

Original articles

Elementary school teachers' knowledge on dyslexia

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ABSTRACT

Objective: to describe the knowledge of elementary school teachers on child dyslexia.

Methods: 10 teachers from the 1st to the 5th year of elementary education in public schools in the municipality of Abreu e Lima, Pernambuco, Brazil, participated in the study. A semi-structured interview was conducted with each teacher, individually, in the school itself and was based on some guiding questions.

Results: content analysis allowed the identification of three thematic categories: 1. Teacher training does not address dyslexia; 2. Feelings and difficulties of the literacy teacher facing the challenges of literacy; 3. Lack of knowledge about dyslexia: school management of possibly dyslexic children.

Conclusion: the research revealed the lack of knowledge of literacy teachers on dyslexia, despite having undergraduate and postgraduate education, as well as that of teachers who participated in training offered by the municipal education network.

Keywords: Dyslexia; Learning; Literacy

INTRODUCTION

Dyslexia is a specific neurological learning disorder characterized by difficulties in reading fluency, decoding and spelling skills resulting from a deficit in the phonological component of language despite having properly received instruction and having a normal intellectual level^{1,2}.

Almost always, dyslexia is accompanied by a series of behaviors that make the dyslexic a different child. Authors highlight signs and symptoms characteristic of dyslexia in different life cycles, revealing that changes will follow the individual during its development^{1,3}.

The dyslexic child has, as a consequence, a lower than expected academic performance in relation to its chronological age, intellectual potential and schooling, and there are common signs of school failure⁴. Thus, the child may present a shaken self-esteem because he thinks he is incapable or even inferior to his colleagues. By not being able to have the same ease when reading a text, the child becomes unmotivated and loses interest in reading. Often, this child may be considered lazy, inattentive, with no commitment to learn, and may not obtain the necessary monitoring⁵.

The earlier the dyslexia is identified, the sooner the family and the school will have more opportunities to alleviate difficulties. For that to happen, an attentive look by the teacher is important. In this context, the teacher plays an important role on the learning of reading and writing, as it acts as an observer of the behavior of the child in the classroom, understanding and recording difficulties and potentialities.

It is worth mentioning that literacy is the period that requires the greatest competence by the teacher, who should be able to reflect on practical difficulties. The literature^{6,7} points out that the teacher needs to be prepared to understand learning disorders as well as the development of the child and how disorders may relate to learning.

For some authors⁸, teachers' knowledge on dyslexia assumes a great importance in pre-diagnosis, referral and intervention. However, teachers should not diagnose learning disorders. For this purpose, the child should be evaluated by a multidisciplinary team composed, minimally, by a physician, a psychologist and a speech therapist, who should listen to the teacher during the evaluation process.

It seems essential that teachers know a little about the characteristics of dyslexia so that they may early identify its signs and symptoms. Such participation may be essential in Brazilian public schools, as children

often do not have access to specialized team supervision since such teams are not usually present in this context.

Due to the aspects previously exposed and to the lack of research focusing on the knowledge by teachers on dyslexia, this study becomes relevant. It proposes thinking on possible gaps in the training of teachers and provides data for the planning of more effective strategies for students with learning disabilities, especially dyslexics.

Given the above, this study aims to describe the knowledge of municipal public school teachers on dyslexia.

METHODS

This study was submitted and approved by the Ethics Committee of the Health Sciences Center of the Federal University of Pernambuco, under the CAAE opinion no. 45100315.3.0000.5208, following the Brazilian legislation applied to research ethics involving humans.

This is an exploratory qualitative research carried out in schools of the public school system of Abreu e Lima, Pernambuco. The study population was 10 teachers from the 1st to the 5th year of elementary school because this period includes the literacy cycle (1st to 3rd year) and the other levels of elementary education I (4th and 5th years), as required by the Law of Guidelines and Bases of Brazilian Education⁷, and also because this is a critical period for the manifestation of dyslexia. The sample size was determined by theoretical saturation⁸.

In addition to collecting personal data from teachers (age, gender, teaching time, training time, among others), individual semi-structured interviews were conducted using the following guiding questions:

- How did you prepare to become a literacy teacher? What is your graduation level? Do you participate or have you participated in any training or ongoing training?
- How do you feel about the challenges of literacy? Do you have any specialized support? Would you like some support? Which?
- Could you report any difficult situations you have experienced with one of your students during the literacy process? How did you overcome it?
- For you, what is dyslexia? Have you ever had a student with this issue? (If so, could you tell us the case?)

- In your opinion, how should the school prepare to deal with children with dyslexia?
- Would you like to comment on something else on this topic?

All teachers who agreed to participate in the study signed an Informed Consent (IC).

The interviews were recorded and transcribed in full, which made the analysis of content using a thematic modality possible. We opted for this analysis because it is simple and appropriate to analyze direct discourses (manifested meanings). The technique of content analysis presupposes some steps as defined by Bardin⁹: pre-analysis, analysis of the material, treatment of results, inferences and interpretation.

RESULTS

Figure 1 presents the profile of 10 female teachers participating in the study. In order to not identify the participants, an "I" code (interviewed) was created, followed by the interview sequence number, to identify each teacher interviewed.

As can be seen, teachers were between 24 and 59 years-old (mean age 42 years) and had completed graduation 10 to 25 years before the study (mean of 17.2 years). Only three interviewees (I6, I9 and I10) did not have a post-graduate formation, and the I10 had two graduations.

This information leads to the conclusion that this sample had experience in teaching children during the literacy cycle.

Teacher	Age	Background	Qualification Time
E1	44	Literature and language, specialist in school management and coordination.	21 anos
E2	30	Pedagogue, Master's in Education.	10 anos
E3	32	Pedagogue.	10 anos
E4	42	Pedagogue, specialist in psycho-pedagogy.	20 anos
E5	59	Literature and language, specialist in school management and coordination.	25 anos
E6	45	Pedagogue.	20 anos
E7	36	Pedagogue, Education specialist.	13 anos
E8	55	Pedagogue, specialist in psycho-pedagogy.	22 anos
E9	35	Pedagogue.	14 anos
E10	42	Literature and Language and pedagogy.	17 anos

Caption: I = interviewee

Figure 1- Profile of the study participants

Regarding ongoing education, all teachers, without exception, reported that they participated in the lectures, courses and training offered by the municipal education department, but never addressed the theme Dyslexia in courses.

The content analysis of the answers obtained with the interviews made it possible to identify three thematic categories: 1. Teacher training does not address dyslexia; 2. Feelings and difficulties of literacy teachers facing the challenges of literacy; and 3. Understanding dyslexia. Below are some extracts from the interviews that illustrate these categories.

Teacher training does not address dyslexia

As already mentioned above, despite the high level of basic training, since all teachers had a university

degree and most of them had post-graduation titles, as well as the offer of ongoing education in that municipality, all teachers reported having had no experience with "dyslexia" and identify this as a gap in their formation. This can be perceived, for example, by the statement of teacher I2, which is clear in stating her little knowledge, or of the teachers I1, I4 and I6, who try to explain what dyslexia is, but, in fact, do not know it.

I1- I think it's a... hum... (Silence) What's the name? A delay in learning, right... That makes learning difficult.

I2- Look, I know very little about dyslexia. In spite of having done specialization in psychopedagogy a long time ago. It's... It is related to a difficulty in reading, misspelling letters, mispronouncing phonemes. It's more or less so that I understand.

14- *Wow, now you got me! Dyslexia, dyslexia is... (Silence) It's difficulty in speech, right?! Isn't it difficulty in speech? When the child has difficulty of writing, isn't it... It sometimes knows and has difficulty expressing what it knows in front of the others.*

16- *Dyslexia... Boy... I think it's something about writing. I don't know very well. (Silence).*

Feelings and difficulties of literacy teachers facing the challenges of literacy

In this category, the teachers' statements revealed both a feeling of frustration with a child who does not learn, structural (material and educational) deficiencies and lack of support from parents (families), as can be seen in the statements of I1, I2 and I4, as well as pleasure in dealing with this important stage of the formation of a child, as can be seen in the statements of I4 and I6.

I1- *(Silence) That's it, it really is a challenge, right! Because these days are not easy, right?! Students with difficulties, students out of a proper stage, undisciplined students, right?! Sometimes the school structure does not help either, but this one is ok.*

I2- *Well, as a 4th grade teacher, and we know it's still the literacy process, and we know that children should already be reading and understanding. And here, for example, half the class cannot read. It is a very big challenge because the taxes... a book and a didactic content that must be followed until the end of the year, and on the other hand, students who don't even know the alphabetical order. So, we split up, for example, it's... In relation to didactics, I do simpler activities, smaller texts, and even reading on the board, forming sentences at certain times of the week, and at other times I apply the class contents using those larger texts, with those subjects that have to be taught, because the other part of the class keeps up well, reads well and cannot be hindered.*

I4- *Ah, I love it! I love what I do. I really do, I love to see them discovering the first letters, I call too much attention from parents who do not want anything, I really do. I'm mad even with the parents. I love what I do.*

I6 - *Look, there are still many difficulties, but my enjoyment in literacy teaching overcomes all these*

difficulties. We know it's not easy, but with the love that I have in teaching each student, the difficulties become nothing. (She filled her eyes with tears).

Lack of knowledge about dyslexia: school management of possible dyslexic children

This third category, besides ratifying the teachers' lack of knowledge on the subject, revealed the difficulty of schools to early identify and adequately monitor possible dyslexic children.

In the statement by I2, for example, it is possible to verify that the school does not have a full professional staff. I2 knows the importance of the team and is not clear about the organization of special education in the municipality. Along the same lines, however, in a complementary way, I5 recognizes that further investments are needed in the ongoing training of all educators.

I2- *Look, a school should have a full set of professionals. Speech therapists, psycho-pedagogues, psychologists... And here we are trying. There is the Special Education Center that works with special children. I don't know if this training of professionals on special students identifies students who have difficulty, because the core we have here, but, it works as follows: If I have students with special difficulties in my classroom, a person comes here, right, who has qualifications and help. It's not the case here, but in other classrooms. This school works like this, but I know that in other schools the [professional] network does not work like that. There are classrooms that have eight special students, so I already think it's a little too much. Then, there is a teacher who is either doing pedagogy, or special education training. But there are many down there, if you want to go down there, you will know more about their work. But I've never had a helper here in my office and what I can say is that.*

I5- *I would have to present the whole picture, right?! Because it makes no difference if I'm with the fifth grade today and after in early childhood education. The municipality sometimes provides training to the teacher of a given year, but tomorrow I may be in the fourth, third class or in preschool. So, it should cover the whole picture.*

Similarly, I7 stresses the importance of empowering teachers, as she recognizes the detrimental effects of learning problems on child development.

17- *I think I would have all teachers trained, because if the child passes from one teacher who knows how to handle his difficulty to another teacher who does not know where he is going to, this may compromise not only his development, but his self-esteem as well. Children nowadays care a lot about what others will think of them, that sometimes they forget to be children.*

Finally, another aspect could be evidenced in the statement of 14. Besides the lack of knowledge on dyslexia, the belief that “the problem” can easily be solved by the teacher if he devotes attention to the student was identified.

14 - *Look, I think that with encouragement, understand? Because shyness we can overcome ... I think dyslexia, I do not know if it's fear, shyness... (Silence) I do not know if it's one of those things, but if it is, I think that the teacher being together, calling the student to herself, he opens up, they overcome it. Now, if they leave them like that, wanting to be reached alone, of course he will never get good from this dyslexia.*

DISCUSSION

The quality of Brazilian basic education has been questioned for some time and some measures have been adopted with the purpose of ensuring improvements. Among such measures, it is worth noting the requirement, since the promulgation of the Law of Guidelines and Bases of the Brazilian Education¹⁰, that all basic education teachers should have formation at a university level. As it was observed in the sample of ten teachers of this study, all had a university degree and eight had a specialization or a Master's degree. Despite this high level of training, as well as teaching experience (greater than ten years), it was possible to observe the lack of knowledge on dyslexia.

It seems, therefore, that there is a huge gap in the training of Brazilian literacy teachers which has not been supplied by basic and post-graduate education, as well as by in-school training^{11,12}. This gap was revealed, in the case of the teachers of this study, by the lack of knowledge about dyslexia. Among the definitions presented by the ten teachers, there was not even one that came close to the current understanding of the scientific community on the subject, as could be perceived in the Thematic Category 1.

Other research¹³⁻¹⁵ also highlighted the lack of knowledge of teachers on dyslexia. Typically, educators find it difficult to choose the main characteristics, classify, establish the causes and, mainly, explain how to identify students with dyslexia.

This perception is important, since the teacher in general is the first professional to confront the difficulties manifested by children with dyslexia during the initial period of literacy. Therefore, the initial years of schooling are crucial for an early identification of schoolchildren with dyslexia, and the teacher should be instrumental in helping them to advance in the process of learning to read and write. Specifically, the educator needs to identify such students, to refer, if necessary, to competent extracurricular services, and to promote an appropriate pedagogical intervention in the school environment^{7,13}.

The teacher's lack of preparation may further contribute to the worsening of the disorder, since he may not be able to deal with the symptoms associated with dyslexia, such as isolation in the classroom and in other school environments, as well as the lack of motivation for learning. The dyslexic child may have difficulty in and resistance to exposing himself or herself to other colleagues. In order to motivate such student, it is necessary that the teacher have a deeper knowledge in the disorder and be able to adequately support it¹⁶.

In addition to the difficulty in identifying dyslexia, teachers often face many other demands during the literacy period. In the Thematic Category 2, we could observe by the statements of some teachers the feelings and difficulties they face in the literacy process. For example, the structural problems of schools, the lack of educational resources, the lack of support from families, problems of objectives and programs to be taught to very heterogeneous groups in terms of development and learning, among other issues, were mentioned.

Similarly, a study¹⁷ investigated the teachers' knowledge on learning disorders, and a questionnaire was applied to ten teachers of the public elementary school system. The data revealed that participants did not have knowledge on the subject, but the authors, in an attempt to justify such results, highlighted the challenges they faced, such as schools without a proper structure, no physical conditions to attend to students, teachers with an excessive workload and low wages; as a consequence, many children do not learn.

It is worth mentioning that educational problems are not only on the learner's side, who does not learn,

but also on the formation of teachers. As observed, the knowledge by educators on dyslexia is fundamental, so that it helps the child in the learning process. However, in the case of this study, the topic in question was never addressed during the formation offered by the municipality, as mentioned by all teachers in the Thematic Category 3.

Ongoing education allows the educator to be updated, acquire new knowledge, deepen the knowledge on literacy, and perceive interdisciplinarity and inclusion as fundamental principles of the educational process. The training should focus on class plans, didactic sequences, mapping the skills and competences of each student in order to outline strategies that allow learning. This will allow the teacher to think about the challenges of the literacy process¹⁸.

A well-trained educator is able to early identify learning problems, considerably alleviate disorders resulting from dyslexia, provide an economy in expenses for families and for public education and health systems, and achieve the objectives of the school, that is, the full socio-cognitive development of the individual and its capacity for work and the exercise of citizenship¹⁹.

In view of this, the educational institution must invest constantly in the formation of its pedagogical team through meetings, workshops, case studies, among others, in which different topics be debated addressing different teaching methodologies, enabling the improvement of teaching¹⁵.

Another aspect that has been widely addressed by the literature on literacy is that the ongoing formation of educators should be based on scientific evidence. This has been called "evidence-based education." In this theoretical line, it is advocated that teaching be supported by the principles of Neuroeducation, understanding that the cognitive, emotional, affective and motor dimensions are associated with functions of cerebral cortical areas, being possible to select pedagogical strategies based on this understanding²⁰.

Thus, in order to promote an early identification of dyslexia, the teacher needs to rely on such principles, working together with a multidisciplinary team of doctors, psychologists, speech therapists and psycho-pedagogues. The teacher provides the necessary support in the classroom, an environment in which the child is most requested to overcome his difficulties, reducing the consequences of the disorder on his overall development²¹.

The importance of the multidisciplinary team for the learning of children with dyslexia is undeniable, but in the Brazilian educational reality, the absence of minimal teams with psychologists, speech therapists and psycho-pedagogues in schools is common. This certainly contributes to the lack of knowledge of educators about dyslexia.

In contrast, developed countries, such as Singapore, Japan, Finland and Canada, have multidisciplinary teams in schools. They invest on public policies aimed to identify children with learning difficulties, and they also invest on teacher training. The results of such actions may be proven by international assessments, such as the PISA²² of 2015, which pointed out these countries as superior when it comes to a high-quality education.

In the light of these issues, the question arises: If Brazilian schools are not prepared, what is the future for dyslexic children? How can these children cope with school difficulties? Based on these issues, there is a need for a greater investment in public policies able to accommodate and include all schoolchildren according to their specific needs.

CONCLUSION

This study revealed the lack of knowledge of literacy teachers on dyslexia despite having undergraduate and postgraduate education as well as teachers participating in training offered by the municipal education network.

The challenges faced by the literacy process revealed by the teachers' statements point to aspects that need to be reviewed and solved so that a high-quality education be offered to Brazilian students. Among these aspects, it is possible to mention the basic and permanent training of teachers, the need for a training aligned with the science of human learning, greater investments in teaching resources and multi-professional teams of specialized support, greater involvement of families in the learning process of their children, among others.

It is possible to conclude that the difficulty factors presented by the educators themselves evidence the insufficiency of their knowledge on dyslexia.

REFERENCES

1. Lonigan CJ, Purpura DJ, Wilson SB, Walker PM, Clancy-Menchetti J. Evaluating the components of an emergent literacy intervention for preschool

- children at risk for reading difficulties. *J Exp Child Psychol.* 2013;114(1):11-30.
2. Snowling MJ. Early identification and interventions for dyslexia: a contemporary view. *J Res Spec Educ Needs.* 2013;13(1):7-14.
 3. Silva C, Capellini SA. Efficacy of phonological intervention program in students at risk for dyslexia. *Rev. CEFAC.* 2015;17(6):1827-37.
 4. Teixeira AG. Manual dos transtornos escolares: entendendo os problemas de crianças e adolescentes na escola. 2ed. Rio de Janeiro: Best Seller, 2013.
 5. Oliveira IFL, Castela GS. Alfabetização e/ou letramento: implicações para o ensino. *Rev Travessias [periódico na internet]* 2013 [acesso em 16 de janeiro de 2017]; 7(1):281-97. Disponível em: e-revista.unioeste.br/index.php/travessias/article/download/8141/6294.
 6. Baus FS. Aproximación al estudio de la neuroeducación: el encuentro de las ciencias con la escuela. *Revista PUCE.* 2016;3(102):155-68.
 7. Cancela AL. As implicações da dislexia no processo de aprendizagem na perspectiva dos professores do 1º ciclo do Ensino Básico [dissertação]. Porto (Portugal): Universidade Fernando Pessoa; 2014.
 8. Costa JPF, Tavares Júnior AB, Santos HMP, Albuquerque YML, Silva BBTN, Maciel GES et al. Nível de conhecimento dos professores de escolas públicas e particulares sobre dislexia. XII Jornada de Ensino, Pesquisa e Extensão – JEPEX 2013 – UFRPE: Recife, 9 a 13 de Dezembro.
 9. Bardin L. Análise de conteúdo. 1ª ed. Brasil: Edições 70, 2011.
 10. Brasil, Lei de Diretrizes e Bases; 175º da Independência e 108º da República, 20 de dezembro de 1996.
 11. Medeiros MCG. O que os professores conhecem sobre dislexia e o transtorno de déficit de atenção / hiperatividade. Coleção: Prata da Casa. Universidade Vale do Paraíba, 2012.
 12. Pinto CMRGF. O dia-a-dia da dislexia em sala de aula. Os conhecimentos dos professores do Primeiro Ciclo sobre alunos disléxicos. [Dissertação] Castelo Branco (Portugal): Instituto Politécnico Castelo Branco; 2012.
 13. Lima C. Dislexia no 1º ciclo: da actualidade científica às concepções dos professores. 2005. Disponível em: www.psicologia.com.pt. Acesso em 04 jan. 2017.
 14. Guaresi R, Santos CS, Manguiera M. Abordagem da dislexia na região de Vitória da Conquista na Bahia: uma análise sob a perspectiva neurocientífica. *Letras de Hoje [periódico na Internet]*, 2015 [Acesso em 15 de dezembro de 2016]; 50(1):49-56. Disponível em: <http://dx.doi.org/10.15448/1984-7726.2015.1.18872>
 15. Tabaquim MLM, Dauruiz S, Prudenciatti SM, Niquerito AV. Concepção de professores do ensino fundamental sobre a dislexia do desenvolvimento. *Rev. bras. Estud. pedagog.* [periódico na Internet], 2016 [Acesso em 22 de dezembro de 2016]; 97(245):131-46. Disponível em: <http://dx.doi.org/10.1590/S2176-6681/368214020>.
 16. Freitas CFB. Dislexia: dificuldades de aprendizagem na escola [monografia]. Medianeira (Paraná): Universidade Tecnológica Federal do Paraná; 2014.
 17. Carvalho FB, Crenitte PAP, Ciasca SM. Distúrbio de aprendizagem na visão do professor. *Rev. Psicopedagogia.* 2007;24(75):229-39.
 18. Machado MGFK, Staub T. PNAIC: relatos de experiência de uma formação continuada para a garantia de uma alfabetização de sucesso. Colóquio Internacional de Educação 2014. Eixo 2 - Organização e Gestão da Educação Básica e Superior | Relato de Experiência.
 19. Souza EEP. A formação continuada do professor alfabetizador nos cadernos do Pacto Nacional pela Alfabetização na Idade Certa (PNAIC) [dissertação]. Florianópolis (Santa Catarina): Universidade Federal de Santa Catarina; 2014.
 20. Grossi MGR, Lopes AM, Couto PA. A neurociência na formação de professores: um estudo da realidade brasileira. *Rev Faeeba.* 2014;23(41):27-40.
 21. Vasconcelos DHF. Dislexia e escola: um olhar crítico sobre a equipe multidisciplinar e sua relação com as práticas pedagógicas tendo como foco o professor [dissertação]. João Pessoa (Paraíba): Universidade Federal da Paraíba; 2011.
 22. OCDE. PISA 2015. Technical Report. 2015. Versão eletrônica. Disponível em: <http://www.oecd.org/pisa/>. Acesso em: 19 jan. 2017.