

DOMAIN OF COGNITIVE-LINGUISTIC, READING AND WRITING SKILLS OF BRAZILIAN STUDENTS IN THE INITIAL LITERACY PHASE IN THE POST-PANDEMIC CONTEXT

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Abstract

Introduction: In the post-pandemic context, learning difficulties have increased and this can be attributed to social and school isolation, which significantly compromised the development of cognitive-linguistic, reading and writing skills. **Aim:** Verify the domain of cognitive-linguistic, reading and writing skills of Brazilian students in the initial literacy phase in the post-pandemic context. **Method:** 176 students from initial literacy phase of Elementary School participated in this study, distributed in two groups, GI composed by 78 students from the 1st year and GII composed by 98 students from the 2nd year. All students were submitted to the application of the Cognitive-Linguistic Skills Assessment Protocol for schoolchildren in the early phase of literacy. **Results:** students from GI and GII showed average performance for phonological awareness, reading, writing, processing speed. GI showed lower performance for the auditory and visual processing and GII showed only lower performance for the visual processing. **Discussion:** cognitive-linguistic skills are necessary for the full development of reading and writing in an alphabetic writing system such as Brazilian Portuguese. **Conclusion:** students in the 1st and 2nd grade showed lower performance in cognitive-linguistic skills in the post-pandemic context, which could compromise the teaching-learning relationship in the classroom.

Keywords: *Literacy, post-pandemic, learning, child development, education.*

1. Introduction

The learning of Brazilian schoolchildren in the literacy phase, in public schools, was extremely hampered by the COVID-19 pandemic, causing many difficulties in the teaching-learning relationship. With the closure of schools, most of the teaching was carried out in homes, with conditions that were not the same among students, with difficulties in accessing the internet, in the study environment, in the education of other residents who helped students in carrying out activities, access to books and school materials, among others (Cavalcante, Komatsu, & Menezes Filho, 2020). However, the Covid-19 pandemic made the discrepancies between the different realities experienced by young students even more evident, access to virtual classes using more advanced digital tools and teachers trained to practice was not egalitarian or homogeneous between the systems of public and private education (Camacho, Joaquim, Menezes, & Sant'Anna, 2020; Joye, Moreira, & Rocha, 2020).

A study carried out by Brazil, Stolf, & Capellini (2022) with Brazilian schoolchildren during the pandemic period demonstrated that schoolchildren in the early literacy in the 1st and 2nd year showed lower performance in cognitive-linguistic skills that are important for the development and learning of reading and writing. In that, schoolchildren from the 1st year still presented a refusal response to several of these skills since they did not know how to perform the tasks requested. This was probably due to the fact that they were not sufficiently literate and therefore unable to use the cognitive-linguistic skills necessary to trigger the analysis and synthesis processes necessary during the formation of words for both reading and writing.

2. Objective

This study aimed to Verify the domain of cognitive-linguistic, reading and writing skills of Brazilian students in the initial literacy phase in the post-pandemic context.

3. Methods

This study was approved by the Research Ethics Committee of the Faculty of Philosophy and Sciences of the São Paulo State University “Júlio de Mesquita Filho” - FFC/UNESP - Marília-SP, under number 4.862.668.

A total of 176 schoolchildren of both sexes, aged from 6 years to 7 years and 11 months from the 1st and 2nd year of Elementary School participated in this study. All students were from the same municipal public school in the city of Marília, São Paulo, Brazil. The schoolchildren were distributed in two groups, Group I (GI): composed by 78 students from the 1st year and Group II (GII): composed by 98 students from the 2nd year.

All schoolchildren were submitted to application of the collective and individual version of the Cognitive-Linguistic Skills Assessment Protocol for schoolchildren in the early phase of literacy (Silva & Capellini, 2019) consisting of the following tests: name writing, alphabet writing in sequence, copy of forms, word and pseudo word dictation, figure dictation, number dictation, sequence alphabet recognition, random alphabet recognition, word reading, non-word reading, rhyme, alliteration, syllable segmentation, sound discrimination, repetition of words, repetition of non-words, repetition of numbers in reverse order, fast automatic naming of figures, fast automatic naming of digits, visual shape memory.

The procedure of this study was applied in person and followed the UNESP guidelines to reorganize activities during the pandemic. Data analysis was performed using the Statistical Package for Social Sciences, version 26.0. The results were statistically analyzed at a significance level of 5% (0.05).

4. Results and discussion

The results showed in table 1 only present the results of comparing the performance of GI and GII that were statistically significant in the Cognitive-Linguistic Skills Assessment Protocol for schoolchildren in the early phase of literacy (Silva & Capellini, 2019). In this table there was a statistically significant difference between the study groups with the application of the Likelihood-Ratio Test.

Table 1. Frequency distribution of the performance classifications of schoolchildren from groups GI and GII in the Cognitive-Linguistic Skills Assessment Protocol. Likelihood-Ratio Test ($p < 0.05$).

Subtests	Classification	Group				P Value
		GI		GII		
		Freq	%	Freq	%	
RAOA	Refusal	6	7,70%	2	2,00%	0,026*
	Inferior	18	23,10%	19	19,40%	
	Average	10	12,80%	29	29,60%	
	Superior	44	56,40%	48	49,00%	
MSF	Refusal	18	23,10%	5	5,10%	0,005*
	Inferior	15	19,20%	25	25,50%	
	Average	21	26,90%	35	35,70%	
	Superior	24	30,80%	33	33,70%	
RP	Refusal	12	15,40%	3	3,10%	< 0,001*
	Inferior	12	15,40%	12	12,20%	
	Average	36	46,20%	28	28,60%	
	Superior	18	23,10%	55	56,10%	
NWR	Refusal	10	12,80%	14	14,30%	0,032*
	Inferior	2	2,60%	15	15,30%	
	Average	15	19,20%	13	13,30%	
	Superior	51	65,40%	56	57,10%	
RNRO	Refusal	31	39,70%	17	17,30%	0,002*
	Inferior	22	28,20%	38	38,80%	
	Average	21	26,90%	26	26,50%	
	Superior	4	5,10%	17	17,30%	

Caption: RAOA: alphabet recognition in random order, MSF: sequential visual memory of shapes, RP: word repetition, NWR: non-word repetition, RNRO: Repetition of numbers in reverse order.

The results of this study revealed that a greater number of schoolchildren from GI and GII were recognized by alphabet recognition in random order and sequential visual memory of shapes, while GI showed average performance compared to GII in auditory processing tasks related to the repetition of words and nonwords, while both schoolchildren from GI and GII presented a greater number of schoolchildren who had difficulty performing the repetition of numbers in reverse order.

The beginning of literacy is an important period for the acquisition of cognitive-linguistic skills, considered predictors for the learning of reading and writing (Cunha & Capellini, 2010; Silva & Capellini, 2019; Santos & Capellini, 2020; Brazil, Stolf, & Capellini, 2022).

The cognitive-linguistic difficulties of 1st and 2nd year schoolchildren found in this study revealed that in the post-pandemic context, students present difficulties in skills related to visual and auditory perception necessary for the development of reading and writing.

Learning to read and writing requires the development of auditory, visual and visuomotor skills. Reading models of word recognition generally include fundamental basic auditory and visual processes such as visual memory and word sequence repetition before the development of orthographic, phonological and semantic processes (Coltheart, Rastle, Perry, Langdon, & Ziegler, 2001).

A worrying aspect of these results is the fact that so many students from GI and GII present either a refusal or lower performance in alphabet recognition in random order and repetition of numbers in reverse order, this demonstrates may be due to the period of social and academic isolation imposed by the covid-19 pandemic or an inadequacy in the teaching of alphabetic and orthographic principle, that is, in teaching the letter-sound conversion mechanism, can trigger difficulties in the reading and writing of words (Brazil, Stolf, & Capellini, 2022; Stolf et al. 2021).

5. Conclusion

Students of the 1st and 2nd grade showed lower performance in cognitive-linguistic skills in the post-pandemic context, which could compromise the teaching-learning relationship in the classroom.

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