated the development of Special Education, organizing the services provided to people with disabilities, aimed at teaching basic skills (Rodrigues, 2008). Therefore, one of the objectives of the intervention process was to offer teachers, especially in relation to the most engaged cases, knowledge and experience to identify their educational possibilities. According to Glat (2007), suppositions that are in agreement with the social or educational model, which consider that the possibility of student learning is not exclusively tied to their biological condition, as their life experiences, stimuli, opportunities for socialization are equally important for their development and learning process.

When asked about their interest in participating in a process of in-service training regarding the process of inclusion of students with SEN, all the participants responded positively, provided it was offered during their workday. Table 2 below presents the contents indicated by the participants for the training process.



Table 2 - Description of the topics of interest for the participants to set up the training process

Topics of interest to be worked on in the training process	
Pedagogical procedures to promote learning and socialization of students with SEN	
Family relations of children with SEN	
Analysis of social experiences undergone by people with SEN	
Characterization of SEN	
Methodologies and special resources used in the teaching-learning process and evaluation of	
students with SEN	
Relevant legislation for the educational service that should be offered to students with SEN	
Analysis of the concept of inclusion and its educational implications	

Source: Participants' answers identified in the questionnaires

It is clear that the suggestions of themes are in line with the difficulties experienced, since knowledge about teaching procedures; special methodologies and resources; the characteristics of students with SEN; the educational implications of the process of inclusion of students with SEN; among others, were prioritized. In addition, these themes are in line with the dimensions of the knowledge required by researchers in the area for the teacher training process, aimed at including pupils with SEN as described by Nozi (2013) and Rodrigues (2008).

The participants also suggested how the training process should take place: through lectures; practical activities and experiences; group discussion; discussion of cases about people with SEN; discussion of videos related to SEN themes; and school inclusion.

Regarding the periodicity, the length of the training sessions and the most adequate period of time, they indicated that it should be biweekly in the afternoon period and lasting for two hours at most, preferably from 2 to 4 pm, considering that this was the sleep and snack period for most students. The proposed intervention process took these suggestions into account and was developed in order to fulfill them.

Teachers were divided into two groups that alternated, allowing one of the teachers to leave the room at the scheduled time, while the other remained in the classroom assisting the students. In this way, training meetings were held, on average, with five or more participants, on a weekly basis. As the project developed, the number of participants increased, as those who declined to participate at the beginning, from the second year on, began to go to the training meetings, partly motivated by the results of the project, partly due to pressure from the ECEC administration. However, there were several situations where teachers could not participate





because there were teachers on medical leave and there was no substitute teacher to remain in the classroom.

The intervention process: main results

In the study cycles, the topics discussed were: legislation concerning inclusive education; fundaments of inclusive education; autism spectrum disorder; physical disability - cerebral palsy; assistive technology; intellectual disability; high-reaching skills; hyperactivity, inclusive classroom activity planning; ways of dealing with classroom conflicts; behavior problems; the process of building self-esteem; among others. The study cycles were interspersed with reflections on practice and case study. Studies on each theme took place on average between two to four meetings. Each of the topics was discussed until the participants had no further questions and considered that they could move to another.

For approximately a year, most participants were very resistant to participating in the training sessions. Often, instead of discussing the proposed content, they commented that, given the structure of the school, it was impossible to talk about it, since there were no specialist teachers to assist students with SEN; the number of students in the classroom was high; and there was a lack of adapted teaching materials. A special participant (T9) commented in one of the meetings:

I feel that we cannot include these students here, we do not have resources, we do not have specialized teachers, on paper it is very beautiful, but in practice it is not possible. There must be a specialist teacher to accompany these students, the classroom teacher cannot deal with it.

One of the teachers' greatest difficulties was to accept that the inclusion process depended not only on the aspects mentioned, but also on their involvement, on the need to restructure their practices and on mobilization in order to achieve what is established in the "role" in terms of legislation. In compliance with legislation, T9 perceived the inadequacy of the school, even before discussing legal support for the organization of the inclusion process. Quite rightly, it was obvious that in terms of the needs of teacher training that the school was far from the conditions to meet the target population of Special Education that are specified in our



legislation, in particular with the directives in LDB (Brazilian Law of Directives and Bases of Education) 1996, in the National Inclusive Perspective Policy of Special Education (Brazil, 2008) and in the Brazilian Law of Person with Disability Inclusion (Law Br, 2015).. Specifically, the Specialized Educational Assistance Center that students attended restricted their support to clinical aspects and did not collaborate with support and guidance for teachers.

During this period we found it difficult to get teachers to abandon their passive posture and become more active in the process, being able to perceive that

the complexity of the problems that are placed today in the school does not find previously tailored and routinely applied solutions. It requires, on the contrary, a capacity for timely understanding of the events and their interpretation as a means of finding the most appropriate strategic solution for them.²⁶ (Alarcão, 2001, 24)

In this first moment, the activities developed in the group were marked by tension; conflicts; clash of ideas; and difficulties to set up a collaborative dialogue; in the sense of establishing a consensus to discuss the issues related to the process of inclusion of students with SEN. But as the meetings progressed, the conflicts lessened, and collaboration began to emerge, allowing for intentional mutuality and reciprocity, and a common goal of making thought and action explicit in order to understand problems of practice and to develop it by making theory and practice unity explicit²⁷ (Albuquerque & Ibiapina, 2016, 83).

We believe that this resistance was due in part to the participants' own previous history of participation in research: because the school was part of an Application College, it was common for teachers to be research targets. According to the teachers, these experiences did not benefit them. As Charlot (2005) describes, the relationship between teachers and researchers is often felt by teachers to be a situation of evaluation in a hierarchical relationship²⁸ (p.92), a fact that interfered with the participants' necessary involvement with research, which is a condition that is required for collaborative research.

avaliação numa relação hierárquica". (Charlot, 2005, p.92).



²⁶ Translation of: "a complexidade dos problemas que hoje se colocam à escola não encontra soluções previamente talhadas e rotineiramente aplicadas. Exige ao contrário, uma capacidade de leitura atempada dos acontecimentos e sua interpretação como meio de encontrar a solução estratégica mais adequada para elas". (Alarcão, 2001, 24)

²⁷ Translation of: "mutualidade e reciprocidade intencionais e objetivo comum de explicitar pensamento e ação, a fim de compreender problemas da prática e desenvolvê-la explicitando a unidade teoria e prática". (Albuquerque & Ibiapina, 2016, 83).

Ranslation of: "o relacionamento entre os professores e os pesquisadores é, muitas vezes, vivido pelos professores como situação de



We emphasize that the intervention process was based on the premise that it is through reflection on the practice based on theoretical knowledge that the training process takes place (Rodrigues, 2008; Sanches, 2011).

In the second year of project development, however, teachers became less resistant and began to report the relationships they perceived between the topics studied and the facts that occurred in the classroom. One of the reports from T6 was very significant for the group.

When the importance of group work among students with SEN, about model imitation learning, was discussed here with others, I did not see the possibility of applying this with my students, T. (student with CP) and L. (student with autism) as they did not interact, but by trying, I realized that it really is possible. The students began to read to T., and this became a very joyful moment for everyone, because she likes it very much and she laughs all the time. L. learned to go to the bathroom together with R. (student without SEN), started to play, stay at his desk. (T6)

Comments on the possible relationships between theory and classroom actions have become increasingly frequent, since one of the meetings, planned for study cycles, has become an exclusive meeting for reflection on practice; on the most difficult cases in the classroom; and the possible alternatives of action based on texts already discussed in other meetings. As Fernandes comments (2014):

we affirm that the reflections generated by research carried out by the teacher and with the teacher can make the reassertions and/or the necessary (trans)formations to contemporaneity possible, also taking into account the construction of school inclusion, characterizing it as a real training process for the subjects involved.]²⁹ (p.6)

We realized that the group was gradually becoming a group, to the point where the participants reported situations there in which they evaluated that they had acted "in a wrong way" but that they would like to analyze them to find the "right" ways. T6 reported:

I do not know if I acted correctly, I think I acted wrong, I demanded that L. (the autistic student) eat what was on his plate, that day he had brown rice and he did not eat it. I could have looked for an alternative, I do not know, seen if there was another type of rice in the kitchen. I said to him: you have to eat it, we have no other type of rice. I observed that he waited a while and then ate. I think I acted wrong, because if he had not eaten ...

²⁹ Translation of: afirmamos que as reflexões propiciadas por pesquisas desenvolvidas pelo professor, e com o professor, podem possibilitar as reafirmações e/ou as (trans) formações necessárias à contemporaneidade, levando em conta, também, a construção da inclusão escolar, podendo caracterizar-se como processo realmente formativo para os sujeitos envolvidos. (Fernandes, 2014, P6).





This description enabled us to reflect together with the group on the meaning of "right and/or wrong" and the importance of theoretical knowledge to guide decision making in situations such as these.

Regarding the participation of the researcher in the classroom, little by little her presence was no longer noticed by the participants as a moment of researcher evaluation on their work and became a moment of researcher contribution to the work they developed. Stories like the one from T9 became common: "Today you are going into my room, remember that I asked you to see J.?".

At these times the teachers commented on their doubts, showed the work of students with SEN and asked for some guidance to carry out the activities or deal with their behavior, as was the case with T9.

The planning of the class in a collaborative way occurred only in two meetings, after having discussed this theme in the study cycles. It was the hardest topic to work on in the group because the teachers did not deliver their teaching goals or the activities they planned. It was only after the change of direction of the school, when the new director took over and was careful to guide the planning, did the teachers begin to accept discussing this question with the researcher. During the two meetings, which were held with the presence of the director and the classroom teachers, (who had the two most affected students), the following was discussed: the contents provided for in the curriculum, the possibilities of adaptations for students with SEN to participate; as well as the care be taken in relation to the pedagogical materials that should be constructed or adapted; particularly considering the specific difficulties of students with SEN.

One of the participants, in one of these meetings, had doubts about the level of support to be offered to the student with CP. This doubt enabled a series of discussions about various student learning situations. The following is a short section of the dialogue established in the group made up of T1, T2, T3 and the director.

T1: When I am going to develop activities with students, for example painting, collage, I find myself greatly in doubt, on how I will enable T. (student with CP) to participate.

Researcher: Who has a suggestion for T1?





Participants look at each other and T2 comments: It is very difficult, she has no control, can barely hold the adapted pencil, she has difficulty.

Researcher: Do you remember how we researched about support level? What type of support does T need?

T1: Complete. So can I take her hand and help her carry out the activity?

Researcher: Yes.

T3: But like that she won't be the one doing it.

Researcher: Will she notice it like that or will she try hard to do it without support?

T1: it is very interesting to notice that when we give complete support, I manage to get her to participate, I didn't see it like that.

From then on, it was possible to discuss the student's learning process and the importance of teacher mediation. On this occasion, we commented on the need for the teacher to be aware of the level of support that the student needs, which could be total support, as was the case with the student with PC in most activities, as well as partial support, which ranged from physical aids to verbal and visual cues that are more appropriate for the student with autism.

Also, based on the same premise, we discussed the process developed for the autistic student to go to the toilet. At first, he needed full support, but little by little he needed only verbal cues to go alone.

On this occasion, the teachers discussed the importance of showing the student the behavioral model of the other students in relation to the time of going to the bathroom, the sequence of activities to be developed, such as using the toilet, flushing, washing his hands, etc. It was also possible to explain that, in this learning process, it is important for the teacher to understand the student's level of real learning and the level of proximal learning, to adjust their process of mediation and follow a clear and defined sequence for the student to develop their ability step by step. It was possible to work with teachers to understand that pedagogical procedures can be developed through the contribution of various theoretical concepts of learning and human development. Specifically in this situation, we use Vygotsky's contributions on the concept of proximal development zone (1987) and the importance of Bandura models (1969).





In general, the guidelines discussed in the planning of activities and in the study cycles avoided to the utmost that students carried out isolated activities, and instead worked together with the other students, considering the guidelines by Booth et al. (2006), Duk (2006) and Silva (2011).

Another aspect that counted on the collaboration of the director was the provision of the necessary conditions for inclusion of students with SEN. In one of the planning meetings, the director said: "I would like to know what conditions are necessary to make the school inclusive, I want to achieve these conditions for our school."

This report led to many discussions, and the participants raised the need for various materials and resources, in particular the increase in the number of teachers in the classroom of the students with SEN. As a result of this discussion, the room was attended by three teachers, who were instructed to work together in the planning of activities and to carry out rotation to assist the student with CP, the student with autism and the whole class. This arrangement proved adequate to avoid the burdening of the teachers and, at the same time, to give them the opportunity to learn to deal with all the students in the room.

Suitable supports, such as a table adapted for the student with PC; an adapted pencil; a silicone spoon; and other pedagogical resources were acquired by the school. In addition to this, at the end of the project, the principal, along with the L's Family, organized a process to ask the Chancellor's office at the university, which maintained the CECE, a support teacher for L. All these procedures were organized and based on national legislation (Brazil, 2008), guidelines on assistive technology (Hummel, 2015) and pedagogical practices that are appropriate for the promotion of inclusive education (Booth et al., 2006, Duk, 2006).

In terms of the role of the school administrator, we verified Vioto's analysis (2013), which considers:

It is up to him/her, in the educational context, to plan and organize the school, so that it meets the SEN of the students who are there. Therefore, the pedagogical administrator should be the first to be aware of the importance of providing the means for the operation of an inclusive school and to promote actions that make this proposal feasible, considering that everyone that makes up the school community will be mirroring the pedagogical administrator's actions.³⁰ (p.15)

³⁰ Translation of: Cabe a ele, no contexto educacional, planejar e organizar a escola, de forma que esta atenda às NEE dos alunos que ali se encontram. Logo, o gestor pedagógico deve ser o primeiro a se conscientizar da importância de se prover as condições para o funcionamento



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Evaluation of the intervention process

At the end, we applied a questionnaire to know the participants' perceptions regarding the development of the project. In terms of the content worked on, everyone evaluated that they were relevant to their formation, considering them significant, since they were associated with the practice that they were undergoing and which helped to identify what they did properly or not. As an example, we transcribe some reports from the participants:

There were pertinent contents, which clarified some points and doubts, facilitating the work, as well as noting what we already did in class with our students. (T6)

The content worked on contributed significantly to the clarification of doubts regarding the way to intervene in the day to day school situations. (T2)

The contents were acquired by associating theory with practice, supporting the work developed in the classroom. (T4)

The participation of the researcher in the classroom was evaluated positively as well. They reported that:

It contributed, because the doubts and the difficulties were solved. (T6)

It helps a lot from the evaluation on to how to act. (T4)

I felt comfortable with the observations and subsequent suggestions on how to better conduct the activities. (T3)

Regarding the group's reflections on their practices, participants assessed that:

I had complete receptivity to speak and my doubts were solved. (T5)

I believe that it was very good participation, because the reports of the cases dealt with in the groups were extremely relevant for all the others involved in the ECEC. (T7)

The exchanges of experience and opinions with the group were great. (T1)

As noted by the reports, the developed training process was evaluated as positive by the group, as it enabled them to combine theory and practice; solve doubts; and exchange

de uma escola inclusiva e de promover ações que viabilizem esta proposta, considerando que todos que compõem a comunidade escolar estarão se espelhando em suas ações". (Vioto, 2013, P.15).





experiences and opinions among peers; in a productive and pleasant way. These results refer to the analysis by Pimenta (2005), who considers that the contributions: from the perspective of reflection in the exercise of teaching for the recognition of the teaching profession; the knowledge of teachers; their collective work; and schools as a space for ongoing training³¹ (p 43).

We also noticed, in the end, that the practices in the classroom had significant changes: both the student with autism and the student with PC began to participate in the activities most of the time. The autistic student established friendships with some classmates in the room, hugging them and being frequently hugged; remained in group activities developing part of the proposed activities with the help of teachers and colleagues, to the point of identifying his name and writing it; as well as enjoying spelling letters and reading numbers. As can be seen by the following description:

L hugs the researcher as she enters the classroom and takes her by the hand to get a book from the closet. A book that had the letters of the alphabet on the cover. L indicates to the researcher to spell the letters, showing the letters with her finger and looking at the researcher. The researcher says A, then he moves his finger to the next letter and the researcher spells the rest of the alphabet. After finishing, the researcher puts her finger at the beginning of the alphabet and looks at L. and says: which letter is this? L. lowers his head, looks at the floor and says: A in a low voice, then looks at the following letter that the researcher indicates and says the letter in the same way he said the first one, until he finishes the alphabet. (Researcher)

The prevalence of crying and stereotyping behaviors decreased drastically, only occurring sporadically, during stressful situations (noisy and messy collective activities), or due to the change of one of their teachers.

The student with CP started to be supported in the carrying out of the activities, counting on bigger paper sheets, thicker colored pens, an adapted table, and being fed with a silicone spoon, and being put more frequently into contact with the other students. In general, she was always willing to do the activities with support and participate with her colleagues, to the extent that when the teacher said, "T., let's do activities," she would begin to smile showing her excitement, moving her arms widely and uncoordinatedly, which would calm down after a few minutes.

³¹ Translation of: "da perspectiva da reflexão no exercício da docência para a valorização da profissão docente, dos saberes dos professores, do trabalho coletivo destes e das escolas enquanto espaço de formação contínua" (Pimenta, 2005, p.43)



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At the end of the last year of the study, considering that T. was already 6 years old, she was promoted to the first year of the initial grades. Her mother made the choice of keeping her in a regular school and not enrolling her exclusively in a special school because she realized that she was happier with the students from a regular class and that because of the teachers and the students' support she showed comprehension of what she had been taught. Although she had not as yet developed the possibility of verbal or alternative communication, she expressed herself only through facial expressions, smiles and crying.

Just as we observed teachers' resistance in joining the project at the outset, the end was difficult for them, and most asked for its continuity. The project did not end because the process of teacher training was considered to be complete, on the contrary, it could be seen that the participants taking advantage of their experience, realized the importance of continuous reflection, constant study, community and partnership in carrying out the activities.

The interview with the director of the school at the end of the research also showed significant results in relation to the intended objectives. She informed us that, for the first time, teachers reported that they enjoyed participating in a research, and she attributed this to the way the researcher conducted the process. In addition, she informed us that the project helped teachers to stop complaining about their students and to develop a better understanding of their difficulties, finding alternatives to deal more effectively with them.

My appraisal is that this project was very positive for the school, for the first time the teachers told me they liked to participate in a research project. I particularly noticed that before the project I would receive several teachers, on a daily basis, complaining about their students that presented behavior problems or deficiencies, nowadays it is rare for them to come to my room to make that type of complaint, they are more confident in the classroom and know how to work with these students. (Director)

Final Considerations

By carrying out the training process described here, through collaborative research aimed at preparing a group of ECEC teachers to include students with SEN, what could be seen were: difficulties; precarious conditions; and the lack of support and training that teachers went





through in their everyday practice, and it was possible to realize that when offered the opportunity to discuss their experience based on up-to-date scientific knowledge, the teachers then began to develop more confidence to deal with everyday situations in the classroom, regarding this question. The results show that this research favored the perception of the difficulties and doubts that the teachers who work in Early Childhood Education have been facing in order to promote the inclusion process of students with SEN, while at the same time revealing the distancing of the school from the regulations proposed by the educational legislation regarding the support and resources that must be made available to carry out said process. It is important to emphasize, in particular, that the assistance offered by the Specialized Educational Assistance Center should appreciate the support given to the management and the teachers, in order to favor the inclusion of the students in question, without limiting itself to clinical care, with exclusive focus on the student.

Above all, the results obtained reinforce a point, which is widely debated by several researchers that the teacher is the key element in the construction of inclusive schools and that he/she must be prepared for it. In addition, the results clearly show that the training process must be linked to the needs that teachers experience in their daily lives.

We found that most of the participants evaluated the intervention process developed in a positive way, especially the group activities, that allowed collective discussions, considering them a pleasant and productive moment, that helped them to individually analyze their practices, although many times other cases were discussed.

In general, the benefits of the methodological proposal of collaborative research, which, through study groups, reflective practices and collaborative participation in the classroom context, can be considered to have favored a formation process in which the participants were active and reflected in a collaborative and collective way on the issues that affected them. In addition, this process made changes in the teaching process, together with a greater awareness of their actions.

Another aspect that stands out is the fact that this process derives from the perspective of the formation of reflective teachers, which, in turn, rescues the role of the teacher and makes them reflect on their condition, as well as helping them in the quest for their professional appreciation and improvement.





We appraise that the results obtained in this study reaffirm the importance of school management in order to carry out the process of inclusion of students with SEN. The participation and the inclusive stance of the school director were fundamental to stimulate the teachers in the fulfilling of their plans, aiming at the assistance of all the students, as well as to make the access to the necessary conditions possible for the inclusion process of students with SEN, through legal and organizational measures.

Finally, we consider that the development of this study presents the limitations that are present in the case study, because it is a small sample of participants in a specific context, which makes it difficult to generalize the results. However, such limitations do not disqualify it, since the research brings contributions to broaden the knowledge about the process of teacher training linked to a contemporary problem, which is the school inclusion of students with SEN, in a perspective that values community and reflection. Moreover, by presenting the description of an intervention process, in depth and in detail, it reveals the possibilities and the inherent difficulties.

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