

CONCEPTIONS OF ELEMENTARY SCHOOL TEACHERS ABOUT LEARNING DISORDERS

Concepções de professoras de ensino fundamental sobre os transtornos de aprendizagem

Thais dos Santos Gonçalves⁽¹⁾, Patrícia Abreu Pinheiro Crenitte⁽²⁾

ABSTRACT

Purpose: to investigate the knowledge and concepts of elementary school teachers about learning difficulties, learning disabilities, and dyslexia. **Methods:** this is a cross-sectional study with 31 elementary school teachers in a city in the interior of the state of São Paulo. A survey was conducted through a questionnaire with dissertative questions. The questionnaire has questions regarding the teacher's knowledge about the definition, causes, and manifestations of learning disorders. Data were analyzed quantitatively by comparative analysis, using the Chi-Square Statistical Test to compare the knowledge of teachers in both public and private schools, and of teachers with and without prior knowledge on the topic. The significance level of 5% was adopted. **Results:** in general, the teachers demonstrated difficulties for defining disorders, identifying their causes, and pointing out their manifestations. Separating the teachers by type of school (public or private) and prior knowledge of the subject, there was no statistically significant difference in most of the answers. **Conclusion:** teachers lack knowledge about learning disorders and therefore need orientation to effectively work with these students.

KEYWORDS: Learning; Language; Speech, Language and Hearing Sciences; Questionnaires

■ INTRODUCTION

Due to advances in speech pathology science in the educational context, on September 18, 2010, the Federal Board of Speech Pathology (CFFa, in Brazil), adopted resolution no. 387, establishing educational speech pathology as a new specialty. Among the skills of the professional expert in educational speech pathology is working in partnership with educators to contribute in the promotion of students' development and learning¹. Thus, the partnership between teachers and speech pathologists seeking the integration of knowledge and experience in the school environment² can benefit the entire school

community, since the speech pathologist aims to create favorable and effective conditions so the capacities of all students can be developed to the maximum³.

Despite the importance of the joint work of these professionals, the speech pathologist is not part of everyday school life of many teachers⁴, which may explain the lack of understanding among educators about the possibilities of how speech pathologists can help them⁵. This may also be due to factors such as deficiencies in teacher training courses, which have not addressed the work of the teacher in the classroom with children who have problems with oral and written communication, lack of attention in the school community⁵ and the minimal preventive action by the speech pathologist. Thus, the speech pathologist has an important role in disclosing their expertise in this field. Ensuring that the work of the speech pathologist at the school has a preventive effect requires the validation of teachers in the classroom⁶, so the speech pathologist can observe the students with oral and written communication development and can promote the maximum

⁽¹⁾ Faculty of Dentistry of Bauru, University of São Paulo - FOB-USP, Bauru, São Paulo, Brazil.

⁽²⁾ Department of Speech Pathology, Faculty of Dentistry of Bauru, University of São Paulo - FOB-USP, Bauru, São Paulo, Brazil.

Source of subsidy: Foundation for Research Support of the State of São Paulo—FAPESP

Conflict of interest: non existent

potential of the student by developing activities for them⁷.

Many students meet disapproval in the school system, and other avoid presenting learning disorders⁸, however, the teacher may have little knowledge about the essential issues of the development of written language, such as when to start this process, factors that favor the origin of difficulties and conducts regarding these problems⁹.

There is an inaccuracy in the literature about the definition of learning disorders¹⁰, which may be signed by the various names given: learning problems, school problems, etc. Thus, the term learning disorders will be adopted in this work as a generic term that encompasses learning disabilities and dyslexia. School difficulties will also be discussed, and for greater clarification, brief definitions are presented. In the case of school difficulties, income and school performance can be influenced by affective problems such as school-related problems. The student may be experiencing learning difficulties as a result of inappropriate methodology or by difficulties in his or her relationship with the teacher and colleagues¹¹. Thus, the causes of the difficulty are related to teaching factors and thus is not ranked as a disorder.

Learning disabilities, on the other hand, are categorized within a set of symptomatology signals that cause disruption in the child's learning, interfering markedly in the acquisition and maintenance of information. A learning disability is a dysfunction of the central nervous system. Therefore, it is a neurological disorder associated with a failure in the acquisition, processing, or storage of information, involving specific areas and neural circuits in a particular development time¹².

In addition, dyslexia is a neuro dysfunction characterized by a lower performance than expected based on mental age, socioeconomic status, and educational attainment, and affects the processes of reading decoding and comprehension^{13,14}.

The study of Capellini and Rodrigues¹⁵ showed that teachers have deficits in their initial and/or continued information about learning disorders. According with Stefanini and Cruz¹⁶, teachers can recognize that the cause of such problems can be in the family, in the child, and/or in the school. Therefore, it is important that teachers know in detail the causes of these problems, and furthermore, reflect especially on the educational ones that depend especially on their. Also, knowledge about learning disabilities can help teachers because they are also the intermediaries for parents who are looking for health services¹⁷.

Lara et al.¹⁸ noted many questions and concerns from teachers about their understanding of learning disorders.

Previous studies¹⁹⁻²¹ that focused on teachers' knowledge about school difficulties and learning disorders have shown that in relation to the causes that justify the diagnosis of disorder of reading and writing, most pointed to intrinsic causes (physiological, biological) as causes for the reading and writing disorder, while a minority pointed to extrinsic causes such as the school environment, teaching method, and family environment.

Therefore, it becomes necessary to guide teachers on the topic, because it will affect their actions in the classroom. Thus, the aim of this study was to investigate the conceptions of elementary school teachers about school difficulties and learning disorders.

■ METHODS

This study was approved by the Research Ethics Committee of the Faculty of Dentistry of Bauru - USP, under case number 003/2009.

This is a cross-sectional study in which we selected two state schools and one private school in a town of Bauru, Brazil. The schools were selected because they have already done research partnerships with the university. In each school, the director authorized the research after detailed explanation of the objectives and procedures. Thereafter, the researchers met with the teachers, clarifying important points about the study and recruiting participants.

All teachers of the schools were invited to participate in the study, and those who spontaneously demonstrated interest signed the consent form, confirming their participation in the research.

We used a dissertative questionnaire for checking teachers' knowledge on the subject, prepared by Gonçalves²² that addresses the most important issues about their views and concerns of the subject (Figure 1). In this article, we will only address the results for the teachers' knowledge about the distinctions between school difficulties, learning disabilities, and dyslexia, as well as their definitions, causes, and manifestations. We used open questions to permit teachers to respond in their own words, which gave us the advantage of collecting a larger amount of data and avoiding the influence of predetermined answers, which can happen with objective questions²³.

Questionnaire

Identification

1. Name (Initials): _____
2. Age: _____
3. Graduate: _____
4. Time spent teaching: _____
5. Disciplines currently taught: _____
6. Grade(s) currently taught: _____
7. Have you taken any graduate courses? (improvement, development, specialization, master's, etc.).

8. If yes, what? _____
9. Have you taken any course or training regarding learning problems? If yes, what? _____

Knowledge of School Difficulties and Learning Disorders

10. For you, is there a difference between school difficulties, learning disorders, and dyslexia?
11. How would you define school difficulties and their causes?
12. What can be done (teacher performance) with the child who has school difficulties?
13. How would you define learning disabilities and their causes?
14. What are the manifestations that can be observed in a child with learning disabilities?
15. What are your thoughts about the relationship of children's oral language (the way they express themselves through speech), with learning as a whole, and also reading and writing?
16. What can the teacher do to help children with learning disabilities?
17. How would you define dyslexia and its causes?
18. What are the manifestations commonly found in children with dyslexia?(in kindergarten, elementary, and high school)
19. Do you know of any law pertaining to children with dyslexia?
20. What the teacher can do to help children with dyslexia?
21. What are your difficulties with students who have problems in reading and writing?
22. What knowledge would you like to acquire about children who have trouble reading and writing?
23. You could identify a child in the classroom with: (check as many alternatives as you want)
 - () school difficulties
 - () learning disabilities
 - () dyslexia
24. Do you feel comfortable informing and discussing with other teachers and parents about: (check as many alternatives as you want)
 - () school difficulties
 - () learning disabilities
 - () dyslexia
25. Observations and considerations

Figure 1 - Questionnaire regarding the evaluation of the teachers' conceptions on School Difficulties and Learning Disorders

The study included 11 teachers from private schools and 20 public school teachers. Regarding their undergraduate studies, all the teachers are licensed in pedagogy. Among the teachers of public schools, one of them also has certification in psychology.

Tables 1 and 2 show the characterization of the sample with respect to age, years spent teaching, graduate degrees (in this sample, only graduate-level *sensu lato* was identified), and knowledge about the topic.

Table 1 - Age and time spent teaching

| Aspects (measured in years) | Minimum | Maximum | Average | Standard Deviation |
|-----------------------------|---------|---------|---------|--------------------|
| Age | 24 | 51 | 38,38 | 8,576 |
| Time spent teaching | 5 | 36 | 16,36 | 8,057 |

Table 2 - Graduate level (*sensu lato*)

| Graduate | Number | % |
|----------|--------|----|
| Yes | 23 | 75 |
| No | 8 | 25 |

In relationship to information received about the subject before the development of this research (in courses, lectures, seminars, and postgraduate courses), we obtained the following characterization, arranged in Table 3.

By the characteristics of the sample, it was possible to separate the teachers into two groups:

public x private school, and with x no prior knowledge about the subject.

After collecting data, we organized the responses by thematic categories. Following the categorization of responses, we analyzed the presence of misconceptions, and those responses that had one or more misconceptions were classified as wrong. The establishment of the categories and their analysis were based on the definitions of the DSM-IV¹³ and studies by Zorzi (2003)⁷ and Ciasca (2003)¹².

The following describes the thematic categories for the definitions, causes, and manifestations of school difficulties, dyslexia, and learning disorders, and which categories were considered incorrect.

Table 3 - Prior knowledge of the subject

| Prior knowledge* | School | n | Total | % |
|------------------|------------|----|-------|-----|
| Yes | Particular | 7 | 17 | 55% |
| | Public | 10 | | |
| No | Particular | 4 | 14 | 45% |
| | Public | 10 | | |

*Knowledge was obtained in courses, lectures, seminars, and graduate courses.

School Difficulties: Definition and Causes

Teachers' responses regarding the definition of this disorder were separated into the following categories.

- A. Not defined
- B. Gap between the ability of learning and school success
- C. Difficult to track and fix the contents

Categories B and C were regarded correct, however, the teachers' answers were divided between "define" and "not define" the problem.

Regarding the causes, responses regarding this question were separated into the following categories.

- A. Causes not defined/no answer
- B. Pedagogical origin
- C. Problems in the family environment
- D. Emotional and psychological problems
- E. Unfavorable stimulation
- F. Lack of interest, attention
- G. From some disturbance
- H. Genetic problem
- I. Neurological immaturity
- J. Organic

Categories G, H, I, and J were considered wrong.

Learning Disabilities: Definition, Causes, and Manifestations

Regarding the definition of learning disabilities, the following response categories were identified.

- A. Not defined/do not know
- B. Alteration in the learning process
- C. Limitations of the child to learn
- D. Hearing impairments
- E. Reasoning difficulties
- F. Difficulty in reading/writing
- G. Neurological/cognitive problems
- H. Language alteration

Responses containing the category D were considered incorrect.

In relationship to the causes of learning disorders, the responses were divided into the following categories.

- A. Causes not defined/no answer
- B. Physical, sensory
- C. Emotional/psychological
- D. Cognitive/neurological problems
- E. Lack of adequate stimulation
- F. Inadequate teaching

- G. Cultural/social differences
- H. Mental retardation

Thus, answers containing categories B, C, E, F, G, and H were considered incorrect.

Regarding the manifestations of learning disorders, the following categories were found.

- A. Reading and writing difficulty
- B. Not retaining/understanding the contents
- C. Logical-mathematical problems
- D. Behavioral problems
- E. Cognitive problems (attention, memory, perception)
- F. Sensory problems (hearing, vision)
- G. Speech problems
- H. Emotional problems

Responses including category F were considered incorrect.

Dyslexia: Definition, Causes, and Manifestations

These categories were found in the responses of teachers to the definition of dyslexia.

- A. Do not know
- B. Difficulties in the acquisition and development of speech and language
- C. Failure in the reading and writing process
- D. Failure in language skills that are reflected in reading
- E. Difficulty in reading and writing
- F. Disorder
- G. Exchanging and reversing letters in writing
- H. Difficulty in reading comprehension
- I. Difficulty in mathematical calculation

We ranked as wrong answers in which category I was present.

For the causes, the answers were divided into the following categories.

- A. Did not identify the causes
- B. Genetics
- C. Problems in brain connections/neurological cause
- D. Lack of interest/motivation

Responses that included the category D were classified as incorrect.

Regarding the manifestations of dyslexia, we observed the following categories.

- A. No response/Do not know
- B. Difficulty in reading

- C. Difficulty in writing
- D. Difficulty in reading comprehension
- E. Responds well to questions orally
- F. Memory difficulties
- G. Disorganization
- H. Problems with concentration and attention
- I. Difficulties in mathematical reasoning

The responses were considered wrong when categories A and I were present.

Next, we carried out a comparative quantitative statistical analysis, processing the data with SPSS (Statistical Package for Social Sciences, version 17.0), using the chi-square test and adopting a significance level of 5%.

RESULTS

Distinction between Disorders

Teachers were asked whether there are differences between school difficulties, learning disabilities, and dyslexia. It is observed in Table 4 that 100% of private school teachers believe that there are differences between the disorders, while 70% of public school teachers reported no difference, and this difference was statistically significant. When comparing teachers with and without prior knowledge of the subject, this difference was not statistically significant.

Table 4 - Responses from teachers regarding the distinction of the disorders

| Distinction of the disorders | | I do not know | | Yes | | Yes, but I doubt | | P value* |
|------------------------------|------------|---------------|-----|-----|------|------------------|-----|----------|
| | | n | % | n | % | n | % | |
| School | Particular | 0 | 0% | 11 | 100% | 0 | 0% | p=0,002 |
| | Public | 3 | 15% | 14 | 70% | 3 | 15% | |
| Prior knowledge | Yes | 3 | 21% | 11 | 79% | 0 | 0% | p=0,232 |
| | No | 0 | 0% | 14 | 82% | 3 | 18% | |
| Sample total | | 3 | 9% | 25 | 82% | 3 | 9% | |

*Chi-Square test. P value considered: <0.05

School Difficulties: Definition and Causes

The Table 5 shows that 65% of public school teachers correctly reported the definition of school difficulties, while 36% of private school teachers did the same. Yet 59% of teachers with prior knowledge correctly defined the problem as opposed to 50% of the teachers without prior knowledge. These data were not statistically different.

Table 5 also shows that 45% of private school teachers answered correctly the causes of school difficulties, while 25% of public school teachers did. Among teachers with prior knowledge, 35% knew the causes and 29% of teachers without prior knowledge also did. These differences were not statistically significant.

Table 5 - Responses of teachers regarding the definition and causes of school difficulties

| School difficulties | | Definition | | | | p value* | Causes | | | | | | p value* |
|---------------------|------------|------------|-----|-------------|-----|----------|--------|-----|-------|-----|--------------|-----|----------|
| | | Defined | | Not defined | | | Hit | | Wrong | | Not answered | | |
| | | n | % | n | % | | n | % | n | % | n | % | |
| School | Particular | 4 | 36% | 7 | 64% | p=0,229 | 5 | 45% | 6 | 55% | 0 | 0% | p=0,309 |
| | Public | 13 | 65% | 7 | 35% | | 5 | 25% | 10 | 50% | 5 | 25% | |
| Prior knowledge | Yes | 7 | 50% | 7 | 50% | p=0,515 | 4 | 29% | 10 | 71% | 0 | 0% | p=0,101 |
| | No | 10 | 59% | 7 | 41% | | 6 | 35% | 6 | 35% | 5 | 30% | |
| Total | | 17 | 55% | 14 | 45% | | 10 | 32% | 16 | 52% | 5 | 16% | |

*Chi-Square test. P value considered: <0.05

Learning Disabilities: Definition, Causes, and Manifestations

Regarding the definition of learning disabilities, Table 6 shows that 82% of private school teachers answered correctly, compared to 30% of public school teachers. Among the teachers who reported having prior knowledge of the subject, 41% of them correctly identified the definition of the disorder and 58% of the teachers who had no prior knowledge also did so. These differences were not statistically significant.

With regard to the causes of this disorder, there was a low level of accuracy in all groups. Thus, Table 6 shows only 15% of teachers in public school and 0% in private school answered correct, as did 6% and 14% with and without prior knowledge, respectively. These answers did not differ statistically.

Table 6 shows that when asked about the manifestations of Learning Disabilities, 45% of public school teachers answered correctly and 36% of private school teachers did the same. Among teachers with and without prior knowledge, 59% and 21%, respectively, answered correctly. We also found no statistically significant differences in this issue.

Dyslexia: Definition, Causes, and Manifestations

Regarding the definition of dyslexia, Table 7 shows that 100% of private school teachers and 75% of public school teachers correctly defined the disorder. Among teachers with and without prior knowledge of the subject, 88% and 79% of teachers, respectively, answered correctly. These differences were not statistically significant.

For the causes of the disorder, Table 7 also shows that 64% of private school teachers and 30% of public school teachers answered correctly. Still, 50% of teachers without prior knowledge and 35% of the teachers with prior knowledge also answered correctly. None of these differences was statistically significant.

In terms of the manifestations of dyslexia, statistically significant differences were noted between groups, both between teachers of public and private schools and between teachers with and without prior knowledge on the subject. Thus, Table 7 shows that 80% of public school teachers answered correctly compared with 36% of private school teacher, and 94% of teachers with prior knowledge answered correctly, compared with 29% of teachers without prior knowledge.

Table 6 - Responses of teachers regarding the definition, causes, and manifestations of learning disabilities

| Learning disabilities | Definition | | | | | | Causes | | | | | | Manifestation | | | | | |
|-----------------------|---------------------|---|------------|----|--------|----|--------|---|-------|----|--------------|----|---------------|----|-------|----|----------|---------|
| | Defined incorrectly | | Not define | | Define | | Hit | | Wrong | | Not answered | | Hit | | Wrong | | p value* | |
| | N | % | n | % | n | % | n | % | n | % | n | % | n | % | n | % | n | % |
| School | Particular | 0 | 0% | 2 | 18% | 9 | 82% | 0 | 0% | 6 | 55% | 5 | 45% | 4 | 36% | 7 | 64% | p=0,523 |
| | Public | 6 | 30% | 8 | 40% | 6 | 30% | 3 | 15% | 6 | 30% | 11 | 55% | 9 | 45% | 11 | 55% | |
| Prior knowledge | Yes | 3 | 21% | 3 | 21% | 8 | 58% | 2 | 14% | 4 | 29% | 8 | 57% | 3 | 21% | 11 | 79% | p=0,082 |
| | No | 3 | 18% | 7 | 41% | 7 | 41% | 1 | 6% | 8 | 35% | 8 | 59% | 10 | 59% | 7 | 41% | |
| Total | | 6 | 19% | 10 | 32% | 15 | 49% | 3 | 12% | 12 | 31% | 16 | 57% | 13 | 42% | 18 | 58% | |

*Chi-Square test. P value considered: <0.05

Table 7 - Responses of teachers regarding the definition, causes, and manifestations of dyslexia

| Dyslexia | Definition | | | | | | Causes | | | | | | Manifestation | | | | | |
|-----------------|---------------------|---|-------------|---|--------|----|--------|----|-------|----|--------------|---|---------------|----|-------|----|----------|---------|
| | Defined incorrectly | | Not defined | | Define | | Hit | | Wrong | | Not answered | | Hit | | Wrong | | p value* | |
| | N | % | n | % | n | % | n | % | n | % | n | % | n | % | n | % | n | % |
| School | Particular | 0 | 0% | 0 | 0% | 11 | 100% | 7 | 64% | 4 | 36% | 0 | 0% | 4 | 36% | 7 | 64% | p=0,048 |
| | Public | 1 | 5% | 4 | 20% | 15 | 75% | 6 | 30% | 13 | 65% | 1 | 5% | 16 | 80% | 4 | 20% | |
| Prior knowledge | Yes | 1 | 7% | 2 | 14% | 11 | 79% | 7 | 50% | 6 | 43% | 1 | 7% | 4 | 29% | 10 | 71% | p=0,032 |
| | No | 0 | 0% | 2 | 12% | 15 | 88% | 6 | 35% | 11 | 65% | 0 | 0% | 16 | 94% | 1 | 6% | |
| Total | | 1 | 3% | 4 | 13% | 26 | 84% | 13 | 42% | 17 | 55% | 1 | 3% | 20 | 64% | 11 | 36% | |

*Chi-Square test. P value considered: <0.05

■ DISCUSSION

The results obtained in this study allow several observations about the quality of information being provided to these professionals. Whereas the majority of teachers (55%) reported having information regarding this subject, in the comparison of this group of teachers who had not received any kind of information, there were practically no statistically significant differences. Still, although teachers in private and public have conceptual difficulties, they demonstrated similar performances on most issues. Thus, regardless of the type of school or whether the teacher had prior knowledge about the subject, conceptual difficulties were observed in all cases.

In this study, the majority of teachers assumed that there is a difference between school difficulties and learning disorders (82%). When we compared the type of school, this clarity was higher among private school teachers (100%) than among public school teachers (70%), which is a statistically significant difference. Among teachers with and without prior knowledge of the subject, there was no difference, and the answers regarding the affirmation that there are differences between the disorders were similar in this group, with the majority stating that the disorders differ.

The definition of the disorders and their causes were reported incorrectly by most teachers, and no statistically significant difference was observed among the groups. Thus, 55% of the teachers incorrectly defined school difficulties and 51% defined learning disabilities incorrectly. On the other hand, the majority (84%) correctly defined dyslexia. Regarding the causes, 52% failed to correctly identify the causes of school difficulties, 88% did not identify the cause of learning disabilities correctly, and 58% did the same with the causes of dyslexia.

In a similar study²⁴, 14 teachers in public and private institutions responded to a questionnaire. It was found that 64% studied the subject during their undergraduate work, 50% knew about the concept of dyslexia, and 98% correctly identified its causes. The results showed that the majority have knowledge about dyslexia, which allows them to correctly identify the concept, its main characteristics, its causes, and the need to involve professionals in the whole process. These results are quite different to those of this research.

Still, in the aforementioned study, there was no correlation between the fact that teachers had studied the subject as undergraduates (related to learning disabilities and the main aspects of dyslexia) with the other study variables, such as the identification, definition, and manifestations of dyslexia. These results agree with the data obtained in this

study, in which there were no statistically significant differences in the responses of teachers with and without prior knowledge of the subject, except in relationship to the manifestations of dyslexia, which will be discussed below.

Another study showed that in the teacher's conceptions, family aspects were among the causes of learning difficulties, and consequently, teachers assigned to the family the greatest share of responsibility in solving such situations²⁵.

Regarding the manifestations of dyslexia and learning disabilities, most teachers answered correctly, 64% and 58%, respectively. There were statistically significant differences separating teachers by type of school (80% answered correctly in public schools and 36% in particular) and the type of prior knowledge (94% and 29% of the teachers with and without the knowledge correctly answered the question, respectively).

This finding could reflect that in the daily classroom work of teaching reading and writing, the teacher can detect issues that some students are experiencing compared with the other students. In this research, we note that while the teachers often observe these manifestations, they do not know how to define and identify the causes of the disorders. Ianhez and Nico²⁶ reported that long ago, there was a lack of awareness among educators and professionals about learning disorders, but that teachers already knew about "delays" in school. Presently, this topic is well publicized by the media, and educators are seeking to learn about learning disorders so as to avoid excluding these students. This disorder is easier to describe than to name, as can be seen in the comment made by Ianhez and Nico²², and yet it is important to identify the real cause of the problem so it will be possible to properly teach and help those in need.

In the study by Fernandes and Crenitte¹⁹, 82% of teachers indicated intrinsic reasons (physiological, biological) as justifications for diagnosing a disorder of reading and writing, and only 38% indicated extrinsic reasons (school environment, teaching methods, family environment). When asked "What do you call this problem?", the word "dyslexia" was quite commonly cited among teachers, as 46% identified this condition as that suffered by children with disorders of reading and writing. The authors concluded that teachers have little knowledge about the disorder of reading and writing, and the difficulties revolved around identifying the real problem, manifestations which characterize this problem and how to intervene and prevent.

In the study by Rodrigues²⁷, public and private school teachers were asked what dyslexia is; some answered that dyslexia is a serious illness

while others identified it as a learning disorder. For teachers who responded that it is a serious illness, they still have no idea of the problem that they deal with every day, and they need to learn about it to help their students so they do not suffer in the classroom. All teachers consider dyslexia a congenital disorder, not an acquired one. Still, when teachers were asked if they have identified students who have difficulties in the acquisition of reading and writing in school, all teachers interviewed answered yes, although some do not know what the proper procedure is for solving the problem. This occurred with teachers in both types of schools (public and private).

A study²⁰ addressed the knowledge of 52 teachers who were taking a specialization course in educational psychology. When asked "What is a learning disability?" (a term used interchangeably with learning disorder), there were five categories of responses. Identification of the difficulties as a specific and inherent student problem was the answer given by 56% of subjects, and several responses used current terminologies, such as hyperactivity, deficits, dyslexia etc. Only six teachers associated the difficulties with the pedagogical aspects, questioning teaching performance, and 6% of them considered problems in cognitive development as the origin of these difficulties. The authors report that this is a simple explanation that can be rapidly given, making the students most responsible for their not learning. The authors also reflect that would be these professionals who are specializing in educational psychology who should have a critical eye that avoids any prior labeling. They point out that these teachers should at least balance in their responses the existence of external and internal factors, and even question or reflect on the school's role in the process.

Still, these authors found that of the 52 subjects, 47 know and identify children with learning difficulties, and this was evaluated by the authors as a high number. On the other hand, the most important finding of the authors is precisely the fact that these future psychopedagogues were reluctant to classify problems in learning as easily. According to the report of these teachers, learning problems always or mostly are inherent in their own students. The authors reflected on the ease with which the inherentness of the students' disorders is pointed out. The label has consequences for the child that may not only remain related to learning or /not learning in school. Therefore, the authors suggested it would be interesting to observe what characterizes a student with learning disorders from the perspective of who labels them and what happens to such students going forward.

The study by Torres and Ciasca²⁸ showed that in general, teachers are not sensitive about discriminating between students who are developing and those who have reading and writing difficulty. However, some discrepancies found suggest that other factors related to the specific learning of reading and writing can influence the ratings given by teachers or they are not well prepared to detect subtle differences in these skills.

The possibility of joint reflection between health professionals and teachers (who are responsible for most referrals) could give rise to a new understanding of the problem of "pathologizing" learning and accelerate the search for new institutional solutions²¹. Furthermore, it is necessary that teachers reflect on their practice before the problem of school failure arises and on the ideological implications of this practice; in other words, they need to reflect on the possibility that they are reinforcing stigma, discrimination, and segregation of a portion of the population that is normally not within the individual model valued by society.

Thus, it is noted that in this study that 52% of the teachers failed the causes of school difficulties, implying that these teachers do not recognize the influence of the teacher and the school itself as the cause of the difficulties. Often, such students have their difficulty labeled or "pathologized," meaning that the student him- or herself is identified as the cause of such difficulties.

Following this reasoning, Carvalho, Crenitte and Ciasca²⁹ analyzed the descriptive responses of elementary schoolteachers. It was found that 22% of them differentiated between learning disabilities and school difficulties, and 78% did not. Addressing the teacher's knowledge about learning disorders, the authors observed that 47% of the teachers answered correctly. They stated that students with such disorders are those with learning disabilities for some neurologic reason (attention deficit, memory, perception, language problems, writing, reading, mathematical reasoning, and inappropriate social behavior); therefore, almost half of teachers knew the correct answer. However, two other issues involved. The teachers were asked to describe the disorder in the same question (because the question previously addressed was objective). Another result was then obtained, and 78% did not describe the disorder properly. And in the question where teachers identified the causes of learning disorders, sometimes correctly, their answers did not coincide with the justifications. It was possible to make the same reading of the results, but with different statistical data, through the analysis of all the answers of the same teacher. For this, who correctly answered all the questions were considered with adequate

knowledge about the topic. Thus, only 11% of teachers showed this knowledge.

The authors also point out that although the statistics show that the teachers surveyed had no knowledge of the subject, some issues justify this gap, for example, the issue of education and teacher formation. Educational problems are not caused by the student who does not learn, but also with regard to teacher formation. There is also the problem of their formation regarding with public investments.

Salles and Parente³⁰ and Rodrigues²⁷ also pointed out that some teachers in the early grades of elementary school have no knowledge or training that enables them to carefully evaluate the development of reading and writing skills of their students and to accurately identify those who have difficulties in these processes.

The study by the Carlos Chagas Foundation³¹, which evaluated the actions of continuing formation of Brazilian states and cities, addresses one of the main goals of continuing education, which is to fill the gaps left by the initial training. In the study, it became clear that the state departments of education do not evaluate teachers after their participation in continuing education activities, or, when it occurs, this evaluation is done indirectly, via the results obtained by students and/or reports of pedagogical coordinators or teaching staff.

The study also reports that the evaluation of training activities and their monitoring in schools are the key to the teachers' development, improving teaching quality and teaching staff cohesion with regard to student learning. Thus, one of the propositions of the study for continuing education of teachers

is investing massively in initial teacher formation, so that continuing education need not act retrospectively and therefore in a compensatory way. Instead, the state needs to charge of the professional development of teachers. This would be a prospective continuous education, through which the teacher gains autonomy, including the freedom to determine what is necessary to improve themselves.

It is clear that all teachers need to understand this subject so they can reflect on the causes of learning problems, including educational ones, and can cope with the difficulties presented by these students in the classroom to develop their capabilities to the greatest possible extent.

■ CONCLUSION

We conclude that teachers, regardless of the type of school they teach in or if whether they had prior knowledge of the subject, have a shortage in their conceptual repertoire that refers to the definitions, manifestations, and especially the causes of school difficulties and learning disorders. Therefore, they need guidance to help them work effectively with these students.

■ ACKNOWLEDGMENT

To the Foundation for Research Support of the State of São Paulo - FAPESP for the financial support in the form of master scholarship and research aid.

RESUMO

Objetivo: investigar as concepções de professoras de ensino fundamental sobre as Dificuldades Escolares, o Distúrbio de Aprendizagem e a Dislexia. **Métodos:** este é um estudo transversal, realizado com 31 professoras do ensino fundamental de uma cidade do interior do estado de São Paulo. Realizou-se um levantamento por meio de questionário com questões dissertativas. O questionário apresenta questões referentes ao conhecimento do professor em relação à definição, causa e manifestações dos Transtornos de Aprendizagem. Os dados foram analisados quantitativamente por meio da análise comparativa, utilizando-se o teste estatístico Qui-Quadrado, comparando-se o conhecimento de professores de escola pública e particular, e entre os professores com e sem conhecimento prévio sobre o assunto. Adotou-se o nível de significância de 5%. **Resultados:** de maneira geral, as professoras demonstraram dificuldades para definir os transtornos, atribuir suas causas e pontuar as manifestações dos mesmos. Separando-se as professoras pelo tipo de escolas (pública e particular) e pelo conhecimento prévio sobre o assunto, não foi observada diferença estatisticamente significativa na maioria das respostas. **Conclusão:** as professoras possuem carência em seu repertório conceitual no que se refere às Dificuldades Escolares, os Transtornos de Aprendizagem e a Dislexia, e, portanto, precisam de orientação em relação ao trabalho efetivo com estes alunos.

DESCRIPTORIOS: Aprendizagem; Linguagem; Fonoaudiologia; Questionários

■ REFERENCES

1. Conselho Federal de Fonoaudiologia. Resolução Nº 387 DE 18.09.2010. Dispõe sobre as atribuições e competências do profissional especialista em Fonoaudiologia Educacional reconhecido pelo Conselho Federal de Fonoaudiologia, alterar a redação do artigo 1º da Resolução CFFa nº 382/2010, e dá outras providências. Brasília, 18 de set. 2010.
2. Freischmidt CC, Kay MRQ. A voz do dono e o dono da voz? Considerações sobre a saúde vocal do professor. *Cad Centro Univ S Camilo*. 2005;11(3):91-6.
3. Luzardo R, Nembr K. Instrumentalização fonoaudiológica para professores da educação infantil. *Rev CEFAC*. 2006;8(3):289-300.
4. Maranhão PCS, Pinto SMPC, Pedruzzi CM. Fonoaudiologia e educação infantil: uma parceria necessária. *Rev. CEFAC*. 2009;11(1):59-66.
5. Cristofolini C, Magni C. Audição: relatos e experiências de professores do ensino fundamental. *Rev Fonoaudiol Bras*. 2002;2(2):31-8.
6. Brasil CCP, Chiari BM. Integrando fonoaudiologia e escola: uma proposta para prevenção do distúrbio de leitura e escrita. *Fono Atual*. 2006;36(9):35-43.
7. Zorzi JL. Fonoaudiologia e educação: encontros, desencontros e a busca de uma atuação conjunta. In: Zorzi JL, editor. *Aprendizagem e distúrbios da linguagem escrita: questões clínicas e educacionais*. Porto Alegre: Artmed; 2003. p. 157-71.
8. Tuleski SC, Eidt NM. Repensando os distúrbios de aprendizagem a partir da psicologia histórico-cultural. *Psicol. estud.* 2007;12(3):531-40.
9. Oliveira JP, Natal RMP. A linguagem escrita na perspectiva de educadores: subsídios para propostas de assessoria fonoaudiológica escolar. *Rev. CEFAC*. 2012;14(6):36-46.
10. Gimenez EHR. Dificuldades de aprendizagem ou distúrbio de aprendizagem? *Revista de Educação*. 2005;8(8):78-83.
11. Osti A. As dificuldades de aprendizagem na concepção do professor [dissertação]. Campinas (SP): Universidade Estadual de Campinas; 2004.
12. Ciasca SM. Distúrbios e dificuldades de aprendizagem: questão de nomenclatura. In: Ciasca SM, editora. *Distúrbios de aprendizagem: proposta de avaliação interdisciplinar*. São Paulo: Casa do Psicólogo; 2003. p. 19-32.
13. DSM-IV-TR. Manual Diagnóstico e Estatístico de Transtornos Mentais. (4ª ed.). Porto Alegre: Artes Médicas; 2002.
14. Lozano A, Ramírez M, Ostrosky-Solís F. Neurobiología de la dislexia del desarrollo: una revisión. *Rev Neurol*. 2003;36(11):1077-82.
15. Capellini VLMF, Rodrigues OMPR. Concepções de professores acerca dos fatores que dificultam o processo da educação inclusiva. *Educação*. 2009;32(3):355-64.
16. Stefanini MCB, Cruz SAB. Dificuldades de Aprendizagem e suas causas: o olhar do professor de 1ª a 4ª séries do Ensino Fundamental. *Educação*. 2006; 58(1):85-105.

17. Ciasca SM, Rossini SDR. Distúrbios de aprendizagem: mudanças ou não? Correção de dados de uma década de atendimento. Temas sobre desenvolvimento. 2000;8(48):11-6.
18. Lara ALF, Tanamachi ER, Junior JL. Concepções de desenvolvimento e de aprendizagem no trabalho do professor. *Psicol em Estudo*. 2006;11(3):473-82.
19. Fernandes GB, Crenitte PAP. O conhecimento de professores de 1ª a 4ª série quanto aos distúrbios da leitura e escrita. *Rev CEFAC*. 2008;10(2):182-90.
20. Guimarães KP, Saravali EG. Concepções de alunos do curso de psicopedagogia a respeito das dificuldades de aprendizagem. *ETD - Educação Temática Digital*. 2006;8(1):192-210.
21. Nutti JZ. Concepções sobre as possibilidades de integração entre Saúde e Educação: um estudo de caso [dissertação]. São Carlos (SP): Universidade Federal de São Carlos; 1996.
22. Gonçalves TS. Desenvolvimento de material educacional interativo para orientação de professores do ensino fundamental quanto aos Distúrbios da Linguagem Escrita [dissertação]. Bauru (SP): Universidade de São Paulo; 2011.
23. O’Cathain A, Thomas KJ. “Any other comments?” Open questions on questionnaires - a bane or a bonus to research? *BMC Med Res Methodol*. 2004;4(25):1-7.
24. Pereira LV, Simões MG, Siqueira CM, Alves LM. Estudo investigativo sobre o conhecimento da dislexia em educadores da rede pública e privada dos municípios de Belo Horizonte e de Nova Lima. *Revista Tecer*. 2011;4(6):26-40.
25. Oliveira JP, Santos SA, Aspilicueta P, Cruz GC. Concepções de professores sobre a temática das chamadas dificuldades de aprendizagem. *Rev bras educ espec*. 2012;18(1):93-112.
26. Ianhes ME, Nico MA. Nem sempre é o que parece: Como enfrentar a dislexia e os fracassos escolares. 10ª ed. Rio de Janeiro: Elsevier, 2002
27. Rodrigues MZ. Dislexia: Distúrbio de aprendizagem da leitura e escrita no Ensino Fundamental [monografia de conclusão de curso]. Montes Claros (MG): Instituto Superior de Educação de Montes Claros; 2008.
28. Torres DI, Ciasca SM. Correlação entre a queixa do professor e a avaliação psicológica em crianças de primeira série com dificuldades de aprendizagem. *Rev Assoc Bras Psic*. 2007;24(73):18-29.
29. Carvalho FB, Crenitte PAP, Ciasca SM. Distúrbios de aprendizagem na visão do professor. *Rev Psicopedagogia*. 2007;24(75):229-39.
30. Salles JF, Parente MAMP. Relação entre desempenho infantil em linguagem escrita e percepção do professor. *Cadernos de Pesquisa*. 2007;37(132):687-709.
31. Davis C, Nunes M, Almeida PA. Formação continuada de professores: uma análise das modalidades e das práticas em estados e municípios brasileiros. Relatório de Pesquisa. São Paulo, Fundação Carlos Chagas, 2011.

Received on: November 29, 2012

Accepted on: May 07, 2013

Mailing address:

Thaís dos Santos Gonçalves

Al. Dr. Octávio Pinheiro Brisolla, 14-75,

Vila Universitária

Bauru – SP – Brasil

CEP: 17012-191

E-mail: thaiscarpediem@yahoo.com.br