

Performance in phonological awareness and writing errors of children under different literacy methods

Desempenho em consciência fonológica e erros de escrita de crianças submetidas a diferentes métodos de alfabetização

Desempeño en consciencia fonológica y errores de escritura de niños sometidos a diversos métodos de alfabetización

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Abstract

Purpose: to evaluate the phonological awareness and writing abilities of children exposed to different literacy methods. **Methods:** The sample consisted of 29 children (9 were literate by the Phonic Method and 20 were literate by the Syllabic Method), with ages between 7:0 and 8:0 years, without gender equation. The children were enrolled in the 2nd year of elementary school, and had attended previous classes in the same school, had not had any speech therapy intervention, and had no detectable cognitive, psychological or emotional changes. All the children were submitted to the phonological awareness assessment of the Phonological Awareness Test and the evaluation of the writing through the Orthographic Observation Guide. The hits and errors were tabulated considering the specifications of each of the tests.

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Subsequently the data were submitted to descriptive statistical analysis and Mann Whitney test. **Results:** There was no statistically significant difference in any of the aspects analyzed, although it was observed a better performance of the children of the Syllabic Group in most tasks of the phonological awareness test, except for the tests of syllabic synthesis and syllabic manipulation. In these two tests, there were more occurrences of errors and identical results, respectively. As for the results obtained in the writing evaluation, the groups presented similar results. **Conclusion:** in the present study, the Syllabic Group presented superior performance in most of the phonological awareness activities, and a lower average of orthographic errors per child in the evaluation of writing errors.

Keywords: Learning; Literacy; Education; Child; Language development.

Resumo

Objetivo: avaliar as habilidades de consciência fonológica e a escrita de crianças expostas a diferentes métodos de alfabetização. **Métodos:** a amostra foi composta por 29 crianças (9 alfabetizadas pelo Método Fônico e 20 alfabetizadas pelo Método Silábico), com idade entre 7:0 e 8:0 anos, sem equiparação de sexo. As crianças estavam matriculadas no 2º ano do Ensino Fundamental, cursaram as séries anteriores na mesma escola, não haviam realizado nenhuma intervenção fonoaudiológica e não possuíam alterações cognitivas, psicológicas ou emocionais detectáveis. Todas as crianças foram submetidas à avaliação da consciência fonológica por meio da Prova de Consciência Fonológica e à avaliação da escrita por meio do Roteiro de Observação Ortográfica. Os acertos e erros foram tabulados considerando as especificações de cada um dos testes. Posteriormente, os dados foram submetidos à análise estatística descritiva e teste de Mann Whitney. **Resultados:** Não houve diferença estatisticamente significativa em nenhum dos aspectos analisados. Foi observado melhor desempenho das crianças do Grupo Silábico na maioria das tarefas do teste de Consciência Fonológica, exceto na prova de transposição fonêmica em que o Grupo Fônico foi melhor, e em rima que ambos os grupos apresentaram resultados iguais. Quanto aos resultados no Roteiro de Observação Ortográfica, os resultados foram similares entre os grupos. **Conclusão:** no presente estudo, o Grupo Silábico apresentou desempenho superior na maior parte das atividades de Consciência Fonológica, e uma menor média de erros ortográficos por criança na avaliação dos erros de escrita através do Roteiro de Observação Ortográfica.

Palavras-chave: Aprendizagem; Alfabetização; Educação; Criança; Desenvolvimento da linguagem.

Resumen

Objetivo: Evaluar las habilidades de conciencia fonológica y la escritura de niños expuestos a diferentes métodos de alfabetización. **Métodos:** fueron estudiados 29 niños (9 alfabetizados por el Método Fónico y 20 por el Método Silábico), con edades entre los 7:0 y 8:0 años sin equiparación de sexo. Los niños estaban inscritos en el segundo año de la escuela primaria, habían cursado los años anteriores en la misma escuela, nunca habían hecho terapia fonoaudiológica, y no tenían trastornos cognitivos, emocionales o psicológicos detectables. Todos los niños fueron sometidos a una evaluación de la conciencia fonológica a través de la Prueba de Consciencia Fonológica y a la evaluación de la escritura a través del Guía de Observación Ortográfica. Los aciertos y errores se tabularon teniendo en cuenta las especificaciones de cada prueba. Posteriormente los datos fueron sometidos a análisis estadístico descriptivo y prueba de Mann Whitney. **Resultados:** No se ha encontrado diferencia estadísticamente significativa en ningún de los aspectos analizados. Fue observado mejor rendimiento de los niños del Grupo Silábico en la mayoría de las tareas de la Prueba de Consciencia Fonológica, menos en la prueba de transposición de fonemas en que el Grupo Fónico fue mejor, y en rima, en que ambos los grupos presentaron resultados iguales. Quanto al Guía de Observación Ortográfica, los resultados fueron similares entre los grupos. **Conclusión:** en el presente estudio, el Grupo Silábico presento desempeño superior en la mayoría de las actividades de Consciencia Fonológica y un menor promedio de errores de escritura por niño en la evaluación de errores de escritura a través del Guía de Observación Ortográfica.

Palabras claves: Aprendizaje; Alfabetización; Educación; Niño; Desarrollo del Lenguaje.

Introduction

The phonological awareness can be defined as the ability of mentally identify, isolate, manipulate, combine and segment, and on a deliberate form, the phonological segments of the language¹⁻⁶. It is developed since very early and it is gradually improved by the child⁶⁻⁹, mainly with the domain of the reading and writing and by the improvement of other linguistic abilities^{6,9-11}, particularly the vocabulary¹⁰. The development of the phonological awareness depends on linguistic experiences, on the cognitive ability of the child, on specific characteristics of different abilities and on the formal exposition to the alphabetical system, with the acquisition of reading and writing^{1,6,10,11}.

The domain of abilities of phonological awareness comes out as a big facilitator on the acquisition of the written language^{5,7,12-14} on the alphabetical orthographies, which map the speaking according to the language phonemes (as, for example, Portuguese, Spanish, German, etc)^{9,11,15,16}. The knowledge that the words are made up by phonemes allows the child to read and write any word of the language, being allowed to make mistakes on irregular words^{2,6,16}.

At around six or seven years old, there is a meaningful increase on the abilities of the phonological awareness, encompassing the syllable awareness, of the intrasyllabic units and of the phoneme, matching with the school age of the alphabetization^{13,17,18}.

The writing can be considered a superior form of language by the fact that it requires the ability of maintaining an idea in mind and, at the same time, order it on a determined sequence and relation, on a way that the message can be understood by the interlocutor^{6,17}.

The domain of the writing happens on a gradual way^{6,11,15,19}, beginning from the moment when the child starts to differentiate the drawing from the written form until the moment that she starts to domain the graphical code, using effectively the orthographical and grammatical rules of the linguistic system to which she is exposed^{6,11}. The mistakes on this trajectory of the development are part of the process, becoming more and more specific and occasional, until the moment when the child starts to dominate, on a more secure way, the orthographical system^{20,21}.

The mistakes found on the writing of children during the initial primary grades can be categorized into several kinds, with different complexity degrees, so the more complex a determined aspect is, the more mistakes or confusions it can generate to the learner. During the writing acquisition process some mistakes are more common to be observed on the children's production, such as²⁰:

1. Replacement of letters due to the possibility of multiple representations: a same sound can be written through several letters and one letter can represent more than one sound.
2. Support on orality: tendency to write the words on the way they are pronounced, as if it were a phonetic transcription.
3. Omissions: absence of letters that compose the words. The biggest part of the omissions corresponds to the absence of "m" and "n" at the end of syllables.
4. Junction – inappropriate separation of words: initial tendency of the child to write the words linked to each other.
5. Confusion am X ão: replacement of the ending "am" by "ão", as from the phonological point of view, both terminations are pronounced on the same way.
6. Generalization: the knowledge generated by a specific situation is stretched to others with which the child notices some similarity.
7. Changes involving replacements between the letters that represent the deaf and sonorous phonemes: letters corresponding to sonorous consonants (produced with the vibration of the vocal folds) are replaced by letters that correspond to deaf consonants (produced without vibration of the vocal cords) and vice versa.
8. Increase of letters: increase on the number of letters to write a word, the increases can be a consequence of regularization factors of syllables, lack of attention or adjustment by the child who writes.
9. Confusion between similar letters: confusions regarding the outline of the letters, considering their graphical characteristics.
10. Inversions: confusions or alterations regarding the position of letters in relation to their own axis (mirroring or rotation: p/q; d/b).

The decrease on the presence of mistakes in the writing, mainly between the first and the fifth years, indicated that the child appropriates progressively of the writing system, understanding little by little

the essential aspects of the writing alphabetical system²⁰⁻²².

It is necessary that the child understands that the writing is the representation of the speaking and that the letters represent the sounds of the speaking, and that the different writing will produce a different word^{18,20}. The more activities that help the child to develop abilities of phonological awareness are performed, the more the alphabetization process will be facilitated^{1,3,4,19}. Following this premise, several authors justified that the level of previous phonological acquisition, acquired before the formal starting of the alphabetization process, performs facilitator role for this process^{11,13, 19,23}.

Besides the abilities of phonological awareness and other metalinguistic abilities, such as segmenting and manipulating the speaking in different units (words, syllables, phonemes), distinguishing significant and significance, noticing sonorous similarity between the words and judging the semantic and syntactic coherence of assertions^{16, 23}, the method of alphabetization used by the schools is one of the factors determinants for the learning and the acquisition of reading and writing^{13,18}.

There are different methods to teach to read and write, synthetic, analytical and constructivist methods, each one of these methods highlights an aspect on the learning process. The choice of the alphabetization method used passes through guidelines of the school, theories that consolidate in each period and practice of the teacher with the used alphabetization method^{19,24}.

Analyzing historically the alphabetization methods, they can be grouped in syntactic methods and analytical methods. The synthetic methods emphasize the work from parts to the whole. On this method, there is the selection of organizing principles which privilege the phonographic matches contained in the language^{19,24}. The analyses unit used in each kind of approach inside the synthetic method is what will define which alphabetization methodology is intended to be adopted.

This way, there is the alphabetical method, whose analyses unit is the letter; the phonic method, which has the phoneme as analyses unit; and the syllabic method, which uses the syllable, more easily pronounced and perspective phonological segment during the production^{19,24}. On the other hand, the analytical methods start on the idea from the whole to the parts, in search of destroying the principles of the decoding, the most known are

the global method of tales, the sentencing and the “palavração”. The word, the sentence and the text are considered analyses unit^{19,24}.

It is believed that the first methods used on the writing teaching were the synthetic and many remain until today^{24,25}. Evaluating the synthetic methodologies of alphabetization, a bigger spotlight can be given to the phonic and syllabic methods.

The phonic method has as principle the teaching of the graphophonic matches, of the relations between sounds and letters, so that with this the spoken word and the written word relate to each other. This method has as minimum unit of analyses the sound^{18,24}. The syllabic method has as main unit the analyses of ready syllables, which join to make words. The vowels and their combinations in the syllable to be worked are presented^{19,24}. The letters are presented by words that start with the sound that represent them, commonly with the use of booklets. This method is mainly supported on the repetition/fixation on the warranty of the learning without the understanding of the elements that structure the language (phonemes)^{18, 24-26}.

Considering that the necessary abilities for the acquisition and domain of the writing are many, the alphabetization method adopted by the school can also interfere on this process, so the goal of this study was to evaluate the abilities of phonological awareness and the writing mistakes in children exposed to different alphabetization methods.

Method

The present study is of transversal, exploratory, qualitative-quantitative kind character. It was developed in two basic education schools of a small town located in the countryside of Rio Grande do Sul, with a population of 16,156 inhabitants, according to the last IBGE census.

The project that originated the investigation was approved by the Ethics and Research Committee of a higher education institution under the number 50826615.9.0000.5342. To take part on this study, there was a previous authorization of the direction of both schools through the signature of the Institutional Consent Term and the parents and/or responsible for the participants signed the Free Consent and Enlightened Term, authorizing the participation of the children in the study.

For the sample formation, all the three schools of the town were contacted, however only two

of them had the alphabetization methodologies proposed for this study (phonic and syllabic). After the school authorization was granted, the free consent and enlightened term was sent to the parents and/or responsible by the students, authorizing the participation of the children in the study. The parents/responsible who accepted to take part on the research received a questionnaire, containing questions about the gestation, medical intervention after the childbirth, neuropsychomotor development, language acquisition development and process and if the child had already suffered phonological intervention.

Based on these pieces of information, the subjects who satisfied the research inclusion criteria were selected. They were supposed to be Brazilian Portuguese monolingual children; had attended the previous grades at the same school; had not performed any previous phonological intervention; do not present neurological, cognitive, psychological or emotional alteration detectable through observation; be between 7:0 and 8:0 years old; be enrolled in the second grade of Elementary School.

The children that did not satisfy the criteria were excluded and the research sample was composed by 29 children of both genres, from 7:0 to 8:0 years old, who attended the second Grade of Elementary School of a town in the North of Rio Grande do Sul State.

The 29 students were separated in two groups according to the alphabetization method to which they were exposed. The schools presented the used alphabetization method. From these, 9 were exposed to the Phonic Method (FG), which has as a teaching focus the correlation between the phoneme and the sound which represents it, segmenting the sonorous units to form the words. This school, which develops the alphabetization based on the phonic method, seeks that the students notice that the words are formed by these sounds, and that word is composed by a sequence of sounds. The proposed activities seek that the students notice each one of the phonemes which form the word and that the change of a phoneme represents the change in the word. The alphabetization starts by the form and sound of the vowels, then the consonants are taught and, after the knowledge of the sounds, more complex relations are established. It is demonstrated for the child that each letter has a sound and that together with another sound it is

possible to make syllables and the syllables can organize themselves to form words.

The other group, Syllabic Group (SG), was composed by 21 students who were exposed to the syllabic alphabetization methodology. This process is performed through the consonant/vowel junction of each syllable and segments the words in small units (syllables) that together create a meaning. The school which adopts this method refers that the teachers choose an order for the syllables presentation based on the assumption "from the easiest to the hardest". According to the teachers who teach to read and write of the school, they start with simpler syllables and that are present on the child's vocabulary, and after they pass to more complex syllables. The work is performed with keywords in order to indicate the presence of the worked syllable, which is highlighted on the words and systematically studied in syllabic families. The educators of the school which employs the syllabic method promote activities in which the studied syllables form new words and gradually small sentences and texts.

The data collection was performed through the application of the tests: Phonological Awareness Test²⁷ and the dictation of words available in the Orthographic Observation Guide²⁸.

The Phonological Awareness Test²⁷ was applied in individual sessions, at the school, in a silent room, but not acoustically treated. The application of the dictation of the words from the Orthographic Observation Guide²⁸ was performed in a collective way, since the answer of the participants is written on paper and does not depend on the oral answer.

The Phonological Awareness Test²⁷ is composed by 10 tests that evaluate the ability to segment and transpose speaking sounds. Each test presents two models and four items to be evaluated, resulting in 40 items. All the tests are orally presented by the applicator and orally answered by the evaluated subject. The test is composed by Syllabic Synthesis tests, Phonemic Synthesis, Rhyme, Alliteration, Syllabic Segmentation, Phonemic Segmentation, Syllabic Manipulation, Phonemic Manipulation, Syllabic Transposition and Phonemic Transposition. The application of each task was preceded by two initial examples in which the researcher explained to the child what should be done and, when necessary, the answers were corrected. The orders and explanations given to the children for the execution of each task followed

strictly the recommendations of the authors of the referred text²⁷. The tests results were analyzed from the instructions of the authors and accounted for the amount of mistakes presented in each group.

For the writing evaluation, the data were obtained with the application of the words dictation suggested on the Orthographic Observation Guide²⁸. From this sample, the orthographic mistakes made by the participants were analyzed. For the analyses of the writing mistakes, the criterion proposed by Zorzi²⁸ were used, which characterizes the mistakes in: letters replacements (in the case of multiple representations), support on orality, omissions, inappropriate junction-separation of words, confusion am X ão, generalization, replacement between letters which represent the deaf and sonorous phonemes, increase of letters, confusion between similar letters, inversions and other alterations.

The data were evaluated through descriptive statistical analyses, through the frequency media of occurrence and applied the Mann Whitney test, to verify the performance of the children of the dif-

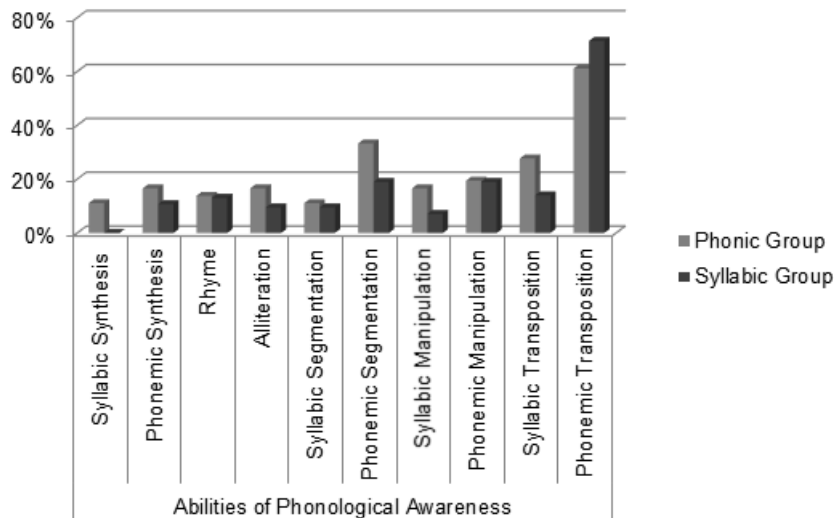
ferent groups regarding the punctuations obtained in the abilities of phonological awareness and to assess the difference of the writing mistakes observed in the different groups. For these analyses, a significance level in 5% was adopted ($\alpha=0,005$).

Results

Chart 1 presents the percentage of hits of the students on the Phonological Awareness Test²⁷. The results are regarding the media percentage of hits of each group on the abilities evaluated on the test.

Neither evaluated abilities presented a statistically meaningful difference. However, percentage differences were observed on the tasks of Syllabic Synthesis, Phonemic Synthesis, Alliteration, Syllabic Segmentation, Phonemic Segmentation, Syllabic Manipulation, Phonemic Manipulation and Syllabic Transposition, in which the SG obtained better performance in relation to the FG. Only on the ability of phonemic transposition the FG obtained a bigger average percentage of hit.

Chart 1. Percentage average of hits frequency of students from different phonological awareness abilities evaluated on the Phonological Awareness Test²⁷



Subtitle: p =Mann-Whitney Test significance level 0.05

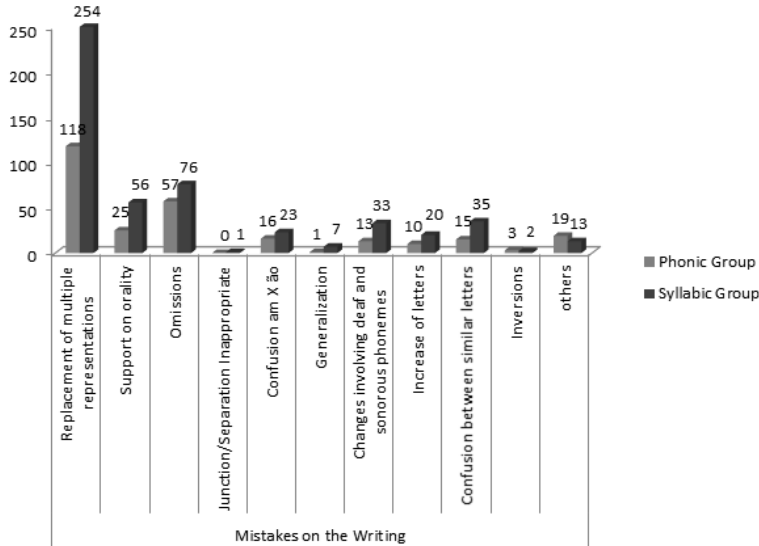
Chart 2 presents the performance of each school in relation to the amount of mistakes presented in each one of the categories evaluated by the Orthographic Observation Guide²⁸. There was

no statistically meaningful difference in any category when the comparison between the schools was made.

The mistakes which appeared more frequently were “Multiple Representations”, followed by “Omissions” and “Orality Support”. There was a small occurrence of mistakes in the categories

“Inversions” and “Generalization”. It was observed that the FG had a smaller occurrence of mistakes in relation to the SG in all the categories, except “Inversions” and “Others”.

Chart 2. Number of orthographic mistakes observed on the written production of children from Phonic and Syllabic groups, from the Orthographic Observation Roadmap²⁸

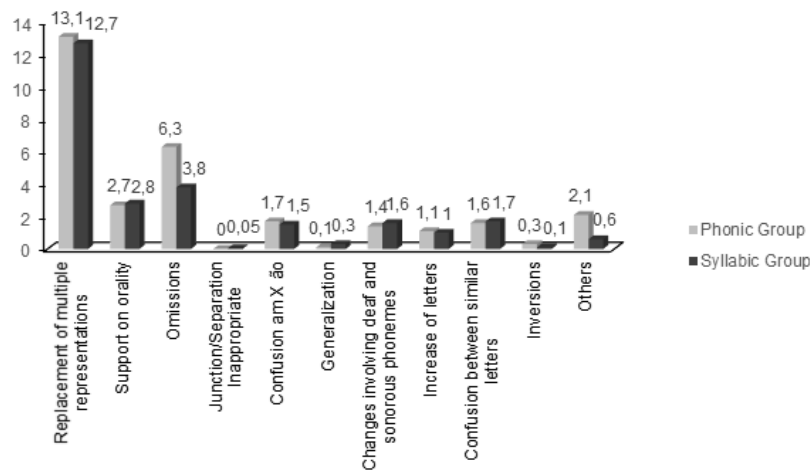


Subtitle: p = Mann-Whitney Test significance level 0.05

Chart 3 presents the average of mistakes per student in each one of the researched schools. It is observed that the average of mistakes presented by the students was very similar, except in the category

“Omissions” and “Others” in which, individually, the average of writing mistakes of the students of the FG was superior to the average of mistakes of the SG.

Chart 3. Orthographic mistakes average produced by the students exposed to different alphabetization methods evaluated by the Orthographic Observation Roadmap²⁸.



Discussion

The results found on this study demonstrate that there is a difference on the performance of the abilities of phonological awareness between the groups submitted to different alphabetization methods, however, this difference does not have statistical significance. Such result goes against the other previous studies¹⁸ which compare the performance of literate children by different methods with and without emphasis on the relation phoneme-grapheme.

Although there is no statistically meaningful difference between the groups, it is noticed that in several abilities, mainly Alliteration, Phonemic Segmentation, Syllabic Manipulation and Syllabic Transposition, there was difference on the performance between the methods, with better results in the SG. Such result was not supported by another study¹⁶, which found better performance on the students who learned to read and write through the phonic method.

The good performance of both groups on the abilities related to synthesis, syllabic manipulation and transposition in relation to the phonemic can be result of the facility to recognize the word syllables¹⁸, besides the syllabic manipulation is easier than the phonemic manipulation^{6,18}. Study¹⁶ evaluating the difference on the performance between ability of syllabic and phonemic manipulation found better performance on the abilities related to the syllable than on those which used the isolated phonemes.

The smallest hits percentage was observed on the task of Phonemic Transposition. By contrast, on the Syllabic Transposition task, in both groups, the amount of hits was similar to the other evaluated abilities. This is in agreement with other researches^{11,16} which evaluated the abilities of the Phonological Awareness of students at the same age of the present study. This result can be explained by the fact that the segmentation and phonemic manipulation tasks depend on the abilities such as attention, short-term work memory and the ability to understand the order to be followed, besides verbalizing the result. The task results can vary according to the development of an ability in particular, as well as the set of them, since it is not possible to distinguish the influence of each one¹⁴.

Another factor that explains the best performance of the Syllabic Transposition in relation

to the Phonemic Transposition, in both groups, is the fact that the isolated phonemes do not present significance during the normal speaking, making it difficult for the children to differentiate them and, consequently, that they are more difficult to be noticed^{6,18,27}. It must be also considered that by the syllabic method the children learn the syllabic families by “the name of the letters” and not the sounds or phonemes, making more necessary the abstraction ability to relate the name to the sound that the letter represents²⁵.

The good performance of the students on the syllabic synthesis task and on the Rhyme task, which presented equal result for both groups, can be justified by the fact that these tasks are considered the simplest for the children. According to studies^{3,12,13}, the children are in continuum of development of the abilities of phonological awareness. For the researches³⁻¹³ the phonological awareness obeys a complexity hierarchy, in which the least complex abilities are the tasks related to the syllabic synthesis ability and rhyme. A result which agrees with the findings obtained in this study, in which the rhyme and segmentation abilities were the ones which presented a bigger number of hits on the part of the analyzed children.

It is verified that the children of both groups presented bigger hits percentage in the Syllabic Synthesis task, in comparison with the Phonemic Synthesis task. Researches performed in the area suggest that the syllabic awareness develops before the phonemic awareness^{11,12,13,27}, and the phonological awareness abilities are improved with the alphabetization process^{11,12,23}.

Study²⁷ refers the importance of sensitivity in the perception of syllabic and phonemic segments for the writing acquisition, since for the Portuguese orthography the syllabic units and the phonemic units have an essential role in the acquisition of the written code by the child. Considering that the Portuguese is composed, chiefly, by dissyllabic segments, the rhyme does not present a great influence on the ability of discriminating the phonemic segments of a word, and a weak relation between the sensitivity to the rhyme and the writing and reading acquisition in Portuguese was found.

Researches state that the phonological awareness and the writing acquisition mix on a mutual way^{2-4,14}. The phonological awareness development seems to occur naturally, according to the rhythm predicted on the oral language. However, it is also

affected by the kind of experience that the child has^{3,6}. Both schools where the research was made had very similar didactic, both in the organization and in the stimulation of the abilities which precede the beginning of the alphabetization. This way, it is possible to infer that the previous school experience influenced the results of both groups.

The orthographical mistakes are expected during the orthographic acquisition process and they tend to decrease as time goes by^{15,22,27}, what does not happen to children with learning difficulties^{15,20,28}. The phonological and orthographical processes are important for the orthographic writing, since the standardized grapheme-phoneme conversion is learnt according to the increase of the exposition to the frequency of the occurrence and the use of the orthographical rules^{20-22,29}.

On the studied sample, while analyzing, on a general way all the categories, except “Others”, the FG presented less orthographical mistakes than the SG. Considering that the mistake is a difficulty to be overcome²⁸, it is expected that the children who are in alphabetization process perform these flaws. Slowly, as the subjects appropriate the writing system, they understand the aspects that compose the alphabetical and orthographical nature of the writing^{6,11,28}, the occurrence of mistakes decreases. But, evaluating the average of mistakes per student, it is noticed that the students of the SG performed, on average, less mistakes of “Multiple Representation”, “Omissions”, “Changes am-ão”, “Letters Increase”, “Inversions” and “Others” nature than the students of the FG

The mistakes categorized as “Others” can be explained as momentary deception of the student, bad comprehension of some word or a hypothetization of the child about the spelling of a determined word^{15,20,22,28}. It is highlighted that the data collection was made on the first semester of the school year on the second grade and, although the children already had contact with the writing language, they were still in alphabetization process.

A lot of students presented alterations on the writing because the school, in general, does not emphasize the orthography teaching, generating difficulty to learn the grapheme-phoneme conversion mechanism necessary for the writing of regular and irregular words, and the orthographical processor depends on the formal teaching of orthography^{3,15,22}. The development of this orthographic processor happens along the alphabetization process, when

the student is helped during this process, until the moment when he starts to automate the writing regarding to the principles that rule the orthography²²⁻²⁴.

The prevalence of mistakes in the “Multiple Representations” category in both groups was found in other studies which checked the orthographic performance of the students at the same age of the present study^{21,22,26,28}. This kind of mistake suggests reduced knowledge of the language orthographical characteristics, which are overcome with the knowledge of contextual and morphosyntactic rules^{21,30}, knowledge concerning the words etymology and formation or, even, the memorization of its spelling^{15,20}, which are deepened with the teaching of the formal pattern of the language^{22,25,29,30}.

The high number of mistakes in this category, does not depend on alphabetization model, and can be explained by the great possibility of a same sound be represented by several letters, and several letters can represent a same sound^{24,28}. As time passes, and in contact with the orthographical writing, the decrease on this kind of mistake is expected and indicates that the child starts to dominate the graphic code and make use of orthographic and grammar rules of the language^{6,11,21,28}.

The category “Omissions” was the second in relation to the amount of mistakes found in both groups, fact which agrees with study²² that found high occurrence of letters omission in the orthography analyses in children from first to fifth grades. The great omission occurrence indicated that the evaluated subjects did not dominate the necessary abilities to represent all the letters of the words²¹, regardless of the method used for the alphabetization. However, these findings disagree with the study²¹ which classified the “Other Alterations” category as the second with higher occurrence of mistakes in students of the second grade of Elementary School.

The great occurrence of mistakes resulting from the “Orality Support”, verified mainly on the SG, is motivated by the fact that the linguistic variation influences the speaking transcription, and the school hardly works the differences between oral language and written language^{15,23-25}. These mistakes were also pointed out in another study, where great occurrence of this kind of mistake was observed²⁸. The support on the oral language offers the phonetic transcription of the word to be written, and this way, the child uses as strategy to find out

the letters which represent the lacking sounds in a determined word^{24,28}.

The children gradually develop the perception that the writing is different from the speaking, despite the fact that in some cases there is a narrow relation between the writing and the pronunciation. This means that the subject, slowly, sets aside the phonetic hypothesis and starts to replace it by the orthographic hypothesis^{24,26,28}. The smaller number of orthographical mistakes observed on the FG compared to the SG can be explained by the fact that the phonic method emphasizes the correspondence between grapheme and fonemas^{18,24}, therefore the possibilities of a same sound can be represented by a same letter and the same letter represent more than one sound are inserted, resulting in a gradual decrease of the orthographical mistakes, until the child dominates, on a more secure way, the orthographical system^{15,20,21}.

On the “Change am X ão” category, which has great relation with the “Orality Support” category, refers a tendency of support on the orality for the writing, and most times, the children use the supplied auditory clues and the support on the orality to choose which letters must be used^{20,28}.

The mistakes on the “Generalization” category presented a small occurrence in both schools. The small occurrence of this kind of mistake is explained by the fact that the generalization of orthographic rules implies elaborated knowledge of the irregularities of the orthographic system^{15,20}, which the studied sample did not have, considering that they are students of second grade of Elementary School.

The category with the smallest mistake occurrence was “Inappropriate Junction/separation”, in which only one mistake on the SG was observed. This occurrence can be explained by the fact that one of the researchers used one example of the use of the word in a sentence, since the subject did not know how to write the referred word. “Inappropriate Junction/separation” depends on the intonation and melodic characteristics of the language, that make the children create hypothesis of segmentation for the words, deciding in which point the word should start or finish²⁸.

On the “Changes of deaf/sonorous Letters”, SG presented a bigger occurrence of mistakes compared to the FG. The literature refers that this kind of replacement, of a deaf phoneme by a sonorous or vice versa, is result of momentary

confusion, and along the school year, the child tends to improve the phonemic awareness, automatically overcoming these changes^{15,18,19,21,28}, with no need of intervention for that.

The “Letters Increase”, “Confusion of Similar Letters” and “Inversions” categories demonstrated a small occurrence of mistakes^{20,28}, fact that partially agrees with the present research, since the occurrences of these mistakes were few. These changes are considered peculiar and, normally presented by few subjects, which follow the evolutionary path of the other categories, decreasing its occurrence until the moment they are not part of the children’s writing anymore^{20,28}.

Although the orthographic mistakes have tendency to decrease as time goes by^{6,11,15,29,30}, it is important that specific questions to facilitate the acquisition of the formal writing of the language are dealt with, such as the distinction between the spoken and written language, the perception, the identification and the differentiation between the deaf and sonorous phonemes, the contextual, morphosyntactic rules and words etymology, besides working the specific difficulties of each subject^{23,29}. The orthographic mistake must be understood as something predictable and necessary so that the writing acquisition process can be built^{24,25,28}.

Conclusion

From the data found on this research, it can be concluded that the children who learned to read and write both with the phonic method and with the syllabic method presented results with a statistically meaningful difference neither on phonological awareness tests nor on the analyses of the orthographic mistakes in the writing.

The results obtained with the groups on the awareness tasks demonstrated that these abilities make part of the continuous development of the child, and the tasks which involve syllable manipulation precede the ones which involve phonemes manipulation.

It is observed that the children who learned to read and write with syllabic methodology presented a better development on most abilities evaluated on the Phonological Awareness Test, while the children of the phonic methodology group presented a smaller amount of orthographic mistakes on the most part of the analyzed categories. It is observed that regardless of the teaching methodology used,

the contact with the writing and the reading develops the metalinguistic abilities of the child.

The data obtained reinforce the necessity of future studies evaluate the influence of the alphabetization methodology in the writing acquisition process, moreover the researches developed with a bigger sample number could verify and investigate the presence or absence of relation among the factors.

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