METAPHONOLOGICAL STIMULATION, ALPHABET KNOWLEDGE AND VOCABULARY PROGRAM (PEMAV) FOR PRESCHOOLERS: ELABORATION AND PILOT STUDY

PROGRAMA DE ESTIMULAÇÃO METAFONOLÓGICA, CONHECIMENTO DO ALFABETO E VOCABULÁRIO (PEMAV) PARA PRÉ-ESCOLARES: ELABORAÇÃO E ESTUDO-PILOTO

PROGRAMA DE ESTIMULACIÓN METAFONOLÓGICA, CONOCIMIENTO DEL ALFABETO Y VOCABULARIO (PEMAV) PARA PREESCOLARES: ELABORACIÓN Y ESTUDIO PILOTO

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ABSTRACT: Introduction: The importance of stimulating metaphonological skills, vocabulary with knowledge of the alphabet is described in international literature for subsequent success in learning to read and write, however there is a gap in studies in Brazil to stimulate these skills in early childhood education. Objectives: to develop a metaphonological stimulation program, alphabet knowledge and vocabulary (PEMAV) and its applicability in a pilot study with preschoolers. Methods: Forty schoolchildren aged between 5 years and 5 years and 11 months participated in this study, who were divided into GI (submitted to stimulation with PEMAV) and GII (not submitted to stimulation). Results: we observe positive changes, with mastery of cognitive-linguistic skills, knowledge of the alphabet and vocabulary in preschoolers in GI, when compared to GII. Discussion: The results of this pilot study confirm the importance of integrated stimulation of these skills. Conclusion: The developed program proved to be effective and applicable in the educational context.

KEYWORDS: Learning. Intervention. Preschoolers.

***RESUMO**: Introdução: É descrita na literatura internacional a importância da estimulação das habilidades metafonológicas, vocabulário e o conhecimento do alfabeto para o posterior sucesso na aprendizagem da leitura e da escrita; porém, na literatura nacional ainda há uma escassez de estudos que enfatizam a estimulação dessas habilidades na educação infantil. Objetivos: Elaborar um programa de estimulação das habilidades metafonológicas, conhecimento do alfabeto e vocabulário (PEMAV) e verificar a sua aplicabilidade em um estudo-piloto com pré-escolares. Metodologia: Participaram desse estudo 40 pré-escolares na faixa etária de 5 anos a 5 anos e 11 meses, que foram divididos em grupo GI com 20 pré-escolares submetidos a estimulação com o PEMAV e grupo GII com 20 pré-escolares não submetidos a estimulação. Resultados: Foi observado domínio das habilidades metafonológicas, conhecimento do alfabeto e vocabulário nos pré-escolares do GI, quando comparados aos do GII. Discussão: Os achados deste estudo-piloto confirmaram a importância da estimulação integrada destas habilidades em pré-escolares. Conclusão: O programa elaborado mostrou-se eficaz e com aplicabilidade no contexto educacional.*

***PALAVRAS-CHAVE**: Aprendizagem. Estudos de Intervenção. Pré-escolares.*

***RESUMEN**: Introducción: La importancia de estimular las habilidades metafonológicas, el vocabulario y al conocimiento del alfabeto está descrita en la literatura internacional para el éxito posterior en el aprendizaje de la lectura y la escritura, sin embargo existe un vacío en los estudios en Brasil para estimular estas habilidades en la primera infancia educación. Objetivos: desarrollar un programa de estimulación metafonológica, conocimiento del alfabeto y vocabulario (PEMAV) y su aplicabilidad en un estudio piloto con niños en edad preescolar. Metodología: Participaron cuarenta escolares con edades comprendidas entre 5 años y 5 años y 11 meses, divididos en grupo GI (sometidos a estimulación con PEMAV) y grupo GII (no sometidos a estimulación). Resultados: observamos cambios positivos, con dominio de habilidades metafonológicas, conocimiento del alfabeto y vocabulario en preescolares de GI, en comparación con los de GII. Discusión: Los encuentra de este estudio piloto confirman la importancia de la estimulación integrada de estas habilidades. Conclusión: El programa desarrollado demostró ser efectivo y aplicable en el contexto educativo.*

***PALABRAS CLAVE**: Aprendizaje. Estudios de Intervención. Preescolares.*

Introduction

According to Sargiani and Maluf (2018), during the first six years of life, children need to develop some important cognitive-linguistic skills that will be the pillars for later school success. Still according to these authors, it is necessary to ensure that children receive quality teaching in Early Childhood Education, which must be seen as a right of children and as a means of benefiting their entire subsequent schooling process.

Among these cognitive-linguistic skills, knowledge of the letters and sounds of the alphabet; metaphonological ability; rapid serial naming of letters, digits, objects or colors; name writing; vocabulary and phonological memory (Andrade; Andrade; Capellini, 2013; Santos; Barrera, 2017; Sargiani; Maluf, 2018). There is evidence that these skills are developing in children between 3 and 6 years of age (Ventura; Flores; Capelas, 2019; Rodriguez; Silva, 2023), however, despite seeming simple and natural, such skills prior to literacy require daily stimulation to be acquired, and should occur in Early Childhood Education, before the formal process of acquiring reading and writing (Landim; Flôres, 2019).

However, in Brazil teaching practices with cognitive-linguistic skills in Early Childhood Education are still very recent, since Early Childhood Education only became part of Education Basic with the promulgation of the Law of Guidelines and Bases in 1996 (Brazil, 2017). With the promulgation of this law, Early Childhood Education then takes on a new concept, whose experiences, practices and interactions with written language allow the development of speaking, reading and writing skills during this period of schooling (Roskos; Christie; Richgels, 2003).

With the new educational policies, both the National Common Curricular Base (Brazil, 2017) and the National Literacy Policy (Brazil, 2021) determine the skills and abilities that preschoolers and schoolchildren need to develop each year. However, as both policies are recent, Batista and Pestun (2019) highlighted that the results of their implementation are not yet fully effective, requiring monitoring and monitoring of preschoolers and schoolchildren to verify the impact of educational work with these policies. skills and competencies for success in the literacy process.

Over the years, studies carried out by Roazzi *et al*. (2013); Novaes, Mishima and Santos (2013), Santos and Barrera (2017), Ventura, Figueiredo and Capelas (2019), in Portuguese, reported that intervention with meta-phonological skills in preschoolers has a very important role in the subsequent development of reading skills in the initial years of literacy. More recent

international studies, however, propose the stimulation of metaphonological ability and the alphabetic principle (Law; Wouters; Ghesquière, 2017; Afsah, 2021; Kjeldsen *et al*., 2019) and the stimulation of metaphonological ability, vocabulary and alphabetic principle (Goldstein *et al*., 2017; West *et al*., 2021). The results of these studies indicated that preschoolers who have difficulties in cognitive-linguistic skills can benefit from targeted interventions with these skills and thus benefit from the development of reading and writing in the literacy phase.

Although the need to stimulate cognitive-linguistic skills, vocabulary and metaphonological skills associated with knowledge of the alphabet is recognized in international literature, in Brazil this focus is still on the initial years of literacy (FERRAZ, 2011; Novaes; Mishima; Santos, 2013), with a lack of studies aimed at stimulating these skills integrated into the knowledge of letters in Early Childhood Education.

In addition to the above, and assuming that preschoolers who have the ability to manipulate the sounds and syllables of speech to form new words have the ability to quickly expand their vocabulary and develop the competence to decipher printed words and, In order to understand the material read, the objective of this study was to present the development of the Metaphonological Stimulation, Alphabet and Vocabulary Knowledge Program (PEMAV) and its applicability in a pilot study with preschoolers aged 5 years to 5 years and 11 months.

Method

This study was carried out after approval by the Research Ethics Committee of the Universidade Estadual Paulista " Júlio de Mesquita Filho" – Faculty of Philosophy and Sciences – UNESP in the city of Marília, São Paulo, under protocol no. 68360023.8.0000.5406.

The research was divided into two phases, phase 1 being the development of the metaphonological stimulation program, knowledge of the alphabet and vocabulary (PEMAV) and phase 2, the applicability of the program developed in phase 1 with preschoolers aged 5 years to 5 years and 11 months in a pilot study; Therefore, this is a longitudinal, exploratory research, consisting of a convenience sample.

Phase 1 – Development of the Metaphonological Stimulation Program, Knowledge of the Alphabet and Vocabulary (PEMAV)

The program was developed based on a review of international literature, since there is a shortage of programs to stimulate cognitive-linguistic skills with vocabulary and

metaphonological skills (rhyme and alliteration) associated with knowledge of the alphabetic principle in Brazil.

Therefore, the choice of activities was based on international *Early Language programs intervention Program (NELI)* (WEST et *al.*, 2021) and *Path to Literacy* (GOLDSTEIN *et al*., 2017). In this phase, the stimuli were chosen linguistic categories corresponding to the semantic categories of food, animals, means of transport, musical instruments, clothing, school materials, geometric shapes, colors, furniture, household utensils, numerals and toys, which were grouped into thematic boards: Knowing Animals, Beach Holidays, A Day at School, Playing in the Room and Walking at the Fair.

E-Leitura I word bank (Oliveira; Santos; Capellini, 2021) according to frequency (low, high and medium frequency), syllabic complexity (VC, V, CV, CVC and CCV) and length of words (monosyllabic, disyllabic, trisyllabic and polysyllables of up to 6 syllables) that represented the mentioned semantic categories, with care being taken to select words that could be represented by figures.

The creation of the thematic boards took place through the distribution of 4 main cards with figures that represented the theme's vocabulary, which were cumulatively increased until there were a total of 20 cards presented. Each main card of the thematic boards was composed of 3 more alliteration cards and 3 rhyme cards. Thus, the program consisted of 25 boards and 700 words, with 140 words presented per specific theme, that is, per thematic board.

All sessions of the PEMAV Program aimed to stimulate knowledge of the alphabet, alliteration, rhyme and vocabulary in an integrated way, through the presentation of graphemes together with the cards that made up the thematic boards, thus presenting the initial letter of the words and the their respective sound, together with the rhyming activity to perceive the phonological similarity between words, thus stimulating the expansion of vocabulary through the cards presented.

Phase 2 – Applicability of the Metaphonological Stimulation, Knowledge of the Alphabet and Vocabulary Program (PEMAV) in a pilot study

Phase 2 of this study included 40 preschool children, aged 5 years to 5 years and 11 months, enrolled in two different and distant schools of Municipal Public Early Childhood Education. The estimate of the number of participants in this pilot study was made according to the description of Beaton, Bombardier and Guillemin (2000) regarding the number of subjects participating in a pilot study. These preschoolers were divided into 2 groups:

Group I (GI): composed of 20 preschoolers submitted to the Metaphonological Stimulation, Alphabet and Vocabulary Knowledge Program (PEMAV);

Group II (GII): composed of 20 preschoolers not submitted to the Metaphonological Stimulation, Alphabet and Vocabulary Knowledge Program (PEMAV).

The inclusion criteria for selecting preschoolers to participate in this study were the signing of the Informed Consent Form and the signing of the Free and Informed Consent Form by the parents or guardians; and as exclusion criteria the description in the school records of the presence of neurodevelopmental changes, genetic and/or neurological syndromes.

All students were subjected to an evaluation situation in the pre- and post-testing, the adapted version for preschoolers of the IPPL – Protocol for Early Identification of Reading Problems (QUEIROGA et *al.,* 2023). This protocol consists of 11 tests: knowledge of the alphabet, rhyme identification, rhyme production, syllabic segmentation, word production from phonemes and syllables, syllabic synthesis, initial sound or syllable identification, phonological working memory, rapid automatic naming (completion time and words named correctly in sequence), silent reading and listening comprehension of sentences based on pictures. The Children's Naming Test (TIN) (Seabra; Trevisan; Capovilla, 2012) was also applied, which aims to evaluate the ability to verbally name figures that are presented, one by one, by the applicator, using a notebook. It consists of 60 high or low frequency figures in the Portuguese language with different degrees of familiarity, allocated to the test in increasing order of difficulty, and allows the assessment of expressive language and access to the long-term memory system.

These procedures were applied to students individually by the researcher herself during class time on the school premises, in a place with little noise.

The PEMAV program was applied 4 times a week, in the classroom, collectively, by the researcher, with an average duration of 30 minutes each session. Thematic boards were presented and stimulation of vocabulary, metaphonological skills of rhyme and alliteration, as well as the alphabetic principle were carried out weekly, totaling 6 weeks of stimulation.

The results of this pilot study were analyzed using the SPSS V26 software (2019) with the application of the Wilcoxon Signed Rank Test to compare the variables of the version adapted for preschoolers of the IPPL – Protocol for Early Identification of Reading Problems (Quiroga *et al.,* 2023) and the TIN (Seabra; Trevisan; Capovilla, 2012) in a pre- and post-application situation of the program developed in phase 1 of this study. To distribute the TIN classification, the Chi-Square test was used. The statistically significant value is described with an asterisk in the tables.

According to Resolutions 466/2012, 510/2016 and complementary CNS/CONEP, students from GII were subjected to the PEMAV Program, by the classroom teacher, after the end of this study.

Results

Table 1 presents the comparison of the performance of preschoolers from GI in pre- and post-testing situations in the skills assessed in the version adapted for preschoolers of the IPPL – Protocol for Early Identification of Reading Problems (Queiroga ET *al*., 2023).

Table 1 – Distribution of the mean, standard deviation and p-value of the performance of GI preschoolers in the version adapted for Early Childhood Education of the IPPL in pre- and post-testing situations

		N	Average	Standard Deviation	P-value
Alphabet Knowledge (CALF)	Pre	20	12.95	7.96	<0.001*
	Post	20	16.15	7.23	
Rime Identification (IR)	Pre	20	2.9	4.68	<0.001*
	Post	20	10.2	6.25	
Rima Production (PR)	Pre	20	0.4	0.94	<0.001*
	Post	20	9.05	5.74	
Syllabic Segmentation (SS)	Pre	20	13.05	8.62	0.001*
	Post	20	19.3	3.01	
Word Production from Phonemes and Syllables (PPFSil)	Pre	20	7.15	5.05	<0.001*
	Post	20	15.4	5.06	
Syllabic Synthesis (SíntS)	Pre	20	14.5	5.08	<0.001*
	Post	20	19.4	1.23	
Initial Sound or Syllable Identification (ISomSilInic)	Pre	20	9	7.73	<0.001*
	Post	20	14.1	8.09	
Phonological Working Memory (MOF)	Pre	20	17.8	3.16	0.001*
	Post	20	20.4	3.08	
Rapid Automatic Naming (RAN)	Pre	20	50.2	13.64	0.015*
	Post	20	43.95	7.61	

Correctly named words	Pre	20	30.8	4.91	0.010*
	Post	20	33.65	1.6	
Silent Reading (LS)	Pre	20	2.75	1.33	0.001*
	Post	20	5.05	1.39	
Listening comprehension of sentences from pictures (CAF)	Pre	20	11.65	3.2	<0.001*
	Post	20	14.95	3.07	

Source: Prepared by the authors.

With the application of the Wilcoxon Signed Rank Test, we verified that there was a statistically significant difference in all skills of the adapted version of the IPPL for Early Childhood Education, showing a higher GI average in the post-testing compared to the pre - testing.

Tables 2 and 3 present a comparison of the performance of GI preschoolers in the TIN test (Seabra; Trevisan; Capovilla, 2012) in terms of raw, scalar and classification scores in pre- and post-test situations.

Table 2 – Distribution of the mean, standard deviation and p-value of the performance of preschoolers from GI in the TIN vocabulary test in pre- and post-test situations

		N	Average	Standard Deviation	P-value
TIN Gross Score	**Pre**	20	22.1	7.49	<0.001*
	Post	20	31	9.43	
TIN Standard Score	**Pre**	20	102.9	12.66	<0.001*
	Post	20	116.2	16.59	

Source: Prepared by the authors.

Wilcoxon Signed Rank Test, we verified that there was a statistically significant difference in the TIN vocabulary test, in terms of raw and scalar scores, showing a higher GI average in the post-testing compared to the pre-testing.

Table 3 – Distribution of the performance classification of GI preschoolers in the TIN vocabulary test in pre- and post-test situations

		Pre		Post		P-value
		N	%	N	%	
Classification	Low	2	10.00%	0	0.00%	0.147
	Average	14	70.00%	7	35.00%	0.027*
	High	4	20.00%	8	40.00%	0.168
	Very High	0	0.00%	5	25.00%	0.017*

Source: Prepared by the authors.

Chi-Square Test that there was a statistically significant difference between the pre- and post-test moments in the TIN test for the GI in terms of classification. In table 3 we can see that the Average Rating index fell from 70% to 35% and that the Very High rating rose from 0% to 25%, as well as the extinction of the Low Rating at the time of post-testing.

Table 4 presents the comparison of the performance of GII preschoolers in pre- and post-testing situations in the skills assessed in the version adapted for preschoolers of the IPPL – Protocol for the Early Identification of Reading Problems (Queiroga ET *al.,* 2023).

Table 4 – Distribution of the mean, standard deviation and p-value of the performance of GII preschoolers in pre- and post-testing situations

		N	Average	Standard Deviation	P-value
Alphabet Knowledge (CALF)	Pre	20	12.75	7.71	0.006*
	Post	20	14.45	7.59	
Rime Identification (IR)	Pre	20	3	5.35	0.057
	Post	20	4.45	5.88	
Rima Production (PR)	Pre	20	0.25	0.79	0.027*
	Post	20	1.5	3.17	
Syllabic Segmentation (SS)	Pre	20	16.9	4.85	0.340
	Post	20	15.8	6.23	
Word Production from Phonemes and Syllables (PPFSil)	Pre	20	6.35	4.22	0.001*
	Post	20	8.9	5.38	
Syllabic Synthesis (SíntS)	Pre	20	17.1	4.68	0.232
	Post	20	17.15	5.79	
Initial Sound or Syllable Identification (ISomSilInic)	Pre	20	12.45	9.08	0.043*
	Post	20	10.75	8.9	
Phonological Working Memory (MOF)	Pre	20	18.85	2.76	0.632
	Post	20	18.65	3.17	
Rapid Automatic Naming (RAN)	Pre	20	50.85	17.23	0.408
	Post	20	49.2	14.66	
Correctly named words	Pre	20	31.95	3.94	0.520
	Post	20	31.7	3.81	

Silent Reading (LS)	Pre	20	4.1	1.77	0.953
	Post	20	4.1	2.05	
Listening comprehension of sentences from pictures (CAF)	Pre	20	12.75	2.84	0.134
	Post	20	13.9	3.7	

Source: Prepared by the authors.

Wilcoxon Signed Rank Test that there was a statistically significant difference in 4 of the 12 skills evaluated in the adapted version of the IPPL for Early Childhood Education in GII. The skills in which the students showed increased performance in the post-testing period when compared to the pre-testing were: knowledge of the alphabet, rhyme production and word production from phonemes and syllables.

However, we highlight that, despite there being a difference between the two assessment moments, the ability to identify the initial sound and syllable, there was a reduction in correct answers in the post-test when compared to the pre -test in GII.

Tables 5 and 6 present a comparison of the performance of GII preschoolers in the TIN test (Seabra; Trevisan; Capovilla, 2012) in terms of raw, scaled and classification scores in pre- and post-test situations.

Table 5 – Distribution of the mean, standard deviation and p-value of the performance of GII preschoolers in the TIN vocabulary test in pre- and post-test situations

		N	Average	Standard Deviation	P-value
TIN Gross Score	Pre	20	22	5.46	0.018*
	Post	20	25.5	6.24	
TIN Standard Score	Pre	20	103	9.99	0.075
	Post	20	108	11.96	

Source: Prepared by the authors.

By applying the Wilcoxon Signed Rank Test, we found that there was a statistically significant difference in the TIN vocabulary test (Seabra; Trevisan; Capovilla, 2012) only for the raw score.

Table 6 – Distribution of the performance classification of GII preschoolers in the TIN vocabulary test in pre- and post-test situations

		Pre		Post		P-value
		N	%	N	%	
Classification	Low	1	5.00%	2	10.00%	0.548
	Average	17	85.00%	15	75.00%	0.429
	High	2	10.00%	3	15.00%	0.633

Source: Prepared by the authors.

With the application of the Chi-Square Test, we verified that there was no difference between the evaluation moments of GII students in the TIN vocabulary test (Seabra; Trevisan; Capovilla, 2012).

Discussion

The results of the pilot study demonstrated that the Metaphonological Stimulation, Alphabet and Vocabulary Knowledge Program (PEMAV) developed in phase 1 of this study caused a positive change in the development of cognitive-linguistic skills and alphabet knowledge in preschoolers. The discussion about the use of *outside-in skills* and *inside-out skills* in the literacy process is not recent, it dates back to 1998 (Whitehurst; Lonigan). Mastering these two types of skills is critical for the literacy period, since *outside-in skills* refer to oral language, vocabulary, evidenced by the development of contextual knowledge and semantic skills, while *inside -out skills* refer to to the skills of understanding units of perception and phoneme-grapheme relationships (metaphonological skills and knowledge of letters).

When this set of skills is associated in the stimulation of preschoolers, over time, the results prove to be beneficial for the development of reading and writing in the literacy phase (Law; Wouters; Ghesquière, 2017; Afsah, 2021; Kjeldsen *et al.,* 2019; Goldstein *et al*., 2017; West *et al*., 2021).

Analyzing the effects of the stimulation program designed in phase 1 of this study, we can verify the positive effects in the pilot study, as the integrated stimulation of rhyming and alliteration skills, vocabulary and letter knowledge to preschoolers subjected to the designed stimulation program showed better mastery of alphabet knowledge skills, rhyme identification, rhyme production, syllabic segmentation, word production from phonemes and syllables, syllabic synthesis, initial sound or syllable identification, phonological working memory, rapid automatic naming (compound by completion time and words named correctly in the sequence),

silent reading and listening comprehension of sentences based on pictures, when compared with preschoolers not submitted to the same program.

However, it is necessary to highlight that there were skills in which GII students, who were not subjected to the elaborated stimulation program, showed an increase in performance in the post-testing period when compared to the pre-testing. The better performance evidenced in the skills of knowing the alphabet, producing rhymes and producing words from phonemes and syllables indicated that these skills were, in some way, stimulated in the classroom context.

These findings showed that these skills are being offered to preschoolers indirectly; even if in a non-systematic or instructional way, these skills can be developed through reading activities and dramatized experiences with poetry, nursery rhymes, word games, among other activities, as proposed by Batista and Pestun (2019).

An important aspect to be highlighted and which deserves a detailed discussion is the fact that the stimulation program designed in phase 1 of this study had a negative effect, observed in the difference between the two assessment moments of GII, on the sound identification ability and initial syllable, as there was a reduction in correct answers in the post-test when compared to the pre-test, which highlighted the lack of stimulation in the classroom aimed at the development of this skill.

As described by Capellini, César and Germano (2022), the ability to identify sounds and initial syllable is considered an important predictor for reading, as it is necessary for knowledge of the alphabet. However, this ability may suffer interference from the family environment and the stimulation provided in Early Childhood Education for their development and learning.

Another positive effect of the stimulation program designed was the improvement in the vocabulary range of GI preschoolers. Vocabulary post-testing showed that the number of preschoolers with very high and medium classification for vocabulary increased and the low classification was eliminated, showing that the higher and better the quality of mediation for the linguistic stimuli received, the greater the quantity of words stored and the quality with which vocabulary tends to be stored (SILVA; Alves, 2021). This effect was not evident in preschool children from GII, who were not subjected to the stimulation program.

The results of this pilot study still need to be expanded to verify whether or not all the effects found will be maintained when applying the PEMAV Stimulation Program in an expanded sample; but this is not directly a limitation of the study, but rather considerations regarding an educational exploratory study.

Final remarks

PEMAV Stimulation Program is a stimulation program designed to equip Early Childhood Education teachers in instructional work and aimed at developing cognitive-linguistic skills, vocabulary and metaphonological skills (rhyme and alliteration), associated with knowledge of the alphabetic principle, to be used in a classroom situation.

These skills, considered predictors for the development of the alphabet and fundamental competence for entry into the 1st year of literacy, are essential to be stimulated in the last year of Early Childhood Education, as they assist in the literacy process, since these skills are necessary to learning the alphabetic basis of the Brazilian Portuguese writing system (FUKUDA; Capellini, 2012; Andrade; Andrade; Capellini, 2013; Evaristo; Queiroga; Capellini, 2023).

In this pilot study, it was possible to verify that there were positive effects in the group of schoolchildren submitted to the PEMAV program, showing that the integrated stimulation of rhyming and alliteration skills, vocabulary and knowledge of letters provided the opportunity for the development of predictive skills for literacy, as well as the expansion vocabulary, a skill considered to be of great importance for the development of reading and reading comprehension. Furthermore, the results found revealed that teachers, even in an intuitive and non-instructional way, are stimulating predictive skills for literacy, such as knowledge of the alphabet, rhyme production and word production from phonemes and syllables indicating the need to expand the discussion so that these stimulation practices are increasingly used within the scope of Early Childhood Education.

Early Childhood Education presents a series of challenges for the implementation of formal instruction in literacy skills, which may be related to the constant discussions about the literacy methodologies used in Elementary School I; however, Early Childhood Education teachers need to be aware of their role in the success of preschoolers in entering the 1st year of literacy. Thus, the greater the quality of stimulation for the development of cognitive-linguistic skills and the alphabetic principle, the greater the chances of a full, satisfactory literacy process without educational complications, such as academic failure.

As a conclusion of this study, it was possible to develop a program of metaphonological stimulation, knowledge of the alphabet and vocabulary (PEMAV) from the international literature in phase 1 of this study. The program proved to be effective in its pilot study and with applicability in the educational context because its results revealed an increase in the stimulated skills of knowledge of the alphabet, rhyme, alliteration and vocabulary, so necessary for the learning of reading and writing. Thus, we envision an exploratory educational study in an

expanded sample to verify whether the effects observed with the application of PEMAV will be maintained.

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