

# SPEECH THERAPY INTERVENTION FOR TEACHERS OF ELEMENTARY SCHOOL: EXPERIENCE REPORT

## *Intervenção fonoaudiológica junto aos docentes do ensino fundamental: relato de experiência*

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### ABSTRACT

**Purpose:** the main objective of this article it's to describe a speech-advice model. **Methods:** research and analysis of orthographical errors using as basis the contents of 97 papers, created in the 2th.-5th. grades of the elementary school. From the characterized orthographical errors, was planned a action with four Portuguese teachers of the 5th. grade of the elementary school and the pedagogical coordinator. Were realized 12 weekly and interventional reunions with the duration of an hour each, where the obstacles in the acquisition of the orthographical system, reflections regarding the literacy, pedagogical praxis and alterations in methods considered ineffective were debated using the student's papers as basis. **Results:** was perceived that the orthographical errors increased as the grades risen. It was formulated the hypothesis which the students of the 2th. grade committed few orthographical errors because they were following textual models and using a limited vocabulary. It was realized a qualitative re-evaluation of the papers who confirmed the cited hypothesis. As an result of the researching group, was verified a increase of the teachers' professional autonomy, which started to better comprehend the writing difficulties of the students, then drawing more efficient didactical tactics to suppress these problems. **Conclusion:** the ratification of hypothesis that the amount of orthographical errors can't represent an good indicator concerning the real writing mastery, resulted in significant benefit for the teachers which, accessing this data and taking that for themselves, could create new teaching strategies from the debated contents of the research.

**KEYWORDS:** Faculty; Handwriting; Learning; Educational Status

### ■ INTRODUCTION

The language in the written form is a highly complex system of symbolic representation and, therefore, its acquisition by the child takes place gradually, and the school has a fundamental role in the acquisition process. One of the goals of this institution is to teach literacy in the early years of fundamental education<sup>1</sup>.

With the initial objective to cooperate with the faculty in the literacy process of students, Speech Therapy began operating in the schools<sup>2</sup>, conducting screenings, and referrals of students

for speech therapy and psycho-pedagogical care. Currently, the speech therapist has expanded their partnership with school staff, especially with regard to issues of linguistic and cognitive order, through guidance, lectures, and courses for teachers and pedagogical mentors.

On the role of speech therapist in the school setting, the resolution number 309 of the Federal Board of Speech Therapy provides for the performance of the speech therapist in early childhood education, elementary, secondary, special, and higher school. This resolution provides in the first article that: *"It falls on the speech therapist to develop actions in partnership with the educators, contributing to promoting, enhancing and preventing alterations in aspects related to hearing, language (oral and written), and oral motricity and voice skills and that enhance and optimize the teaching and learning process"*<sup>3</sup>.

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Trenche et al. point out that, according to the importance of the actions of the Speech Therapist in the school environment, the large body of knowledge in this area, and the need for specific training for the practice, the School Speech Therapy is now considered a specialty <sup>4</sup>.

On the contributions of Speech Therapy for school, Sodr  adds that the speech therapist involved in the teaching-learning process should have as one of their behavior's objectives to prevent of learning difficulties and school failure, taking to the school environment, besides the commitment to education, the promotion of the bio-psycho-social welfare <sup>5</sup>.

The study by Berberian et al. with public school teachers reports that their knowledge as for writing is restricted, and this reduces the effectiveness of their reading and writing practices in the elementary school grades. The author describes the importance of union between speech therapists and school teachers <sup>6</sup>.

According to the survey of Capellini <sup>7</sup> et al. on the spelling performance of students from second to fifth year of private education, there is a greater mastery of spelling knowledge to the extent that the grades advance and this result may indicate the normal development of children's writing in the studied group.

Massi et al. believe that all the professionals working in the school should consider the spelling errors as attitudes and reflections of the subject on writing, plus an attempt to acquire the same, not just as a pathological symptom <sup>8</sup>.

According to Deuschle-Ara jo e Souza<sup>9</sup>, it is necessary to redirect school literacy practices, emphasizing the textual production and giving students an opportunity to develop language-related skills.

The objective of this paper is to present an experience of speech therapy assistance, with the faculty of a school, and to show if there were and what were the benefits of this intervention.

## ■ METHODS

This project was approved by the Comit  de  tica do CEFAC – Consultoria em Fonoaudiologia Clinica under the number 066/11.

This research can be characterized as a research-action <sup>10</sup>. The main characteristic of this type of research is that, from a given problem, the researcher joins the participant group with the intention of together, to seek grants for a better awareness of the issue, generating changes in attitude towards the situation. In this study, the participant group is made up by the speech therapist,

four elementary school teachers, the Portuguese teacher of the fifth grade and the school's pedagogic counselor. The problem to be "cleared-resolved" was the spelling difficulty of the school's students, which was particularly distressing teachers and causing complaints from parents.

This topic was organized on items that match: the procedures for collection of papers, quantitative analysis, qualitative analysis, meetings with teachers and evaluating the results.

### Collection of papers

For evaluating the types of spelling errors made by the students, the school provided 97 papers of students from four classes, from the second to fifth grade. They were chosen for being the best classes of the grades considered from each of the 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> grades, with 20 papers from the 2<sup>nd</sup> grade, 23 from the 3<sup>rd</sup>, 28 from the 4<sup>th</sup>, and 26 from the 5<sup>th</sup>.

### Quantitative analysis

In each paper, the words with errors were annotated and classified based on the type of errors adopted by Zorzi<sup>1</sup>, namely: multiple representations, support in orality, omission of letters, joint-separation, confusion of *am* & * o* endings, generalization of rules, substitutions involving the spelling of voiceless and voiced phonemes, addition of letters, similar letters, reversal of letters, and other alterations. We added to the types of errors proposed by Zorzi, the absence or error in the use of accent/hyphen. We also clustered four different types of errors arising from the influence of orality into one item referred to as orality set, namely: *support in orality, joint-separation, confusion in am &  o and multiple errors*.

### Qualitative analysis

The collected papers have been reviewed, trying to check whether the used vocabulary and mean length of papers has increased, in the progressively higher grades, and also, if there have been signs of better mastery as for textual and gender patterns.

To assess vocabulary size and variety, we tried first to compute in each paper: the total number of words used to measure the length of texts; the number of lexical words (with representative meaning, but not grammatical), and among them, how many different from each other. We also calculated the percentage of errors found in each paper in relation to the number of used words, because it is a more appropriate measurement in order to observe the degree of spelling difficulties than the mere absolute number of errors.

Then, these results were gathered by grade. With regard to the average length of the texts, the number

of lexical words in each grade's paper was summed up and divided by the number of these papers. With regard to increasing vocabulary size and variety, the number of different lexical words used by each grade's student was summed up and divided by their number. On the degree of spelling problems, we also calculated the average percentage for each individual of each grade.

Furthermore, in order to check if textual development of the students was occurring, we examined whether there was a difference among the grades, recurring to "fixed models of writing": if this really happened, in what grades, to what extent (how many students in each grade) and also the "rigidity of models" (whether or not permitting variations). We also observed other features of text quality, such as textual coherence, the presence of conjunctions and other textual connectors.

Specifically still trying to identify the influence of orality, we determined whether or not the students were applying the rules of concordance, which we considered a good indicator for this influence, for the systematic use of such rules occurring more often in writing than in speech.

### Meetings with teachers

Another dimension of this research, consistent with the principles of research-action, has been working with school personnel directly involved with the themed issue. The main task was to choose texts for reading relevant to the problems concerning the acquisition of a spelling system, which could not only shed light on issues specifically related to spelling, as well as elicit reflections on literacy in a broader manner, creating for the participants a moment in order to rethink their pedagogic practice and modify behaviors that by chance might have been inefficient.

This took twelve meetings, one hour a week. In the first meeting, we discussed about writing in general, and not just spelling errors. Two types of children's texts were viewed: in which students seek to replicate in their writing the models presented in school, that is, a "textbook model" of writing, where just few typos appear; and texts that students do not bother to follow the model and write their papers just telling what they want, which causes spelling errors, but a more significant writing<sup>11</sup>. In the second study day, we debated the issue of literacy methods<sup>12-15</sup>.

In the third meeting, we reviewed the linguistic variation and the assumptions that children set up on the writing system<sup>16</sup>. On the fourth day, we explained the classification of spelling types adopted in order to diagnose the students' writing difficulties. From the fifth day on, we began to focus on the types of errors separately. The nature of the junction-separation

error type and its mainly-auditory origin. At the sixth meeting, the teachers told the practices that they began to use in the classroom. They showed two types of activities: one to explain the importance of spelling convention; and another for students to "fix" the continuous phonetic writing<sup>17</sup>. On the seventh day, we discussed the types of spelling relationships, dealing with bi-univocal relationships between sounds and letters and relationships according to the context. On the eighth meeting, we studied the third type of spelling relationships, which are the concurrence, or errors of *multiple representations*. On the ninth study day, the subject was the confusion between *am* and *ão* at the end of a word. On the tenth meeting, we presented the etymological reasons for the spellings adopted in Portuguese<sup>18</sup>. In the penultimate meeting, the addressed issues were errors concerning omission and addition of letters and their main causes. Another issue under debate was phonological awareness<sup>19-22</sup>. At last, the study cycle was completed with a discussion on the four types of spelling errors that had yet been viewed: *exchange among voiceless-voiced consonants; exchange of similar letters; inversions, and generalizations of rules*.

### Evaluating the results

At the end of the studies, two criteria for evaluating the results of the practice were used. The first was a questionnaire that participating teachers responded. The second was the speech therapist's evaluation, which presents, based on the notes taken during the meetings, their own interpretation of the process.

## RESULTS

The experiment's results will be presented in matching items: quantitative analysis, qualitative analysis, teacher evaluation, and speech therapist assessment.

### Quantitative analysis of the corpus

In 97 papers provided by the school we checked: average of spelling errors in each of the four grades; average error rate for the *orality set* in those same grades; most common types of errors for all students from the studied classes; most common types of errors in each grade; in addition to the percentage by grade of *orality set* in relation to the total number of errors.

Quantitative analysis of the papers revealed that, relative to the average of spelling errors, in the second grade an average of 7.75 errors per student was found, in the third, 11 errors, in the fourth, 18.82 errors, in the fifth grade, 15.88 errors. It was found

that, in the first segment of the first degree, as the grades progressed, the number of errors per paper increased. Early in the second segment of the first degree, there was a decrease in the number of errors, which passed from 18.82 errors in the fourth grade to 15.88 in the fifth.

This result is surprising at first sight, given that the average of errors per student increases with the progress of education, rather than decreasing, as seen in the research of Capellini<sup>7</sup>.

However, as stated earlier, this result led in part to the basic hypothesis of this intervention, namely, that this so-called “involution” is actually an improvement: the errors would increase as students would be releasing the shackles of models and daring to write more freely and not using taught words<sup>23</sup>.

The errors caused by orality influence, in the second grade averaged 2.2 errors; in the third, 3.65 errors; in the fourth, 6.14 errors; and, in the fifth, 4.27 errors. The average error rate for the students of the surveyed groups was 4.27 errors. That is, also with relation to the *orality set*, the average in errors of students per class increases from one grade to another, and shows a slight decline in the fifth grade.

The average numbers of errors for each type made by the students of all studied classes were: average of 4.27 errors of the *orality set* type; average of 3.06 errors for *accent/hyphen*; average of 2.85 errors for the *orality support* type; average of 2.63 errors for *multiple errors* type; average of 1.80 errors for *omissions* type; average of 1.33 errors for *multiple representations* type; average of 1.05 for *other alterations*; average of 0.48 errors for *voiceless-voiced exchange* type; average of 0.34 errors for *generalization* type; average of 0.33 errors for the *similar letters* type; average of 0.04 errors for *inversions* type and average of 0.03 errors for the *confusion in am & ão* type.

It was found that, considering the four types of errors included in the *orality set* as a separate category, the same is the most common type of error among students, but there are several other types of errors not explained by the influence of orality. Analyzing the types of errors making up the *orality set* separately, errors due to absence or misuse of *accent/hyphen* are the most common, followed by errors in *orality support*, *multiple errors and omissions*.

As for the most common types of errors in each grade, the second grade has an average of 2.2 errors per student of *orality set* type; average per student of 1.5 errors for *omissions* type and average of 1.2 errors per student for *accent/hyphen* type. The third grade has an average of 3.65 errors per student for *orality set* type; average of 2.91 errors

for *accent/hyphen* type and average of 1.69 errors for *multiple representations* type. The fourth grade has an average of 6.14 errors per student for *orality set* type; average per student of 4.57 errors for *accent/hyphen* type; and average of 3.1 errors for *omissions* type. The fifth grade has an average of 5.11 errors per student for *orality set* type; average of 3.57 errors for *accent/hyphen* type and average of 1.65 errors for *multiple representations* type. We can observe that in all investigated series the error of *orality set* type is the most common mistake.

As for the percentages per grade by number of errors for *orality set* in relation to other types of errors, among the errors of students from the 2<sup>nd</sup> grade, 28.38% are errors resulting from the influence of orality; in the third grade, the percentage of such errors was 33.99%; in the fourth it was 32.63%; and in the fifth grade it was 32.20%. The percentage of errors of *orality set* committed by students from all grades surveyed in relation to their total errors was 31.8%.

The results showed an increase in the absolute number of errors for students from grade to grade. Thus, to understand the phenomenon, we elaborated the hypothesis that this development would be a reflection for a greater liberation of the students toward “textbook models” and the set of “already taught” words<sup>23</sup>.

In order to better evaluate this hypothesis, we realized a review of the papers. As for the average length of the papers in number of words, we found the following results: in the second grade, 61.05 words; in the third grade, 54.26; in the fourth grade, 91.82 and in the fifth grade, 89.88.

Thus, in the first analysis, from the 2<sup>nd</sup> to 3<sup>rd</sup> grade the average of errors from the students would have increased from 7.75 to 11 errors per student, an increase of approximately 41.9%; from 3<sup>rd</sup> to 4<sup>th</sup>, the average of errors would have gone from 11 to 18.82, an increase of 71%; and from the 4<sup>th</sup> to 5<sup>th</sup>, the average would have gone from 18.82 to 15.88, a decrease of approximately 15.63%. According to these results, the main “worsening” (increasing of errors) would have been from the 3<sup>rd</sup> to 4<sup>th</sup> grade.

But in the second analysis, evaluating students’ performance according to the percentage of errors per number of words, the main “worsening” would have been from the 2<sup>nd</sup> to the 3<sup>rd</sup> grade, from the percentage of 11.89% to 22.01%, a relative increase of 86%. But from the 3<sup>rd</sup> to the 4<sup>th</sup>, the percentage of errors decreased from 22.01% to 15.63%, a relative decrease of about 30% - i.e., instead of a worse performance, students showed a good improvement over the previous grade. From the 4<sup>th</sup> to the 5<sup>th</sup>, the percentage of errors falls again, but less: from 15.63 to 13.06, a relative decrease of 16.6%.

## Qualitative analysis of the corpus

Watching the corpus with a more qualitative look, it is noted that, as for the use of models, the second grade made use of a rather rigid writing style. The theme for the papers of this grade has been suggested by the teacher through a drawing of a boy dressed as a diver, swimming alongside the fishes and an octopus. The papers that adopt the model have the same information, almost always in the same order: the name and age of the boy, what he sees in the sea, and where he studies. From the twenty papers in the grade, twelve follow the model that we exemplify below:

*The boy that likes to swim  
This boy is called xxx  
He is swimming in deep sea  
He is swimming  
He saw a fish and a dolphin in deep sea  
He liked the dolphin  
He is seven year old  
He studies in xxx*

We can observe other textual inadequacies in the second grade papers, especially those “depending on model.” Students present the main character of the text and, from there, accumulate several sentences about what he would be doing, all following the same textual pattern, with the exhaustive repetition of the pronoun *he* at the beginning of each sentence. There is no “textual string”, just a “stacking” of short and loose phrases. Very often content data are not grouped coherently: for example, the character is identified as a student of a particular school not when originally submitted, but at the end of the text, springing abruptly from what he was doing on the seabed to the school where he studies. Several times there were also inadequacies in the use of articles, being used the definite article where it was fit to use the indefinite article (for example, “*There was once the boy who is XXXXX*”). Moreover, there is almost no use of connectives in the second grade papers, in general, and where such use occurs, it is limited to the conjunction *and*.

Regarding the field of genders, among the twenty papers in the class, twelve started with the expression: once upon a time, typical for the beginning of fairy tales, when none of the texts had fictional nature; three of these students even used the phrase in descriptive texts, where the inadequacy of its use is even greater.

In the third grade they also used a model, but in a more flexible way. The given subject was the description of a recreation happened at school. In the twenty-three papers of the grade, all entitled “recreation in the yard”, the students listed the

activities carried out in that recreation, and said what most they liked. However, we say that the model is more flexible since each student organized a textual sequence on their way, as in the examples below:

*Wording on recreation in the yard  
Today the yard was very nice I was playing  
burnt, zigui-zag, mime, chicken-hatching  
pass the ball  
tug-of-war and much more I had fun  
much and later on I just went to the locker  
room  
and took a shower. And the persons from the  
college went  
away and the play stopped  
We went up and the teacher  
told us to do write a paper. End*

*The recreation in the Yard  
Recreation in the yard is very good.  
because we have a lot of fun. There are a lot  
of games.  
Rope, hula hoop, ball, and many other toys  
being the reason why  
we have more fun. The bad is when we need  
to go up, and something else is that I had no  
swimming.  
The more you know, it was cool anyway  
and that's what matters so that I am hopeful  
to get other recreations.*

Although in these papers there is also much repetition of pronouns, they already have a more natural textual thread, besides the largest variety of types of sentences, with different subjects. The use of connectives increases significantly, and also the variety used: and besides the *and*, we find the conjunctions *but* and *why*, and various other types of cohesive terms, such as *for this*, *other thing*, *also*, *nevertheless*, *but that* (with aversive value), *then* and *now* (marking steps in a series), etc.

Such remarks show the inadequacy of a purely quantitative analysis with regard to the writing mastery. If we took into account only the result of the calculated measures, even in this reanalysis that is more qualitative than the first one, a “worsening” of the results would be apparently confirmed for the third graders with relation to second graders.

However, there was a fairly significant difference as for the free use of writing. The second graders virtually “filled out a form”: they simply limited to “provide a lot of information,” which must have been previously indicated. They probably reproduced sentences ever seen in the classroom, which explains the lower number of spelling errors, as few words used would be new. But the third graders,

although they have also written about the same subject, and also to some extent with the use of a model, used it in a much more flexible way. They also showed a greater mastery of textual cohesiveness principles, as indicated by the increased use of connectives. And, although they used fewer words on average than the second graders, they showed a more varied lexical vocabulary.

In the fourth and fifth grade, there is a large increase in vocabulary, which probably happened because the classes do not adopt models of writing, and submit very diverse topics. Thus, they had the greater opportunity to use in their texts the vocabulary they use in speech.

We found in the fourth graders' papers, textual narratives with greater quality and diversity of topics, telling fictional stories, which confirm the study of Santos and Befi-Lopes<sup>21</sup>, pointing out that the performance on vocabulary is predictive from the capacity of developing narrative writing. We have yet noted in this grade's descriptive papers, social approaches, such as:

*The boy Poti*

*Once upon a time there was a boy who lived there in the woods who lived there in the middle of Indians inside a hut One day he was passing on a street that had many animals and suddenly he heard a monkey who fell from a tree trunk and started crying and he had a boat that he sailed on the river so then, he put the bridge as banana and the monkey, and as it is a monkey, it is greedy, it ate the bananas quickly when the night came, Poti's father took a net for them to sleep, and the father of Poti showed the moon and the monkey eating banana.*

*Hill of horse*

*The hill of horse is that way. It is a very dangerous hill and has a lot of violence, 11 year old boys, all bully. Once I went to playing ball there on the hill of horse, the boys did not let me play football when I went home to my colleague. My colleague, at six o'clock, when my colleague said that it was getting dark because there it is very dangerous. The hill of horse*

*is dangerous and the boys are bad.*

In the fifth grade's papers, texts also addressed a social issue, besides papers in which appear communications for the reader, showing the existence of a real person, who is not only doing an exercise, is actually saying something.

*The world of now*

*The world of now is only violence. Before The world was only peace and love but now it is just violence killing, stealing and other things that if the world did right and now straightforward. The world had to stop with all such violence that are going on now; killers killing a lot of guys that have nothing to do, children dying young, mothers losing their sons stupidly.*

*The Fight!*

*The fight is the worst thing that I watched once I tried to fight with a person that was my friend. And then I was playing with another girl so she was with the leg injured. And then came the other speaking do not hit her because you are bruised, let me hit. then I and she started fighting! Who is reading this paper! Please do not fight! These facts are real. Thanks.*

You can also check, in these grades, an even greater mastery of the principles of textual cohesion than the observed in the third grade, not only they use connectives on a larger number of papers, but in more varied ways<sup>24</sup>.

**The evaluation of teachers on the meetings**

For obtaining the evaluation of teachers, the speech therapist, at the end of the meetings, asked them to write down their perceptions on the work done, by addressing the following questions: what you liked best in the studies; if any subject discussed in the meetings did change something in their behavior in the classroom; if their views on literacy have changed; if anything that was transmitted during the studies was significant to their knowledge; if they could already see some kind of change in their classrooms after their participation in the study meetings; what other subjects would they like to be addressed if the meetings had continuity

and; at the end, they were still asked to do a general assessment about the experience.

Most of the teachers answered the questions through a text, so that, not everybody addressed the topics suggested in full. We submit below the excerpts from texts of the teachers who refer more directly to each question asked.

In answer to the first question, which asked the teacher to point out what they liked best in the studies, teacher A. said it was an *“opportunity to exchange experiences and life habits of each one, social life and human warmth.”* Teacher J. said that *“it was an opportunity to clear questions about the Portuguese language and, therefore, it was a growth for my teaching career.”*

As for the question about the subject(s) discussed in the meetings that may have caused some kind of change in behavior in the classroom, teacher E. replied: *“My demeanor changed in the aspect of looking at the spelling as something that can be passed in a more associative way and not in a decorative manner.”* Professor J. said: *“I got to know the rules and origins of words and could transfer them on to students. In my view, this greatly facilitated the understanding and assimilation of the rules.”* The report of teacher G. reinforced this view, saying that *“we can identify the formation of words, their pronunciations, finally, the origin of certain spellings, and this greatly helped the practice of Literacy.”*

On the third topic, namely, if the vision of the teachers as for literacy changed after the meetings, teacher A. said that they helped her to *“reflect on the written language and learn about the act of reading itself.”* But teacher G. said that her vision of literacy has not changed, but that the work done helped to confirm here opinion on the subject. The teacher commented: *“I increasingly realize that literacy is the key point for developing the human being, and a conscious and creative work is primordial.”*

As for the fourth topic, that asks if something transmitted during the meetings was significant for here own knowledge, teacher A. said that she came to realize that *“if I wish students to become deeply invested in their writing, they must review and share their writing with others while writing.”* Teacher J. pointed out that the most significant content for her knowledge was about *“the origin of words by their prefix or change of letters to indicate African, Arab origin... I found interesting and stimulating.”*

The question of whether or not they have already noticed some sort of change in students after their participation in the study meetings, teacher J. said that yes because, *“to the extent that they understand the why for the rules or the reason for them, they memorize, they learn more easily.”*

In the sixth topic, about the possibility for continuity of the meetings, teacher G. suggested that *“we could address the series of disorders that children can have, such as dyslalia, dysgraphia, finally, how to proceed in these situations,”* and she added: *“My suggestion would be to adapt this study group into the school calendar and hold fortnightly meetings. It is important to have a moment of reflection in our practice.”* Teacher E. added: *“I believe that future themes would come in the text construction aspect, that is, how to guide this student so that he can make a creative text without hurting the spelling rules. This is my greatest challenge.”*

At the end, they were asked to make an overall assessment of the experience. Teacher E. concluded that *“in my view this was fruitful and very useful.”* Teacher G. also agreed: *“the evaluation I do is positive, it is always good to be reflecting, studying and gathering together to improve educational performance.”* Teacher J. said *“it was very important for me as a professional, because I could properly explain to students the why to this or that rule and I believe that, by elucidating the why of things, learning occurs more spontaneously”* and she added that: *“as a person, I grew up, because I acquired new knowledge, I could reflect on my professional practice and turn it positively so that my students might be reached.”*

### **The speech therapist testimony on the experience**

*“When starting my professional activities in this environment, I was touched by the anxiety of elementary school teachers about the progress of students’ writing. That’s when evaluating the papers submitted by the institution, I observed that most of the difficulties for writing originated in the support of oral patterns.*

*Having proposed the school a joint performance with the faculty, it was necessary to deepen my knowledge about: the linguistic aspects of literacy, particularly with regard to possible causes of phonological spelling errors. Then I came upon several aspects of the literacy process that had not been focused before, especially with the influence of linguistic variation, the relationship between spelling and etymology, aspects concerning text quality, finally, several questions that made me look at my object study under a broader way than how I looked before. For that reason comes, since the beginning of the meetings, the emphasis on presenting to the teachers texts that would highlight the importance of text quality and ludic nature of*

*the activities intended for developing textual creation.*

*With this experience, I could better understand the importance of analyzing the data not only quantitatively. The results of the review carried out made me see how the phenomena, when observed through a purely quantitative perspective, may say little about the investigated object and even induce us to distorted conclusions. I believe that quantitative assessments are important as part of a series of reviews, but should not be used as a unique resource for analyzing linguistic phenomena. After this study, I feel that I further enhance the qualitative aspects of the reviews I do in my work as a speech therapist.*

*Since I started working with the teachers, I have felt the difficulties that exist in the school day by day. The first was about the time of our meetings, as some were teaching in the morning and afternoon, one in the morning and night, another one in the afternoon and evening, so that, the only possible time for everybody was lunchtime. The fact that they agreed to be part of a study cycle with a speech therapist at lunchtime has increased my respect for these professionals.*

*During the meetings I discovered how teachers are billed as for the spelling errors of their students, both by school and parents, which makes their option to prioritize the improvement of textual production of their students an act of courage.*

*Enabling them to improve their behaviors in the classroom with regard to spelling issues, with no harm to text quality, has become something extremely important to me, and seeing them developing recreational activities that facilitate this task made me very happy, besides making me see how much they can feel engaged when they feel valued and respected."*

## ■ DISCUSSION

For quantitative analysis of the papers, it was hypothesized that the second graders would have made a few spelling mistakes due to being still very attached to text models such as textbooks and limited to "already taught" vocabulary, while students of the later grades would be progressively being freed from those restraints. When writing more freely, they tend to spell the "not given" words based on the speech itself, or on existing knowledge of the relationships among sounds and letters – a fact

that does not always lead to a correct spelling, since that the spelling system includes regular matches, regular according to the context and concurrence<sup>15</sup>. Thus, the more freely they write, and use more words, they incur more in error situations, and spelling mistakes grow as the elementary grades advance. This would have been the "price to pay" for the increase in vocabulary and more individuality in writing, features that can only be interpreted as positive. I.e., the reading of these results was not seen as negative.

The results from the reanalysis of the papers, yet quantitative, show the inadequacy of the initial quantitative analysis results. In the first analysis, we took into account only the mean absolute error numbers presented in each paper. The second analysis was based on the average percentage error of each student in relation to the number of words in the paper. In the second quantitative analysis, the amount of spelling errors rises between the second and third grade and then falls gradually until the fifth grade.

Noting the number of errors of concordance, grade by grade, it is seen that in the second series, from the twenty papers examined, only four have concordance issues. In the third grade, this type of error increases, reaching seven papers, from the twenty-three observed. In the fourth grade, there is a large increase in errors of this nature, because, from the twenty-eight corrected papers, nineteen had concordance problems. But in the fifth grade, from the twenty-six papers, we found concordance errors in just twelve. We found a decrease in the influence of oral speech patterns in writing, probably reflecting the increased contact with the written texts and the formal grammar teaching. The hypothesis that the errors are less frequent in the initial series was drawn by the fact that more students are attached to phrases already "trained" in the classroom, and that they would increase when written more freely. The hypothesis was confirmed.

These results demonstrate the importance of an analysis based on qualitative nature criteria, for better understanding the evolution of writing in the early grades of school.

The purpose of the meetings among teachers and the speech therapist was to seek knowledge about the possible factors underlying the problems in students' writing, thereby increasing the professional autonomy of teachers so that, from a better understanding of the phenomena, they by themselves would develop teaching strategies capable to reverse the problems of the students, making them feeling more free and more critical as for schoolbooks<sup>25</sup>.



Spelling difficulties reveal several underlying factors: influence of orality; linguistic variation; unconventional spelling aspects; vocabulary size and nature; text quality mastery; among other aspects.

One concern of that intervention was to not limit the focus to just factors directly related to spelling problems<sup>1,7,21,26</sup>, but extend it to wider issues, such as text quality<sup>24,27,28</sup> and gender<sup>29</sup>, and also to linguistic variation<sup>30</sup>.

Spelling difficulties were seen as integrated to the acquisition of writing issue in general. It was necessary, during the period of assistance, to seek knowledge of different orders: phonological<sup>19-22</sup>; etymological<sup>18</sup> psycholinguistic<sup>31,32</sup>; sociolinguistic<sup>33</sup> and educational<sup>34</sup>.

A question especially highlighted was the linguistic variation that influences the students' spelling problems and needs to be respected, whereas it falls to the teacher the responsibility to deal with the differences in the best possible way<sup>30</sup>.

The study participants have acquired the ability to look at the students' writing in a distinct way from how they saw it before: understanding the spelling system and what can lead the student to a particular error; what hypotheses the student may be using to spell the words that way; and what kind of knowledge can lead your student to get to correctly spell the words.

The work done with teachers indicates the need for more speech therapy researches using the text as the unit of analysis. We know how much it is essential to prevent and/or correct spelling errors, but despite this the school and the speech therapist should not favor this work leaving text quality in the background<sup>24</sup>. It is necessary to enhance the use of creativity and let students to act in their text as writers addressing some possible reader<sup>25</sup>.

After this experience with the teachers, it was possible to make some recommendations for them: find time to meet with their peers, discuss the difficulties they may have in classroom, study in groups and get together to possible solutions is a rich way in order to dilute school problems, strengthen ties and increase knowledge<sup>26</sup>. In addition, work together in a multidisciplinary team, where each one transmit to the others part of their specific knowledge, this can be very useful<sup>35</sup>.

A particularly important issue that should be highlighted is related to the attitude that the school speech therapist must have before school. After group readings we realized the need of room for

discordance. Teachers can not feel themselves constrained for submitting their doubts. Likewise, the leader of a group should not take the stance of the "technician who knows", because it may cause a strain in the relation among the participants. This experiment also showed that the leader can not be deceived as for the request, which will likely be received, to become a substitute for teachers, the "heroic savior" that will solve the problems of the students, because the speech therapist, never accomplish such a feat, nor is it their function. For last, it is suggested that speech therapist working in schools provide the opportunity to learn with the teachers<sup>36,37</sup>, after all, they are in the classroom and directly know students' difficulties<sup>38</sup>.

It is important to emphasize that the school environment is still far-off from speech therapy. This relationship usually includes, in most cases, the referral of patients with speech disorders, learning problems, teacher dysphonia, or auditory assessments for students.

Because of this separation, most educators do not yet know that the role of the speech therapist is to act in the written language issues. The speech therapists who decide to resume the path towards the school must devote themselves to engage increasingly in studies related to learning and psycholinguistics more generally.

For intervening in school environment, the specific professional knowledge that speech therapists have is not enough; you require knowledge on education, especially on literacy and the linguistic aspects involved - on the development of text quality, phonology, and etymology of the words; beyond the knowledge regarding phonological skills and spelling errors. Thus, it is essential for the professionals to seek the knowledge necessary to work in Educational Speech Therapy.

## ■ CONCLUSION

From the report of an experience we can conclude that there have been benefits in the speech therapy intervention with elementary school teachers. The confirmation of our hypothesis that the amount of errors may not represent a good indicator as for the real mastery of writing, has brought a significant advantage for the teachers that when having access to this information, seized it for themselves, creating new teaching strategies from the discussed content.

**RESUMO**

**Objetivo:** descrever um modelo de assessoria fonoaudiológica. **Métodos:** levantamento e análise de erros ortográficos a partir de 97 redações das turmas de 2ª à 5ª série do ensino fundamental. A partir da caracterização dos erros ortográficos foi delineada a ação com as quatro professoras do ensino fundamental, a professora de Português da quinta série e a orientadora pedagógica. Foram realizados doze encontros semanais interventivos de uma hora, onde foram discutidos, por meio das redações dos próprios alunos, os problemas de aquisição do sistema ortográfico, reflexões sobre a alfabetização, prática pedagógica e modificação de condutas consideradas ineficazes. **Resultados:** constatou-se que os erros ortográficos aumentavam à medida que as séries avançavam. Foi formulada a hipótese de que os alunos da segunda série teriam cometido poucos erros ortográficos por estarem seguindo modelos de texto e utilizando vocabulário limitado, foi realizada uma reavaliação qualitativa das redações, que confirmou esta hipótese. Como resultado do grupo de estudos, verificou-se o aumento da autonomia profissional das professoras, que passaram a compreender melhor as dificuldades de escrita dos alunos, desenvolvendo estratégias didáticas mais eficazes para reverter tais problemas. **Conclusão:** a confirmação da hipótese de que a quantidade de erros pode não representar um bom indicador quanto ao real domínio da escrita, trouxe um proveito significativo para os professores que ao terem acesso a esta informação, tomaram-na para si, criando a partir do conteúdo discutido, novas estratégias de ensino.

**DESCRITORES:** Docentes; Escrita Manual; Aprendizagem; Escolaridade

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