

ANALYTICAL STUDY OF TEACHERS' KNOWLEDGE ABOUT LEARNING DISORDERS

Estudo analítico do conhecimento do professor a respeito dos distúrbios de aprendizagem

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ABSTRACT

Purpose: to investigate the teachers' conception about learning disorders, revealing different aspects related to the way they realize it in everyday classes, which factors attribute as causes of the problem and how to deal with this question; also to verify if there was a change after the Speech Pathology orientation. **Method:** there were 25 teachers in this study, who teaches in the Public Elementary School in Sao Paulo. The inclusion criterion adopted was that the teachers should be teaching in 2010. The substitute teachers that didn't follow the class development throughout the year were not included in the study. A questionnaire was applied to investigate the knowledge that the teacher would have about learning disabilities, and afterwards seminars about these difficulties were giving. The data were submitted to statistical analysis and discussed in literature review. The statistical methods were considered absolute frequency and relative frequency and described graphically. **Results and Conclusion:** the results and conclusion of this study showed that the teachers do not have knowledge on learning disorders, but we can observe the effectiveness of orientation and training.

KEYWORDS: Learning; Faculty; Knowledge

■ INTRODUCTION

Learning Disorder is recognized by health professionals as a cognitive neurobiological disorder and/or language processing caused by atypical brain functioning¹. They are manifested by significant difficulties for listening, speaking, reading and writing, reasoning or mathematic abilities.

These facts are frequently observed during the scholastic period of the children, as difficulties for listening, speaking, reading and writing, reasoning or mathematic abilities, leading them to indiscipline,

because lack of comprehension of the scholastic activities is often considered by the school as voluntary acts, which foresees the academic failure.

School is the main access of children to written language and for this reason, it becomes fundamental for the teachers and coordinators to recognize the learning disorders and adapt their teaching methods, so that they can attend all the children, and not only the ones who do not present any learning disorder.

Learning how to write may take place in an ineffective way, generating learning alterations for some children². The process of learning how to read and write comprises the use of phonological and orthographic strategies, considering that some children may present serious difficulties towards the phonological aspects, while others may present such limitations in relation to orthographic aspects³. According to Salles⁴, the classroom is a natural context for evaluating the written language of the children, besides allowing continuous and longitudinal analyses of their progress; therefore, the role of the specialist, in conjunction with the

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teacher provides great importance for the teaching practice. Carvalho⁵ claims that the determination of the teachers, concerning students who fail, may be linked to external factors apart from the teaching-learning system.

In this context, the importance to acknowledge what the teacher thinks about the causes, reasons and consequences of the learning disorders, will enable the analysis of his/her point of view, concerning this problem.

The present study aimed to investigate the conception of teachers about the learning disorders, in an effort to bring out different aspects referring to the way how they observe it everyday in the classroom; which factors are attributed as cause of the problem; how they behave facing the problem, besides checking if there was any change concerning this aspect after the phonological orientation.

■ METHODS

Transversal study, realized with a sample of 25 teachers, both genders, whose working period ranged from 5 to 35 years. As inclusion and exclusion criteria, the teachers should be working in the classroom where the research took place, during the school year 2009/2010. Teachers who did not follow the development of the students during the year, or teachers who refused to sign The Free Consent, according to Resolution 196/96, National Health Council, were excluded of the research.

After authorization of the Ethics Committee, a survey was realized in conjunction to the Pedagogical coordination of the school, in order to identify the teachers who were teaching the initial grades, first cycle (1st to 4th grades) and second cycle (5th to 8th grades).

The research was realized at the Public Municipal School of São Paulo city, in accordance to the authorization and consent of the educational directors and school council. On the date and time established by the teacher, the researcher applied the questionnaires, which were filled in, without determining a specific amount of time, inside a room, free from any type of interference. It was not established

a previous time for filling the paper, that is, the teacher answered all the questions and took the time he thought it was necessary.

The questionnaire comprised 18 closed questions which comprised the aspects: knowledge of the teachers about the oral and written language disorder, and recognition of the speech pathologist and audiologist role. It is important to say, that it was based (Figure 1) on the questionnaire applied by Fernandes⁶, with adaptation of the authors.

After the initial application of the questionnaire, the difficulties presented by the teachers were selected, and in other two dates, previously scheduled with the school coordination, some courses on formation, about the following themes were provided, as follows: Learning Disorders: what is language and learning, factors which interfere on learning; What is written language, which factors interfere on the written language leaning process; What are school difficulties and learning disorders; dyslexia, disgrapy, attention deficit hyperactivity disorder and the role of the speech therapist and audiologist. The courses took two hours and thirty minutes, proposed for the periods of morning, afternoon and evening, during one week. Such courses were realized with the support material: Power point presentation and paste with content and notes for teachers. Afterwards, in the presence of the researchers, the questionnaire was reapplied (post-test), in order to tabulate and check if there was any alteration on the recognition of the teacher.

This research was approved by the Research Ethics Committee (Process nº 119/2009) at Dental School of Bauru, University of São Paulo.

Afterwards, the questions were selected for analyses, into qualitative questions, which checked the environment characteristics and the research subject; and the quantitative questions, which checked the knowledge of the teacher about learning disorders. For the quantitative analyses, the McNemar Test was employed, which considered absolute and relative frequency, for answer significance $p < 0,05$.

Name (initial): _____ Age: _____

1 – Gender: 1. a – () Male 1. b – () Female

2 – Teaching grade:

- 2. a – () 1st grade of first cycle of fundamental teaching
- 2. b – () 2nd grade of first cycle of fundamental teaching
- 2. c – () 3rd grade of first cycle of fundamental teaching
- 2. d – () 4th grade of first cycle of fundamental teaching
- 2. e – () 5th grade of first cycle of fundamental teaching
- 2. f – () 2nd cycle of fundamental teaching

3 – Education:

- 3. a – () High School
- 3. b – () Upper high School
- 3. c – () Pedagogy
- 3. d – () Graduation on the working area
- 3. e – () Specialization (post-graduation (Lato Sensu)
- 3. f – () Post-graduation *stricto sensu* (master degree, doctor degree)

4 – Subject – teaching:

- 4.a – () Several
- 4.b – () Portuguese
- 4.c – () Mathematics
- 4.d – () Sciences
- 4.e – () Geography
- 4. f – () History
- 4. g – () Other – which one? _____

5 – Years of work:

- 5. a – () from 0 to 5 years
- 5. b – () from 6 to 10 years
- 5. c – () from 11 to 20 years
- 5. d – () from 21 to 30 years
- 5. e – () 31 years or more

6 – How often do you read?

Mark the alternatives below: (A) if you read frequently (B) if you read eventually (C) if you rarely read

- 6. 1. Books about education. (A) (B) (C)
- 6. 2. Other books (literature in general). (A) (B) (C)
- 6. 3. Books of stories for children. (A) (B) (C)
- 6. 4. Magazines on your working area (A) (B) (C)
- 6. 5. Newspapers or magazines on general information (Veja, Isto É, Época, etc.) (A) (B) (C)
- 6. 6. Cartoons. (A) (B) (C)
- 6. 7. Other magazines. (A) (B) (C)

7 – Did you receive, in your formation, any information about the audiologist work at school?

- 7. a – () yes, during my formation, we received information about the role of the speech therapist and audiologist at school.
- 7. b – () no, during my formation, we did not receive information about the role of the speech pathologist and audiologist at school.
- 7. c – () did not want to answer
- 7. d – () did not remember
- 7. e – () did not know

8 – Are there any students in your classroom with learning difficulties?

8. a – () Yes 8. b – () No

9 –Which causes may justify the reading and writing disorders?

9. a – () learning difficulties

9. b – () lack of interest of the family

9. c – () some organic disorder (deficiency) intrinsic causes – physiological, biological

9. d – () teaching method – teacher/ school

9. e – () I do not know

10 – How can you name this problem?

10. a – () dyslexia

10. b – () disorder

10. c – () attention deficit hyperactivity disorder (ADHD)

10. d – () phonological disorder

10. e – () disgraphy

10. f – () I do not know about the terms mentioned above

11 – And facing this problem, how do you correct a child?

11. a – () repetition exercises (which ones) (_____)

11. b – () correction – tell the student where the mistake is – and ask him/ her to redo it

11. c – () I suggest challenging activities

11. d – () I call the parents

11. e – () I do not know

12 – What attitudes do you have when facing a child with reading and writing disorders?

12. a – () I try to use all the resources available at school to help her/him to learn.

12. b – () I refer the student to the pedagogical coordination of the school.

12. c – () I call the mother and suggest her to take the child to a specialist

12. d – () I refer the child to a psychologist

12. e – () I refer the child to a speech therapist and audiologist

13 – When you suspect or detect a problem, who (professional) do you refer the child to?

13. a – () coordination and directors boarding of the school

13. b – () teacher of inclusive education classroom

13. c – () psychologist

13. d – () speech therapist and audiologist

13. e – () others – which ones _____)

14 – Some affirmations are used to explain the Learning Difficulties of the students. Mark your position, considering the situation of the students of this class.**Mark only ONE option for each sentence:**

(A) Agree (B) Disagree

14. 1. Are detected at school, due to the lack of physical and/or pedagogical infrastructure (A) (B)

14. 2. Are related to the curriculum contents, which are not appropriate to the students' needs. (A) (B)

14. 3. Are caused by the environment at home (A) (B)

14. 4. Are at school which offers few opportunities to develop the intellectual abilities of the student.

(A) (B)

14. 5. Are related to non observance of the curriculum content. (A) (B)

14. 6. Are related to excess of work of the teachers impairing planning and elaboration of classes.

(A) (B)

14. 7. Are caused by indiscipline of the students in the classroom.

14. 8. They occur due to low salary of teachers which causes dissatisfaction and lack of stimuli towards teaching activities. (A) (B)

14. 9. They are originated in the environment in which the students live (family). (A) (B)
 14. 10. They are caused by the cultural level of the parents and students. (A) (B)
 14. 11. They are related to lack of assistance and follow-up of the family towards the students concerning homework and research. (A) (B)
 14. 12. They occur due to lack of inabilities and skills of the students. (A) (B)
 14. 13. They occur due to lack of interest and lack of efforts of the students. (A) (B)
 14. 14. They are linked to low self-esteem of the students. (A) (B)

15 –Specialized intervention is indispensable to overcome learning difficulties:
 15. a – () Yes 15. b – () No

16 – Does your school have human resources and appropriate material to those students?:
 16. a – () Yes 16. b – () No If affirmative, which ones?

17 –Children with reading and writing difficulties should be followed up in appropriate schools:
 17. a – () Yes 17. b – () No

18 – Read the following questions and answer them, circling the number which better represents your answer:
 Disagree – 1 I neither agree nor disagree – 2 Agree – 3

18. 1. Children with dyslexia are good at arts, theater, music, sports, design. 1 2 3
 18. 2. Children with dyslexia always present writing problems. 1 2 3
 18. 3. Low or regular intellectual level is one of the characteristics of dyslexic children. 1 2 3
 18. 4. Children with dyslexia may be more creative than other children, which allows them to overcome their difficulties. 1 2 3
 18. 5. Dysorthography is a specific disorder which is characterized by written mistakes, without impairing reading. 1 2 3
 18. 6. Dyslexia is difficult to detect, due to its different manifestations. 1 2 3
 18. 7. Disgraphia is a functional writing disorder which affects the writing quality, even if there are not orthographic mistakes. 1 2 3
 18. 8. It makes no difference the age to start the intervention towards the success of children with dyslexia. 1 2 3
 18. 9. The onset of dyslexia is associated to the socioeconomic level of the children. 1 2 3
 18. 10. Children with dyslexia make more efforts to read than other children. 1 2 3
 18. 11. Copy of texts is an appropriate exercise for this kind of children. 1 2 3

Figure 1 – Questionnaire

■ RESULTS

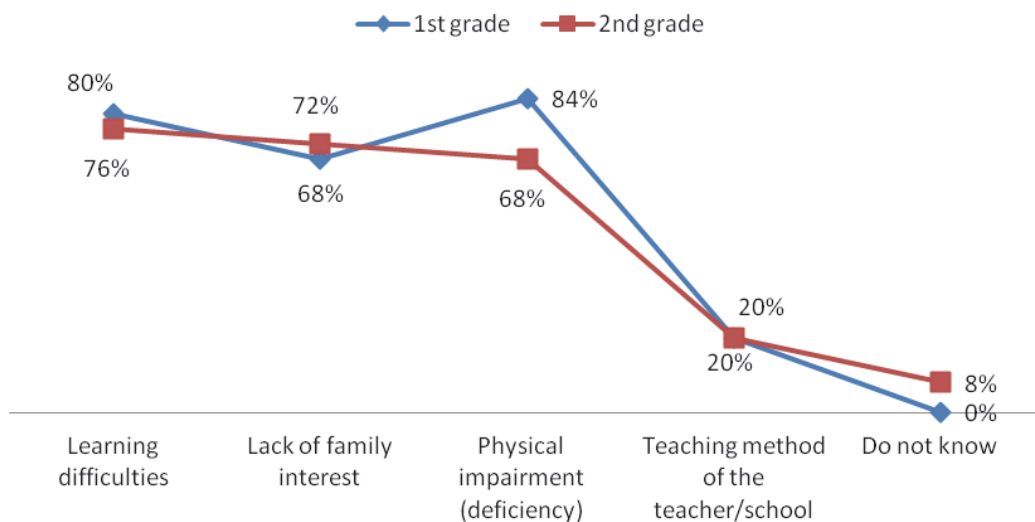
In an effort to make a profile of the interviewed people involved in the study, the first part of the questionnaire asked the teachers about the cycle and subject they teach, their education, years of work and frequency and type of reading, described in Table 1.

About 60% of the teachers interviewed, were updated by reading specialized books and magazines according to their work area; they also read general literature (52%), infantile literature (48%), newspapers and magazines (56%) and cartoons (44%).

It can be observed that 60% of the teachers, during their teaching period, did not receive any information about the role of the speech therapist and audiologist at school, considering that 96% of the teachers may have some students with learning disorders in their classes. It was observed that, before the informative intervention, 68% of the teachers believed that those difficulties stemmed from any organic disturbance (deficiency), intrinsic causes – physiological, biological (Figure 2) and this index reached 84%, realizing that this difficulty may arise from organic factors, as malfunction of the central nervous system and may not be followed by mental deficiency, after the intervention, not presenting statistically significant difference on the steps of answers of the questionnaire (p=0,683).

Table 1 – Profile of the teachers who work at the Municipal School, outskirts of São Paulo

Years of work:	%
11 to 20 years	60
5 to 10 years	36
31 years or more	4
Education:	
High School	4
College (Full)	40
Pedagogy	64
College (specific area of work)	32
Post-graduation (Latu Sensu)	20
Post-graduation (Strictu Sensu)	4
Discipline being taught:	
Several	40
Portuguese	16
Mathematics	4
Sciences	8
Geography	8
Other	24



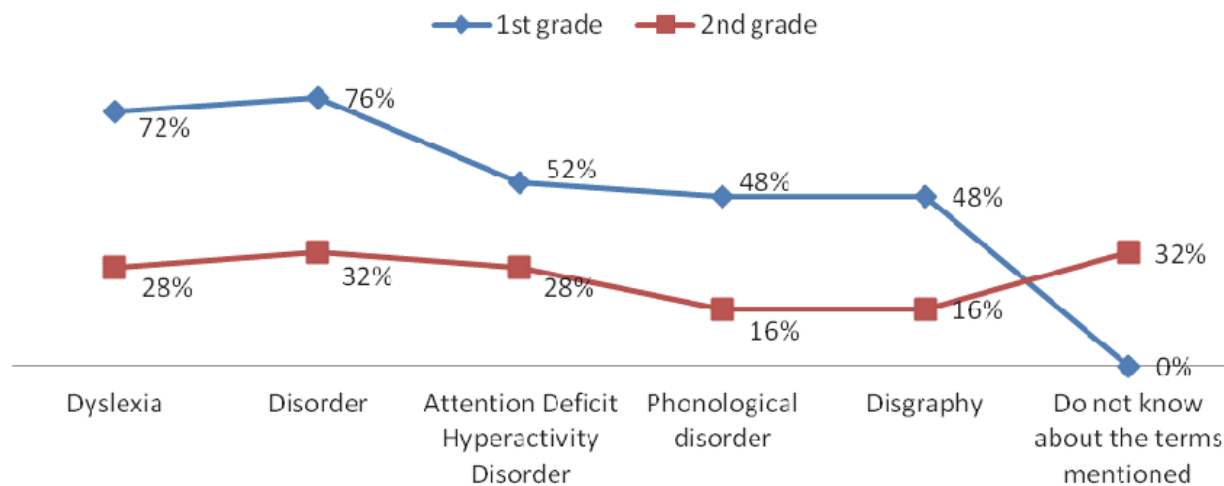
Subtitles: 1st grade. Results of the questionnaire after the informative intervention; 2nd grade. Results of the questionnaire after the informative intervention.

Value $p=0,683$. McNemat Test, p significance $p<0,05$.

Figure 2 – Causes which justify the written reading disorder

For the teachers, the problems that arise in their classrooms are named as: dyslexia (28%), phonological disorders (16%) ADHD (28%) and learning disorder (32%), considering that 32% informed that did not know about the terms mentioned, before the formative intervention, however, after the

information, there were marked alteration data: the teachers started to classify and understand the manifestations as dyslexia (72%), phonological disorders (76%), ADHD (52%) and learning disorder (52%), as it can be observed in Figure 3.



Subtitle: 1st grade. Results of the questionnaire after the informative intervention; 2nd grade. Results of the questionnaire before the formative intervention.

Figure 3 – How problems that arise in classrooms are named

Due to the difficulties the teachers face, 84% try to solve the problems with challenging activities, mainly after the formative intervention, and 64% call the parents to talk about the problems.

The employment of the available resources at school, in order to help the children to learn, was presented by 72% of the teachers after the formative intervention, besides having increased the references to the pedagogical coordinator, to the speech therapist and audiologist and orientation to the mother, so that she can take the child to a specialist for a safe diagnosis and effective intervention (Figure 4). Nevertheless, 92% consider relevant that the school should make provisions to help improving the cultural deficit of the children, providing access to written culture, in order to guarantee their development.

The difficulties of the children for learning, were initially justified by 64% of the teachers as lack of physical infrastructure of the school, and after the intervention, 84% insisted in affirming that learning disorders are based at school, due to lack of pedagogical and physical infrastructure. In this perspective, 84% of the teachers initially informed that the disorders are not only due to the environment, but after the formative intervention, only 22% claimed that learning disorders are originated simply from the environment. However, for 80% of the teachers, excess of work impairs planning and elaboration of classes, but does not constitute the cause for scholastic difficulties.

The curricular content, improper to the necessities of the children was initially presented by 24% of the teachers, not showing any relationship to learning disorders. And after the formative intervention,

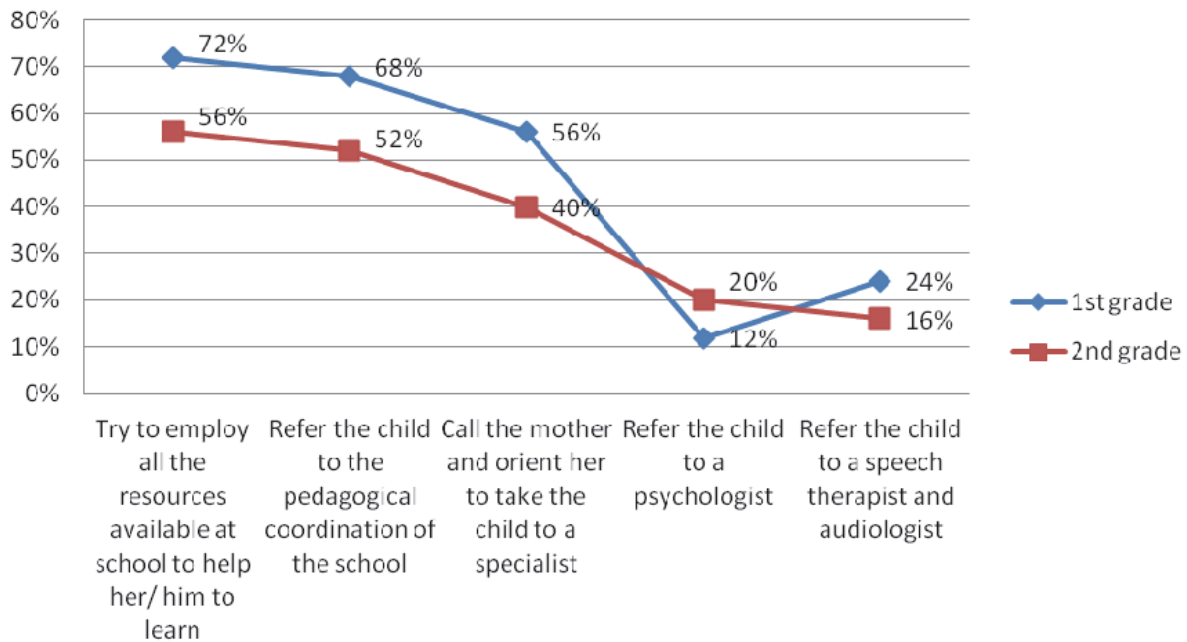
84% affirmed that the curricular content influences on the learning process of the students. For 56% of the teachers, learning disorders are not caused by lack of infrastructure of the school. After the informative intervention, this index raised to 84%. For 92%, after the formative intervention, learning disorders are not related to school curricular content. And 88% referred that their low salary was not the cause of indiscipline and low scholastic productivity.

For 36% initially, and afterwards 64%, before the formative intervention, learning disorders occur due to lack of capability and skills of the student; and 92% after, believe that they do not arise from indiscipline of the students in the classroom.

Still, for 72% of the teachers, before the intervention and 80% after, the scholastic difficulties arise in the environment where the students live. For 60% of the teachers, before the intervention and 68% after, the socio cultural status of the family, as well as 12% indicated that lack of help towards the child for doing homework, did not interfere on the scholastic difficulties.

Lack of interest and lack of efforts of the students were indicated by 64% of the teachers initially, and 52% afterwards, as the causative factor for scholastic difficulties. Around 80% of the teachers, in both occasions, also believe that the students have low self-esteem, linked to learning disorders.

For 100% of the teachers, specialized intervention is necessary, when facing diagnoses, as: dyslexia, disgraphia, phonological disorder and ADHD. But the school does not have human resources and not even specific material for those students (100%).



Subtitle: 1st grade. Result of the questionnaire, after the informative intervention; 2nd grade. Result of the questionnaire, before the informative intervention.

Value of $p=0,723$. McNemar Test, significance value $p<0,05$

Figure 4 – Attitudes taken when facing a child with reading and writing disorders

After the formative intervention, the teachers presented the following affirmations: 72% informed that a child with dyslexia presents reading problems; before just 12% knew about that fact; 56% said that low or medium intellectual level is not a characteristic of dyslexic children. Before the formative intervention, only 24% affirmed that; 48% afterwards and 8% after the formative intervention, revealed to be uncertain about the affirmation that the dyslexic children may be more creative than other children, allowing them to compensate this difficulty. When questioned about dysorthography, which is a specific disorder characterized by mistakes when writing, not committing mistakes when reading, only 12% considered that affirmation as real; after the formative intervention, this percentage reached 36%.

The same way, the informative intervention modified the answers of the teachers, 12% who answered affirmatively and afterwards 64% affirmed that dysgraphia constitutes a functional writing disorder, which affects the quality of writing, even if there are not orthographic mistakes.

It can be observed that 64% of the teachers affirmed that that the age and beginning of the intervention can interfere on the recuperation of a child with dyslexia.

The difficulty in detecting dyslexia was presented by 68% of the teachers, due to different ways of manifestation, and before the intervention, only 28% answered affirmatively. The fact that dyslexia is related to socio economic and cultural status of the children, 68% of the teachers referred negatively before the intervention, and 88% of the teachers also referred negatively about that aspect, after the intervention. The dyslexic children make more efforts to read than the other children. A total of 72% of the teachers affirmed that, after the intervention, and 32% before. The teaching professionals also affirmed that making copies was an appropriate exercise for those children, after the formative intervention (76%).

In order to present the evolution of the answers of the teachers, the percentage of correct and incorrect answers was described, during pre-test and post-test and p values in the statistic test (Table 2)

Table 2 – Statistical analysis of the quantitative questions of the questionnaire

Questions	Pre-Test		Post-Test		P value
	% correct	% incorrect	% correct	% incorrect	
Q. 9	16	84	12	84	p= 0,683
Q. 12	16	84	24	76	p= 0,723
Q. 13	12	88	8	92	p= 0,449
Q. 14.1	12	88	28	72	p= 0,288
Q. 14.2	24	76	84	16	p= 1,000
Q. 14.3	100	0	88	12	p= 0,134
Q. 14.4	20	80	24	76	p= 1,000
Q. 14.6	16	84	20	80	p= 1,000
Q. 14.7	48	52	44	56	p= 1,000
Q. 14.8	0	100	16	84	p= 0,134
Q. 14.9	28	72	80	20	p= 0,751
Q. 14.10	68	32	28	72	p= 1,000
Q. 14.11	88	12	88	12	p= 0,683
Q. 14.13	64	36	52	48	p= 0,504
Q. 14.14	80	20	76	24	p= 1,000
Q. 15	96	4	100	0	p= 1,000
Q. 17	68	32	68	32	p= 0,751
Q. 18.1	24	76	76	24	p= 0,005
Q. 18.2	20	80	72	28	p= 0,000
Q. 18.3	40	60	56	44	p= 0,386
Q. 18.4	32	68	24	76	p= 0,751
Q. 18.5	8	92	36	64	p= 0,045
Q. 18.6	32	68	64	36	p= 0,080
Q. 18.7	12	88	64	36	p= 0,003
Q. 18.8	36	64	76	24	p= 0,016
Q. 18.9	68	32	92	8	p= 0,113
Q. 18.10	24	76	20	80	p= 1,000
Q. 18.11	48	52	76	24	p= 0,070

For the analysis, McNemar Test was employed, for answers significance –value $p < 0,05$.

■ DISCUSSION

The analyses of the results, evidenced that teachers do not know about learning disorders and have difficulties in classifying their causes, or naming the problem which they are facing; and do not know how to realize the appropriate intervention so that the student can overcome the difficulties. Studies have compared children with and without reading and writing difficulties, whose evaluation criteria were established just by the teacher^{5,7,11}. Such perception is determinant to classify the students in relation to their performance concerning reading and writing, so, it becomes very important to know about learning disorders.

When asked about learning difficulties, the teachers pointed as probable causes: lack of interest, little efforts, not presenting any significant relevance in relation to the previous or posterior informative intervention. Another aspect observed, was the reason for low academic performance. For the school, it was related to the students, specifically to their inner learning conditions, because, for 88% of the teachers, the children who come from non-structured homes, with parents who do not follow-up their studies. And 52% believe that those children are not interested in learning; and as they are intrinsic factors of the students, the teachers believe that their conduct will not interfere significantly, so that the students can overcome their difficulties. But 86% affirmed that they propose some challenging

activities for those children. Therefore, the main characteristic was pointed as inherent to the student, excluding any interference of the school concerning the learning disorders, reflecting on the difficulty of the adherence on the formative intervention. Even after the intervention, the teachers reinforced that the problems are centered on the students, that is, they informed that there is not any significant interference of the physical and/ or pedagogical infrastructure related to learning disorders.

Araujo¹² claims that the problems and learning difficulties are expressions and alterations manifested by many students during their school development. When the children are limited, learning process ends up causing some disorders and negative behaviors, such as: fear, anxiety and feeling of guilty. Lack of stimuli and rejection create a non satisfactory environment for their school performance, presenting children with learning disorders, who are noted in classrooms, by the teachers. However, in this study, the teachers attribute as causes of this problem: intrinsic factors, family environment and socio economic status.

The results presented by Osti¹³, in his study, inform that the teachers attribute the learning disorder, to emotional problems as consequence of family troubles. Consequently the problematic is directed to the familiar environment and exclusive to the student, as lack of interest and desire in taking part of the proposed activities. Similarly to the actual study, 88% of the teachers informed that learning disorders are noticed at school, due to several factors, mainly to lack of assistance and follow-up of the family concerning homework, researches and 52% attribute to lack of interest and lack of efforts of the students.

For Silva¹⁴, teaching is not only to acknowledge specific teaching methodologies or opting for either one; it becomes necessary to know the students, the characteristics of their personalities, the steps of development in which the motor, social, emotional or social aspects are comprised, and the way they learn. The students who are not able to learn, do not behave like that for their own volition; but many times due to interaction problems concerning the students and the whole educational context. However, the family and economic condition of the children are not determinants for the success or scholastic failure, because there are children who succeed despite their socio economical condition, in opposition to the affirmations of the teachers, who have related failure towards their conditions.

The teachers, indeed, cannot realize effectively, a significant intervention in order to guarantee appropriate learning to those children, because they do not have enough knowledge about learning

disorders and do not know how to realize appropriate mediations to overcome those difficulties, possibly resulting into unsatisfactory alterations concerning the learning process of some children². Nowadays, an important fact has called the attention to the educational system, for the initial grades; the increasing growth of children being referred for specialized attendance, related to learning disorders¹⁵. The aggravating amount of references is that a large amount of students supposed to have this type of problem, does not present any learning disorder¹⁶, demonstrating that the teacher is not able to solve problems in the classroom, being impelled to forward the children they pre-diagnose, considering that the difficulties may be directly related to the pedagogical practice of the school.

Frequently, the feelings of the teacher, concerning the abilities of the student, contribute significantly to foresee the ones who will have reading problems¹⁷. According to the statements of Lima², the initial schooling years seem to be crucial, in relation to reading. So, teachers have a fundamental role in identifying problems and consequently realizing appropriate pedagogical intervention, so that the students may overcome these difficulties.

In this study, the teachers, during the formative activities, proposed several topics about the attitudes they should have towards the problems, classified as learning disorders, because they had a lot of doubts about it. Such questionings showed that, similar the study of Fernandes⁶, the role of the speech therapist and audiologist at school, is not totally acknowledged by the scholastic community, and the learning disorders are not very well known yet; because they believe that their role is restricted to the diagnosis and treatment of some disorders, and not for prevention and orientation.

However, if the children present any disorder or development deficit, they will have more difficulties to follow classes which are theoretical and consequently will present improper behaviors consisting of jokes, lack of attention, and in some cases aggressiveness. Learning disorders could be mitigated, if the role of the speech therapist and audiologist was better understood. Lack of knowledge about it, inadequate didactic procedures and even inefficient, were observed for 32% of the teachers, who proposed the children to perform inadequate activities. But after the informative intervention, 72% affirmed that will try to employ all the resources available at school, to help the children to learn and to overcome their difficulties, referring the students to the pedagogic coordination, also orienting the mother to take the child to a specialist, for a safe diagnosis and effective intervention.

It is difficult to detect dyslexia, due to its different manifestation forms (68%). However, teachers know that dyslexic children make more efforts to read than other children (72%). Silver¹⁸ and Wu¹⁹ state that it is necessary to check the altered characteristics concerning abilities, as identification or decoding the word, reading comprehension, calculus, mathematic rationality, spelling and written expression, which may have academic areas which comprise, broadly, the oral expression and hearing comprehension.

Learning problems are not restricted to physical or psychological causes, neither to the analyses of the social conjunctures, according to Scoz²⁰. It is necessary to understand them, from a multidimensional focus comprising organic, cognitive, affective, social and pedagogical factors, observed within the social articulations. Similar to the answers of this study, in which 80% of the teachers answered that the environment of the students is crucial for their scholastic performance and they arise from the socio cultural deficit of their families (68%), a total of 92% reinforces that the school should help the child to overcome the cultural deficit, promoting access to written culture, in order to guarantee their development.

During the informative intervention, several questions were proposed by the teachers, who were interested in identifying the learning disorders, in order to make effective references and above all, pedagogical interventions which may guarantee effective learning to all the students. The scholastic difficulties may arise from interaction problems of the students and the educational context, not necessarily from learning disorders. Adaptations concerning the teacher methodology, improvements on the scholastic environment and positive mediations which help the learning process, are procedures the teacher can realize to guarantee an effective learning.

According to Maranhão²¹, the partnership of the teacher with the speech therapist and audiologist is indispensable, when students present writing alterations. Notwithstanding, an important fact observed, was that the speech therapist and audiologist has an important role concerning the preventive education, because the orientation provided to the teachers was determinant, not only for optimization of the references, but also for improving knowledge and thus, to enhance the mediation on the teaching-learning process.

■ CONCLUSION

Teachers do not present funded knowledge about learning disorders, and do not know which procedures should be taken, when facing those problems. The results evidenced that their knowledge about learning disorders is superficial and biased, because during their academic education, they did not have any courses about the theme.

The informative lecture, concerning speech therapy and audiology, has caused alterations on the teachers's conception about learning disorders, evidencing that, even having basic knowledge about learning disorders and the role of the speech therapist and audiologist, the teacher may be able to detect a difficulty, propose different activities and intervene effectively.

However, the formative intervention was realized in a short period, in which there were several questionings concerning the relevant theme, but there was no more time available to supplement the lack of information. The support material helped as reinforcement and also for future enquiries, about the basic characteristics related to learning disorders. More researches are necessary about interventions to promote the interaction of teaching professionals, with the help of updated technology, providing tele-education programs.

RESUMO

Objetivo: investigar a concepção de professores acerca dos distúrbios de aprendizagem, buscando revelar diferentes aspectos referentes à maneira como a percebem no cotidiano da sala de aula, quais fatores atribuem como causas do problema, como se posicionam frente à questão, além de verificar se houve mudança deste conhecimento após a orientação fonoaudiológica. **Método:** participaram desta pesquisa 25 professores que lecionam na Escola Municipal de Ensino Fundamental em São Paulo. Como critério de inclusão adotou-se que os professores deveriam estar atuando em sala de aula no ano letivo de 2010. Não foram incluídos no estudo professores substitutos que não acompanharam o desenvolvimento da turma ao longo do ano. Foi aplicado um questionário para investigar o conhecimento do professor quanto às dificuldades de aprendizagem, e em seguida, foram realizadas palestras de formação a respeito destas dificuldades. Os dados obtidos foram submetidos ao tratamento estatístico, analisados e discutidos com a revisão da literatura. Os métodos estatísticos considerados foram frequência absoluta, frequência relativa e descrito graficamente. **Resultados e Conclusão:** os resultados e a conclusão deste estudo evidenciaram que os professores desconhecem os distúrbios de aprendizagem, porém pode-se observar a efetividade de orientação e formação junto a eles.

DESCRIPTORIOS: Aprendizagem; Docentes; Conhecimento

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