

A terapia em consciência fonológica no processo de alfabetização****

Phonological awareness therapy in the literacy process

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Abstract

Background: phonological awareness and literacy. **Aim:** to verify the influence of phonological awareness therapy in the literacy process. **Method:** 46 children were submitted to an assessment involving the reading and writing of words and non-words and of phonological awareness. The experimental group was submitted to therapy. **Results:** therapy had a positive influence in the performance of the children in the experimental group (76.47%) regarding tasks of phonological awareness and regarding their performance in reading and writing; only literate children were able to perform tasks involving phonemic awareness. **Conclusion:** phonological awareness therapy facilitates the acquisition of the alphabetic code.

Key Words: Reading; Writing; Phonological Awareness; Learning.

Resumo

Tema: consciência fonológica e alfabetização. **Objetivo:** verificar a influência da terapia em consciência fonológica no processo de alfabetização. **Método:** 46 crianças foram submetidas à avaliação da leitura e escrita de palavras e pseudopalavras e da consciência fonológica; o grupo experimental foi submetido à intervenção. **Resultados:** a terapia interferiu positivamente no desempenho das crianças do grupo experimental (76,47%) nas tarefas de consciência fonológica e em relação ao seu desempenho em leitura e escrita e somente as crianças alfabetizadas conseguiram realizar as tarefas de consciência fonêmica. **Conclusão:** a terapia de consciência fonológica facilita a aquisição do código alfabético.

Palavras-Chave: Leitura; Escrita; Consciência Fonológica; Aprendizagem.

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Introduction

The written code is a linguistic representation form that implies the ability to understand ideas and concepts and to transmit messages, allowing the interactions of the individual with the written world where he belongs. However, on the contrary of the spoken language, the written language requires a formal, or not, instruction to be acquired, even considering that nowadays the writing notion is intrinsic in children when he/she starts school.

Regarding the formal learning, some methods were developed in order to make possible for the student a more systematic learning of reading and writing. The teaching approaches of the written code basically involve the Analytic and the Global methods, and it can be observed in the literature divergent conceptions concerning these two approaches. Ferreiro & Teberoski (1986) in opposition to the phonic method, consider that this approach used by schools is characterized by having a mechanic character, with the use of motor exercises related to letter drawing as well as to the establishing of association of sound forms to graphic forms and its memorizing, considering literacy as a simple association between sound answers to graphic stimuli.

Capovilla & Capovilla (2002) stated that the writing acquisition theory proposed by Ferreiro & Teberoski (1986) presents severe limitations, specially regarding literacy, once the Piaget's theory that originated the psychogenetic approach in literacy proposed by the above authors, refers basically to epistemology and not to education. In this case, in the Piaget's approach, the written language represents the most complex form of symbolic activity due to the cognitive development without being considered as a distinct skill with particular characteristics.

In contemporary approach, the researches developed in the Cognitive Neuropsychological area evidence that for the learning of the written code in an alphabetic system, it is necessary the knowledge of the language phonological structures, that is that the sound components of words (phonemes) are represented by letters or small groups of letters. This ability is called Phonological Awareness, defined as the capacity to think about the sound structure of speech as well as to manipulate its structural components, presenting a narrow relationship with the learning of the written code. The broader and more complete conception of this relationship is of reciprocal causality (Morais et al., 1998).

Considering that the phonological awareness can interfere, also causally, in the written code acquisition and development, many intervention programs are developed for the treatment of reading and writing disorders with emphasis in the development of this metalinguistic level. Hatcher et al. apud Santos & Navas (2002) demonstrated that the metalinguistic skills may be stimulated in children being literated (preventive intervention), as well as in children who already present difficulty in the reading and writing process (therapeutic intervention). Morais (1996) considered that the progresses in reading and writing are considerably more important when the ability of intentional phonemic analysis and the knowledge of corresponding letters and its sounds are exercised at the same time. Capovilla & Capovilla (2002) mentioned the reading and writing disorders intervention program with emphasis on the development of these abilities, because they considered that the phonological awareness abilities are one of the interfering factors in the literacy process.

Thus, the present study aimed at verifying the influence of phonological awareness therapy in the literacy process, through systematized specific activities including the explicit teaching of the relationships between grapheme and phoneme in first grade children that, although exposed to formal teaching of reading and writing during one semester, didn't succeed in literacy.

Method

This research was registered in the Projects Office of the Health Science Centre of Federal University of Santa Maria (number 011357) and was approved by the Ethics Committee. The participants of this research agreed with its conduction and latter publication of the results, signing the informed consent according to the resolution 196/96 of the National Ethics Commission in Research (CONEP).

General procedures of the research

The sample selection of this study was performed from a population of nine classes of first grade, distributed in two municipal and two state schools. From this population, 46 children were selected and divided into three groups: Experimental Group (EG) composed by 17 illiterate

children who underwent phonological awareness therapy; Control Group (CG) composed by 12 illiterate children who weren't submitted to the therapeutic procedure; and Alphabetical Group (AG) composed by 17 literate children.

The children who constituted the final sample of this study obeyed the following criteria: they were authorized by the parents or legal guardians to participate in the study; they were being literate by the common teaching method; they didn't present history of scholar failure; they presented adequate comprehensive and expressive language to their age; they didn't present significant and evident alterations in neurological, auditory, visual and emotional aspects observed through school files analysis. In addition, the participant children from control and experimental groups should be illiterate.

The sample characterization according to gender and age, considering the evaluation period (June/ July) is presented in Table 1.

TABLE 1. Characterization of the sample groups (n=46) according to gender and age.

	n	Sexo		Faixa Etária	
		Feminino	Masculino	Entre 6 e 7a	Entre 7 e 8a
GE	17	10	7	9	8
GC	12	5	7	7	5
GA	17	10	7	11	6

Legenda: GE = Grupo Experimental; GC = Grupo Controle; GA = Grupo Alfabético.

First of all, the schools boards were asked to authorize the conduction of this research, and the study's purposes as well as its importance for the educational context were presented. A meeting with the teachers was carried out in order to clarify the purposes of the study and to give subsidies for them to refer the students to participate, as uniformly as possible, of the evaluation. In this sense, the considered aspects were: literate children to compose the AG and illiterate children, although without evident neurological, speech, hearing visual and/or emotional alterations, to compose the CG and the EG. Children with history of scholar failure were not referred. The teachers also answered a questionnaire composed by questions concerning their knowledge about literacy, teaching methods, "readiness" for reading and writing, and the procedures adopted in cases of

children with difficulty with the literacy process. Once the children were referred, a meeting with their parents or legal guardians was conducted in order to clarify the evaluation procedures that the children would be submitted to, as well as the work that would be done with them, in case they were selected to participate in the research. A written authorization was asked and the informed consent was signed.

The CG, EG and AG evaluations were performed in June/ July and the children were individually assessed in two different sessions of approximately thirty minutes. The EG and the AG were constituted by children of the same classes.

Evaluations performed

Comprehensive and expressive language evaluation

The comprehensive and expressive language evaluation was performed through an informal dialogue and it was used as an exclusion criterion (children with speech, phonetic or phonologic alterations, didn't participate of the research).

Reading and writing evaluation

In order to evaluate the performance of words reading and writing, it was used a specific material organized for this research, based on Ferreiro & Teberosky (1986). Also, the performance of reading and writing of pseudo-words was verified, using a material based on Salles (2001) for reading and based on Pinheiro (1994) for writing.

Concerning the reading of words, the children's performance was classified according the criteria defined by Ferreiro & Teberosky (1986): Level a (text and drawing are presented indifferently), Level b (the text is considered a label of the drawing), Level c (the text properties supply indicators that permit to support the anticipation by the image). Although this classification was used, it wasn't enough to characterize the sample completely, so the author of this study proposed the inclusion of the following levels: Level d (there is a dissociation between text and image, although without reading possibility: the child recognizes that the signifier does not correspond to the signified, but can not decode it), and Level e (fluent reading without a relationship with the image).

With the evaluation of pseudo-words reading, it was intended to verify if the child makes a correlation between the grapheme and the

phoneme, as well as if he/she makes the phonemic and syllabic synthesis. The following classification levels were considered, proposed by the author of this study: Level a (the child does not correspond grapheme and phoneme), Level b (the child corresponds grapheme-phoneme, but presents a syllabic reading), Level c (the child corresponds grapheme-phoneme and reads fluently).

Concerning the writing of words, the children's performance was classified according to Ferreiro & Teberosky (1986): pre-syllabic level, syllabic level, syllabic-alphabetic level and alphabetic level. In the pseudo-words writing the aim was also to investigate whether the child establishes a grapheme-phoneme correlation. In order to characterize the sample's performance in the writing of pseudo-words, the same classification of writing level proposed by Ferreiro & Teberosky (1986) was used. The orthography and comprehension of the read material were not considered in this task.

Phonological awareness evaluation

The Phonological Awareness Test (PAT) developed by Capovilla & Capovilla (1998) was used. The PAT was individually applied and lasted about thirty minutes.

Phonological Awareness Therapy

After the evaluation period and the constitution of the groups, the phonological awareness therapy was conducted with the EG. The subgroups were formed by five groups of three children and one group of two children.

The phonological awareness therapy was performed in the school, during lecture time, in a specific room for this study. The frequency of the therapy was three sessions of thirty minutes each, per week, totalizing 18 hours and 36 sessions, during the months of August, September, October and November. The activities performed during this study were elaborated systematically, comprising all the abilities assessed by the PAT (Capovilla & Capovilla, 1998). All therapy's tactics were planned and accomplished by the author of this study the same way in the five subgroups of the EG. Simultaneously to the phonological awareness exercises, activities of explicit teaching of the correlation grapheme-phoneme were performed, i.e. the teaching that for each sound of the words, there is a graphic code (grapheme) that represents it.

Once the therapy was concluded, the re-evaluation of the EG and CG started, with the same protocols used in the initial evaluation. The AG wasn't included in the final evaluation, once it presented satisfactory performance in all initial evaluations. The inclusion of this group in the research was in order to help in the performance analysis of the other groups, using it as a comparison measure in the later comments.

Data analysis

The individual results concerning the children's performance during reading and writing evaluation were distributed linearly. The statistical study showed that the distribution was non-normal and, therefore, the test Chi-square was used with a significance level of 5% ($p < 0.05$).

The individual results concerning the children's performance in the phonological awareness evaluation were distributed linearly. Initially, the variance analysis was performed (ANOVA) and the test F (that characterizes the differences between the results as significant or not), besides the Tukey Test per group and per evaluation, which uses letters to classify the means obtained (a and b). In this case, the letters that are repeated show that the results don't present statistically significant variation. The data were analyzed after the transformation ($y' = \sqrt{y + 1,5}$). The considered significance level was 5% ($p < 0.05$).

Results

TABLE 2. Performance of EG and CG in the initial and final evaluations of words reading.

avaliação inicial	n	Níveis de Leitura	
		1	2
GE	17	100%*	0%*
GC	12	100%	0%
avaliação final			
GE	17	35,29%*	64,70%*
GC	12	83,33%	16,66%

*GE: $\chi^2 = 16,261$ ($P = 0,001$); GC: $\chi^2 = 2,182$ ($P = 0,140$).

Legenda: GE = Grupo Experimental; GC = Grupo Controle; 1 = Grupo de não-leitores; 2 = Grupo de leitores.

TABLE 3. Performance of EG and CG in the initial and final evaluations of pseudo-words reading.

		Níveis de Leitura	
avaliação inicial	n	1	2
GE	17	100%*	0%*
GC	12	100%	0%
avaliação final			
GE	17	52,94%*	47,06%*
GC	12	91,67%	8,33%

*GE: $\chi^2 = 10,462$ (P = 0,001); GC: $\chi^2 = 1,043$ (P = 0,307).

Legenda: GE = Grupo Experimental; GC = Grupo Controle; 1 = Grupo de não-leitores; 2 = Grupo de leitores.

TABLE 4. Performance of EG and CG in the initial and final evaluations of words writing.

		Níveis de Escrita	
avaliação inicial	N	1	2
GE	17	100%*	0%*
GC	12	100%	0%
avaliação final			
GE	17	23,53%*	76,47%*
GC	12	75,00%	25,00%

GE: $\chi^2 = 21,048$ (P = 0,001); GC: $\chi^2 = 3,429$ (P = 0,064).

Legenda: GE = Grupo Experimental; GC = Grupo Controle; 1 = Grupo não-alfabético; 2 = Grupo alfabético.

TABLE 5. Performance of EG and CG in the initial and final evaluations of pseudo-words writing.

		Níveis de Escrita	
avaliação inicial	N	1	2
GE	17	100%*	0%*
GC	12	100%	0%
avaliação final			
GE	17	23,53%*	76,47%*
GC	12	75,00%	25,00%

*GE: $\chi^2 = 21,048$ (P = 0,001); GC: $\chi^2 = 3,429$ (P = 0,064).

Legenda: GE = Grupo Experimental; GC = Grupo Controle; 1 = Grupo não-alfabético; 2 = Grupo alfabético.

Discussion

The results demonstrated in Tables 2, 3, 4 and 5 show that the phonological awareness therapy associated with the explicit teaching of the correspondence grapheme-phoneme interfered significantly in the literacy process of the EG, making a performance improvement possible in all evaluations. Morais (1996) shares with the literature

consensus that there is a very narrow correlation between reading and phonological awareness, and in this research the results of the words reading test (Table 2) and of the phonological awareness (Table 6) evidenced a significant increase of the EG children's performance in both evaluations. Consequently, the good performance of the EG in the words reading test potentializes the capacity of these children to understand the material that was read (main purpose of reading). In fact, Poersch & Chiele (1998) report that in the initial phase of learning to read, the comprehension is a result of the ability to identify isolated words, and latter on is influenced by the life experiences of the person, as well as by the systematization of school learning.

The variation of the performance of the EG in the pseudo-words reading test (Table 3) indicates that the use of the phonological route was effective, once the recognition of this kind of word can only occur this way (Pinheiro, 1994). Concerning the ability to identify pseudo-words, it can also be considered that the good performance of the EG obtained in the final evaluation is directly related to the type of instruction that was performed during therapy, i.e. the emphasis in the grapheme-phoneme correspondence. About this, Pinheiro (1994); Cielo, (1998) report that the instruction type that is received influences in the strategy that will be used by the emergent reader.

In the words writing evaluation (Table 4), the results showed that the EG presented a performance with as statistically significant difference between the initial and the final evaluations; concerning the CG it wasn't observed significant variation in its performance when the two evaluations were compared. The statistical study, demonstrated in Table 5, shows that there was a highly significant difference in the performance of the EG when the initial and final evaluations were compared, indicating that the therapy was also efficient for the pseudo-words writing, once it made the analysis of speech segments possible in meaningless words. Morais (1996) reports that the same way that a mental representation of a word is activated when visualizing this word, the orthographic representation of a heard word is also activated. In the present evaluation, the words were written from an oral dictation and although the pseudo-word does not have semantic value in the mental lexicon, the EG subjects were capable of segmenting the phonemes of the heard word, associating them to the corresponding graphemes and, consequently, perform the correct writing.

TABLE 6. Characterization of the sample's performance in the PAT per group, in the initial and final evaluations.

	n	R			A			SS			SeS			MS			TS		
		AI	AF	P	AI	AF	P	AI	AF	P	AI	AF	P	AI	AF	P	AI	AF	P
GE	17	2,58 ^b	3,88 ^a	0,001	2,76 ^b	3,82 ^a	0,009	3,52 ^a	4,00 ^a	0,15	3,76 ^b	4,00 ^a	0,03	2,88 ^b	3,88 ^a	0,02	0,064 ^b	3,23 ^a	0,0001
GC	12	1,91 ^a	2,33 ^a	0,49	2,25 ^a	2,41 ^a	0,83	3,58 ^a	3,66 ^a	0,41	3,33 ^a	3,66 ^a	0,41	1,83 ^a	2,00 ^a	0,69	1,08 ^a	1,50 ^a	0,52
GA	17	3,88	-	-	4,00	-	-	4,00	-	-	4,00	-	-	4,00	-	-	4,00	-	-
		SF			SeF			MF			TF			TOTAL					
		AI	AF	P	AI	AF	P	AI	AF	P	AI	AF	P	AI	AF	P			
		0,47 ^b	3,64 ^a	0,0001	0,05 ^b	3,29 ^a	0,0001	0,00 ^b	3,29 ^a	0,0001	0,00 ^b	1,00 ^a	0,0006	16,70 ^b	34,05 ^a	0,0001			
		0,83 ^a	1,25 ^a	0,35	0,00	0,00	0,0001	0,16 ^a	0,16 ^a	1,00	0,00	0,00	0,0001	15,00 ^a	17,00 ^a	0,35			
		3,70	-	-	3,58	-	-	3,82	-	-	2,58	-	-	37,58	-	-			

Legenda: R = Rima; AI = Avaliação Inicial; A = Aliteração; AF = Avaliação Final; SS = Síntese Silábica; P = Nível de Significância (P < 0,05); Sés = Segmentação Silábica; GE = Grupo Experimental; MS = Manipulação Silábica; GC = Grupo Controle; TS = Transposição Silábica; GA = Grupo Alfabético; SF = Síntese Fonêmica; ^{a, b, ab} = Classificação das Médias Obtidas (Teste de Tukey); SeF = Segmentação Fonêmica; MF = Manipulação Fonêmica; TF = Transposição Fonêmica.

TABLE 7. Characterization of the sample's performance in the PAT between the groups, in the initial and final evaluations.

	n	R		A		SS		SeS		MS		TS	
		AI	AF	AI	AF	AI	AF	AI	AF	AI	AF	AI	AF
GE	17	2,58 ^{ab}	3,88 ^a	2,76 ^{ab}	3,82 ^a	3,52 ^a	4,00 ^a	3,76 ^a	4,00 ^a	2,88 ^{ab}	3,88 ^a	0,64 ^b	3,23 ^a
GC	12	1,91 ^b	2,33 ^b	2,25 ^b	2,41 ^b	3,58 ^a	3,66 ^a	3,33 ^a	3,66 ^a	1,83 ^b	2,00 ^b	1,08 ^b	1,50 ^{ab}
GA	17	3,88 ^a	-	4,00 ^a	-	4,00 ^a	-	4,00 ^a	-	4,00 ^a	-	4,00 ^a	-
P		0,0004	0,001	0,001	0,004	0,46	0,43	0,18	0,08	0,001	0,0001	0,0001	0,009
		SF		SeF		MF		TF		TOTAL			
		AI	AF	AI	AF	AI	AF	AI	AF	AI	AF		
		0,47 ^b	3,64 ^a	0,05 ^b	3,29 ^a	0,00 ^b	3,29 ^a	0,00 ^b	1,00 ^a	16,70 ^b	34,05 ^a		
		0,83 ^b	1,25 ^b	0,00 ^b	0,00 ^b	0,16 ^b	0,16 ^b	0,00 ^b	0,00 ^a	15,00 ^b	17,00 ^b		
		3,70 ^a	-	3,58 ^a	-	3,82 ^a	-	2,58 ^a	-	37,58 ^a	-		
		0,0001	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001	0,004	0,0001	0,0001		

Legenda: R = Rima; AI = Avaliação Inicial; A = Aliteração; AF = Avaliação Final; SS = Síntese Silábica; P = Nível de Significância (P < 0,05); Sés = Segmentação Silábica; GE = Grupo Experimental; MS = Manipulação Silábica; GC = Grupo Controle; TS = Transposição Silábica; GA = Grupo Alfabético; SF = Síntese Fonêmica; ^{a, b, ab} = Classificação das Médias Obtidas (Teste de Tukey); SeF = Segmentação Fonêmica; MF = Manipulação Fonêmica; TF = Transposição Fonêmica.

Table 6 shows that there was a significant increase in the EG children's performance in the phonological awareness task when the initial and final evaluations were compared. Nevertheless, even this result is not consistent enough to affirm that just the intervention in phonological awareness made this increase possible, on the contrary, the reading conditions of this group in the end of the intervention also made this significant increase possible. In this sense, the data corroborate with Morais et al. (1998) according to which, the relationship that is established between the phonological awareness and the alphabetic code acquisition is of reciprocal causality: some levels of phonological awareness interfere in reading and writing process, while the mastery of these skills enables the evolution of more specific levels of phonological awareness, specially those related to the phonemes manipulation.

The Table 7 results allows to stress that the AG presented statistically significant differences in the initial evaluation when compared to the other groups in almost all tasks of PAT. Considering the performance of the sample in the final evaluation, the significant statistical difference of AG in relation to some groups remained. However, the most important consideration refers to the perception that the results of the EG (initially with significant difference in almost all tasks when compared to the AG) was considered without statistical difference in relation to this group in the final evaluation. A general analysis of the results of these two groups (AG and EG) allows the discussion of at least two hypothesis: first, that the phonological awareness therapy together with the teaching of grapheme-phoneme correlation promoted an evolution in the phonological awareness levels or, according to Cielo (1998), an artificial increase in the phonological sensitivity level, enabling a significant improvement in the PAT tasks performance; and second, that this therapy contributed to the written code learning that was responsible by the significant variation in the PAT tasks performance.

In the rhyme task, the results of the performance of the three groups in the initial evaluation disagree with the unanimous literature position that the ability in rhyme comes before the reading acquisition and does not depend on it (Chard & Dickson, 1999). Considering this matter, the children should have presented a satisfactory performance in these abilities. In the final evaluation, it can be observed that the EG presented equal performance as the AG, but with statistical variation when

compared to the CG, making evident that for this group, the phonological awareness therapy seems to have interfered in the abilities to solve the rhyme tasks.

In the alliteration, the results of this study are partially concordant with the ones presented by Cielo (2002) where five, six, seven and eight years old children performed the syllable detection in initial, final and medial positions successfully. From this consideration, it was expected that there would not be a performance difference between the groups, once they were composed by children of the same age. Somehow, the difference presented by the AG when compared to the CG seems to have been interfered by the literacy conditions of the first group, although this same observation can not be applied to discuss the performance equivalence between the EG and the AG, once the condition was the same presented before: one group of illiterate children (EG) and another with literate children (AG).

The results regarding the syllabic synthesis agree with the Capovilla & Capovilla (1998) observation that this is an easily performed task by the natural tendency of children to realize the speech segmented in syllables. In the syllabic segmentation task, the equal performance between the groups, considered satisfactory, is a result that agrees with Morais et al. (1998), that the syllabic segmentation ability seems to be present in children independently of the writing development. The synthesis and segmentation tasks were the only ones that presented equivalent results between the three groups, considered satisfactory without significant performance variation after the final evaluation.

In the syllabic manipulation skill, the results of the present research partially agree with the results presented by Cielo (2002), once even considering the same mean age between the three groups (seven years), there was a difference in the performance of the CG when compared to the AG. The results obtained after the final evaluation showed that the performances were stable, except for the EG that, probably due to the intervention, presented statistical difference in relation to the CG.

Considering the syllabic transposition, the results of this study showed that the therapy allowed the EG to increase significantly its performance when comparing the initial and final evaluations.

As described before, the results obtained in the initial evaluation of Phonemic Synthesis showed a highly significant advantage of the AG

when compared to the other ones that presented stable unsatisfactory performances. In this case, the results partially agree with the Cielo's (2002) ones, once according to the results of his research, the seven years old children were successful in this task, except in the synthesis of seven phonemes words probably due to the higher attention and memory demands. In this study, the children's age of the three groups was equivalent, what could characterize a similar performance in this task. The superiority of the AG, in this case, seems to have been a consequence of the mastery of the written code. Yet, considering the initial evaluation, the unsatisfactory performances of the EG and CG don't agree with Alégria's et al. (1997) findings, that the exposition to the alphabetic system seems to be, initially a necessary condition for the phonemic awareness of speech. In this case, the three sample groups were comprised by children already exposed to the alphabetic code for three months, and even so, could not perform the tasks in this level of metaphonology. In the final evaluation, the EG children's performance (illiterate) was the same as the AG children, stressing the hypothesis that the mastery of the written code enables the performance improvement in tasks that involve phonemic abilities (Morais et al., 1998; Signorini, 1998).

As seen in the Phonemic Segmentation task, the results disagree with the position of Jenkins & Bowen (1994) that it is necessary the exposition to formal instructions of alphabetic writing so that the phonemes are realized. In this case, the formal exposition to the code during one school year was not enough for a performance variation of CG children; only the EG after possessing the written code could succeed in the phonemic segmentation task. This finding stresses the hypothesis that the reading and writing learning and the experience as conventional readers develop the capacity to analyze the phonemic structure of the speech in the individuals.

The performance equivalence between the EG and the AG after the therapeutic intervention in the Phonemic Manipulation task stresses the hypothesis that the mastery of the written code is necessary to the performance of tasks in this level of metaphonology. In fact, only these groups comprised by readers were capable of succeed in these tasks.

In the phonemic transposition there was also statistically significant difference in favor of the AG in the initial evaluation when compared to the other groups, indicating that, for this level of

metaphonology, it was necessary the acquisition of the written code to perform the tasks.

In the total of the PAT, the initial evaluation showed that the performance between the EG and the CG was considered equivalent and with statistically significant variation of these groups in relation to the AG. In the final evaluation, the EG had an equal performance as the AG, presenting statistical difference in relation to the CG. The performance of this last group, that remained without significant variation considering the initial and final evaluations, corroborates the Shaywitz (1996) position cited by Carvalho & Alvarez (2000) that the difficulties in the abilities that involve phonological awareness may be the cause of considerable deficits in reading acquisition and development. Consequently, the lack of mastery of this ability interferes negatively in the abilities development sequence in phonological awareness, specially in the phonemes level (Treiman & Zukowski, 1991; Vandervelden & Siegel, 1995; Duncan et al., 1997 and Morais et al., 1998).

Conclusion

The results of this study showed that the phonological awareness therapy associated to the explicit teaching of the grapheme-phoneme correlation contributed positively to the reading and writing learning in the majority of the EG children (76,47%). These results confirmed the evidences of the literature that, showing the children how the speech is structured and how it can be manipulated facilitates their comprehension of the alphabetic code.

It is pertinent to analyze the cultural level of the participant children in this moment. Although the EG was considered homogeneous in relation to the AG in terms of socio-cultural background, it was observed during the therapeutic intervention that the knowledge of these children and their experiences with written materials (comics, magazines, story books) were very limited. This fact (considering the global approach of literacy) is directly correlated to the written code learning; in the case of these children, it was necessary to call their attention not only to the importance of "learning to read and write", but also to how this learning could happen.

Yet, even considering the results of researches that show the efficacy of this intervention level in the literacy process, it is important the coherent position that no method is considered "the best".

In this sense, even being extremely important, the intervention form presented in this research must be considered as an alternative proposal, in rehabilitation terms, for those children that exposed to another kind of approach don't improve their reading and writing learning. It is obvious that the sound structure of speech awareness can and must be stimulated through specific activities, specially in Infantile Education Schools, with the purpose of providing situations for the child to "think" about speech sounds, in order for him to represent them graphically latter on. We consider extremely important the intervention involving phonological awareness skills for the children who are not capable of doing these associations alone.

The results presented by a small parcel of the EG that didn't succeed in literacy (23,53%) make us observe that for this group, the therapy didn't interfere in the reading and writing skills acquisition. The performance of this group in the initial and final evaluations of words and pseudo-words reading and writing remained stable. The therapeutic process was very piteous for those children, who showed evident difficulties in performing the tasks including the most simple ones. Their phonological awareness of how the speech could be represented through graphic symbols was very limited. It was also observed an expressive difficulty in the memory skill of those children. After the activities explanation, they could perform, for example, the grapheme-phoneme association, but it was considered a very tenuous knowledge: it was necessary to constantly reinforce the instructions as well as remind some aspects that had already been worked out when a new session started.

A more reflective study about these children's intellectual, language and even neurological skills could elucidate more consistently why they had a

great difficulty in performing the tasks requested in this level of intervention.

The children's performance analysis in tasks involving the phonological awareness were only performed successfully by the already literate children; even the illiterate group that received intervention in this level of metaphonology didn't succeed in these activities. This finding leads to the obvious conclusion that, according to the literature position, the phonemic awareness will only be consolidated after the reading and writing learning.

We consider of maximum importance the observation that under the terminology of "phonological awareness", several processes that demand various mental skills are involved. That's why it is important to consider the analysis regarding the metaphonology level in a segmented form. In this sense, it's important to underline that if any kind of intervention can help children in their initial reading and writing learning, it must involve basically the syllabic and phonemic analysis and synthesis together with the explicit instructions regarding the grapheme-phoneme correlation.

Additional studies could clarify, for example, which phonological intervention level could benefit children, either in the period before formal learning of reading and writing, or during it. It is notorious that children with syllabic and intra-syllabic units developed awareness present advantages when compared to those to whom the words present correlation only with their meanings. But, if any kind of explicit instruction could represent a differential regarding those children, then maybe this would be the main aspect to be studied and worked out by those who try to comprehend this delicate relationship established between two abilities: phonological awareness and the written code.

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