

# Reading comprehension and receptive vocabulary in Elementary School students with typical development

## *Compreensão de leitura e vocabulário receptivo em escolares típicos do ensino fundamental I*

### Keywords

Comprehension  
Vocabulary  
Education  
Evaluation  
Child

### ABSTRACT

**Purpose:** Prepare an instrument to evaluate reading comprehension and verify the influence of receptive vocabulary on the reading comprehension of 3<sup>rd</sup> to 5<sup>th</sup>-grade Elementary School students with typical development. **Methods:** All ethical precepts were accomplished. Study participants were 69 3<sup>rd</sup>-, 4<sup>th</sup>- and 5<sup>th</sup>-grade students (35 girls) with mean ages of 8.2, 9.2, and 10 years, respectively, with typical development in the School Performance Test. Half of the sample underwent the reading comprehension test using the question-and-answer method and the other half took the test using the Cloze technique. All students completed the Teste de Vocabulário por Figuras USP (TVFUSP) with 139 stimuli. **Results:** The schoolchildren presented good performance in receptive vocabulary despite their low socioeconomic level. Better performance was observed in explicit questions compared with that in implicit questions. Students demonstrated more homogeneous and similar performance between the school years in the Cloze technique. No conclusive results were found regarding the correlation between receptive vocabulary and reading comprehension by the two methods. **Conclusion:** There is evidence of the influence of receptive vocabulary on the reading comprehension of texts, mainly in the question-and-answer method. The prepared instrument, including both assessment methods of reading comprehension, is efficient to investigate and characterize the reading comprehension of 3<sup>rd</sup> to 5<sup>th</sup>-grade Elementary School students, and both methods significantly differentiated students in the 3<sup>rd</sup> and 5<sup>th</sup> grades.

### Descritores

Compreensão  
Vocabulário  
Educação  
Avaliação  
Criança

### RESUMO

**Objetivo:** Elaborar um instrumento para avaliação de compreensão de leitura textual e verificar a influência do vocabulário receptivo na compreensão de leitura de escolares típicos de 3<sup>o</sup>, 4<sup>o</sup> e 5<sup>o</sup> anos do ensino fundamental. **Método:** Todos os preceitos éticos foram realizados. Participaram do estudo 69 estudantes de 3<sup>o</sup>, 4<sup>o</sup> e 5<sup>o</sup> anos, com média de idade de 8,2, 9,2 e 10 anos, respectivamente, sendo 35 meninas, que tiveram classificação típica no Teste de Desempenho Escolar. Metade da amostra realizou a prova de compreensão de leitura pelo método de perguntas e respostas, e a outra metade fez a prova com a técnica de *Cloze*. Todos os escolares realizaram o Teste de Vocabulário de Figuras USP com 139 estímulos. **Resultados:** Os escolares apresentaram bom desempenho em vocabulário receptivo, apesar do nível socioeconômico baixo. Os escolares tiveram melhor desempenho em perguntas explícitas do que em implícitas. Demonstraram desempenho mais homogêneo e semelhante entre os anos escolares na técnica de *Cloze*. Não foram observados resultados conclusivos quanto à correlação entre vocabulário receptivo e compreensão de leitura pelos dois métodos. **Conclusão:** Há indícios da influência do vocabulário sobre a compreensão de leitura textual, principalmente no método de perguntas e respostas. O instrumento elaborado, incluindo dois métodos avaliativos da compreensão de leitura, é eficiente para investigação e caracterização da compreensão de leitura textual em escolares típicos do 3<sup>o</sup>, 4<sup>o</sup> e 5<sup>o</sup> anos, sendo que ambos os métodos diferenciaram de forma significativa os escolares de 3<sup>o</sup> e 5<sup>o</sup> anos.

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## INTRODUCTION

Reading comprehension is a complex process that includes both cognitive and metacognitive skills and enables acquisition of new knowledge, lexical growth and academic achievement, and mastery of the written code assists with its development<sup>(1,2)</sup>.

There are several theoretical models that explain the process of reading. In this study, we highlight the Construction-Integration Model of Textual Understanding prepared by Kintsch e van Dijk<sup>(3)</sup>, which advocates that reading comprehension occurs at three levels: 1. Surface structure: at this level, the words and sentences undergo decoding, consisting in the construction of the microstructure of the text; 2. Representation of the text base: at this level, the reader is already able to construct the macrostructure of the text from its microstructure; 3. Situation model: at this level, the macrostructure formed at the previous level is associated with the reader's previous knowledge about the world, enabling mental representation of the text.

With the increase in speed and accuracy of reading decoding, readers focus their attention on cognitive features for constructing meanings of recognized words as well as inference processes<sup>(4,5)</sup>.

Thus, the vocabulary acquired during reading and the previous knowledge of the reader contribute to reading comprehension, and have effects mediated by the ability to make inferences, and are closely associated with language development<sup>(2,6,7)</sup>. Therefore, assessing the receptive and emissive vocabulary of Elementary School students is relevant to predict their reading and writing performance<sup>(8-10)</sup>.

Although there are studies addressing vocabulary and other language skills in the Brazilian scientific literature<sup>(8,9)</sup>, few of them evaluate the relationship between vocabulary and reading comprehension<sup>(10,11)</sup>.

Investigating the comprehension of textual reading is not an easy task, considering that it is not directly observable. Care should be taken with respect to the meaning and validity of each test and/or technique used, as well as to the age group, schooling, social factors, and type of text<sup>(12-16)</sup>.

One of the methods most commonly applied to assess the comprehension of textual reading is the question-and-answer method directed to evaluate the reader's understanding of the contents of the text read<sup>(12-17)</sup>.

The method of guided questions presents variations depending on the goal to be achieved. Some studies use questions with multiple-choice answers because of the objectivity in correcting the responses<sup>(18)</sup>, whereas other surveys<sup>(13)</sup> direct the questions and individuals respond to them orally, and some others request that answers be given in writing<sup>(19)</sup>.

The Cloze technique, initially proposed by Taylor in 1953, is another method used for assessing the reading comprehension of texts. This procedure consists in organizing a text of approximately 200 words leaving the first and last sentences intact and deleting, in the rest of the text, the fifth, seventh or tenth functional words and/or lexically deleting words from the same grammatical category. Empty spaces (blanks) are inserted in the places of the deleted words. These blanks should be filled by the reader in order to restore the full meaning of the sentence and of the text as a whole<sup>(20)</sup>.

The Cloze technique has been applied mainly because it facilitates the bottom-up and top-down reading processes owing to the characteristics of the texts, and it has proved to be an effective instrument for both the evaluation and remediation of reading, mainly in readers with atypical development<sup>(20-22)</sup>.

Based on these two methods to assess the reading comprehension of texts, and questioning the influence of receptive vocabulary in this process, the objectives of this study were to prepare an instrument to evaluate reading comprehension and verify the influence of receptive vocabulary on the reading comprehension of 3<sup>rd</sup> to 5<sup>th</sup>-grade Elementary School students with typical development.

The following guiding hypotheses were adopted: 1. Will the prepared instrument (Cloze technique and question-and-answer method) enable objective evaluation of the reading comprehension of texts in 3<sup>rd</sup> to 5<sup>th</sup>-grade students with typical development? 2. Is there a relationship between receptive vocabulary and reading comprehension of texts as schooling progresses, that is, will 5<sup>th</sup> grade students present better performance in receptive vocabulary and, consequently, in reading comprehension?

## METHODS

This study was approved by the Research Ethics Committee of the aforementioned Institution under protocol no. 155/15.

Initially, a search was conducted in textbooks for texts indicated for each school year, which could be used to evaluate textual reading comprehension. However, the texts found did not vary in extent and vocabulary, and were very similar to each other. Thus, one text was selected for each school year according to the criteria of level of vocabulary complexity and number of words. After that, an instrument was prepared to evaluate reading comprehension of texts using the question-and-answer method and the Cloze technique. This instrument was analyzed by three speech-language pathologists with experience in reading and writing. Next, reformulations were made and the instrument was analyzed by a linguist, who first reviewed the material and then, together with the authors of this study, reached a consensus about its suitability.

Finally, a pilot study was conducted to verify the efficiency of this instrument, and the results demonstrated that it was ready to be applied.

Therefore, the instrument prepared for the present research was composed of three texts selected from the same book translated into Portuguese - Aesop's Fables<sup>(23)</sup>, with the purpose of maintaining the vocabulary and structuring of texts similar.

For evaluation of reading comprehension using the Cloze technique, these three texts were prepared according to the Cloze structure, that is, the first and last sentences of the texts were left intact. As of the second sentence, one every five words was deleted, and only proper names or onomatopoeic expressions were not removed. In addition, below each of the blanks in the texts adapted to the Cloze technique, two supporting words were placed in parentheses, one correct and the other of the same grammatical class, so that reading the texts with the Cloze technique was a task with a demand for syntactic and lexical choice for the reading comprehension of the textual structure.

The text used with the 3<sup>rd</sup> grade students, “The fox and the stork”, has 193 words and 25 gaps to be filled. The text used with the 4<sup>th</sup> grade students, “The man, the boy, and the donkey”, has 233 words and 30 gaps to be completed. The text used with the 5<sup>th</sup> grade students, “The donkey and the lapdog”, has 244 words and 35 gaps to be filled.

For assessment of reading comprehension using the question-and-answer method, the same texts were used, but in their original structure. Two criteria were developed to evaluate reading comprehension by this method, namely, explicit and implicit understanding, which are defined ahead based on the theories of van Dijk and Kintsch<sup>(24)</sup>. Explicit Comprehension: it is the understanding that occurs based on the explicit contents of the text, that is, information is extracted from linguistic facts specified in the textual structure, deductible from the textual context, as main information (character, place, action). The answer is based on linguistic facts present in the textual structure, in the recovery of ideas within the text. Implicit Comprehension: it is the understanding that occurs based on information retrieved from the production condition of the text, and which are not explicit in the textual structure. It is necessary that knowledge about the world and linguistic (semantic, syntactic, and phonological) knowledge interact to establish relationships between main and secondary ideas, and cause-effect relationships. Thus, manipulation and correlation of the text with knowledge acquired by the reader enable formulation of hypotheses and predictions, and recognition of intertextuality, ambiguities, and arguments about the contents read.

Therefore, all questions of the texts were made based on these two criteria, totaling eight questions - four for each type of comprehension.

All 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> grade students, whose parents and/or legal guardians signed an Informed Consent Form (ICF) authorizing their participation, were informed and clarified verbally and individually about the procedures, and those who agreed to participate in the study signed an Assent Term with figures.

In addition, the participating schoolchildren’s parents and teachers were asked to complete questionnaires that provided relevant information on the socioeconomic level of the families, as well as on the inclusion criteria of the study, which are described ahead: regular attendance in the 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> grades of the selected Elementary School; ICF signed by parents and/or legal guardians; absence of signs of hearing and/or visual impairments and neurological, behavioral or cognitive disorders; not undergoing speech-language therapy at the time of the study; handing in of the ICF to the teachers of each class; signing of the Assent Term by the participants; scores in the Teste de Desempenho Escolar (TDE)<sup>(25)</sup> demonstrating absence of signs of reading and writing impairments according to the criteria established by the author of the SPT for each school year: 3<sup>rd</sup> grade,  $\geq 20$  in writing and  $\geq 58$  in reading; 4<sup>th</sup> grade,  $\geq 24$  in writing and  $\geq 66$  in reading; 5<sup>th</sup> grade,  $\geq 27$  in writing and  $\geq 66$  in reading, classifying the students in the middle or upper range of the test.

Afterwards, the SPT was applied for selection of the individuals. The test was applied to 42 3<sup>rd</sup> grade, 41 4<sup>th</sup> grade, and 47 5<sup>th</sup> grade students; however, there was a sample loss due to the below-expected performance of some students. This is

a relevant aspect, considering that most of the individuals eliminated did not meet the inclusion criteria of the research. This fact demonstrates that many of the schoolchildren were not considered with typical development, and suggests failures in the schooling process.

Thus, study participants were 69 schoolchildren (34 boys and 35 girls) with mean ages of 8.2 years in the 3<sup>rd</sup> grade, 9.2 years in the 4<sup>th</sup> grade, and 10 years in the 5<sup>th</sup> grade.

Study participants were first submitted to a test of receptive vocabulary by means of the Teste de Vocabulário por Figuras USP (TVFUSP)<sup>(26)</sup>, which aims to verify children’s ability to understand words and consists of 139 items. The 139-item test was selected following the orientation contained in the TVFUSP manual, which indicates it for populations of low socioeconomic level - the case of the participants of this study. In this test, the child hears a word and selects the corresponding figure out of four alternatives. The means established by the test authors for children of low socioeconomic level are as follows: 109.58 points for the 3<sup>rd</sup> grade; 116.65 points for the 4<sup>th</sup> grade; 120.73 points for the 5<sup>th</sup> grade.

The reading comprehension assessment tests were applied as follows: half of the individuals in the sample had their reading comprehension of texts evaluated using the Cloze technique and the other half using the question-and-answer method. This procedure was chosen because a learning effect could occur if the student underwent both evaluation methods, which would compromise the assessment reliability.

Aiming to make the sample homogeneous for the reading comprehension tests, it was decided to match the individuals for school year considering their performances in the SPT and using sample distribution by means of an equiprobabilistic table.

For assessment of reading comprehension using the Cloze technique, groups of no more than four students were summoned. They were instructed to read the whole text silently and then read it again filling in the blanks with a pencil with one of the words in the parenthesis.

For assessment of reading comprehension using the question-and-answer method, students were summoned individually. They were instructed to read the text twice - first aloud and then silently. After that, the texts were taken away and they responded orally to eight questions about it.

After data collection, the scores were tabulated according to standardized test instructions and statistically analyzed using descriptive and inferential analysis by a professional of the area, who discussed all the relevant points with the authors of this study in order to interpret the results obtained for each proposed objective. After the statistical analysis, another meeting was scheduled to discuss and interpret the results obtained from the statistical point of view and from the scientific standpoint of the research theme.

The following statistical tests were used: Analysis of Variance (ANOVA), Repeated Measures ANOVA; Tukey’s test; Residual Analysis; Likelihood Ratio Test.

## RESULTS

Table 1 shows that, in the three school years investigated, most individuals obtained above-average scores in receptive vocabulary.

The mean percentages of correct responses in the Cloze technique were higher both for the type of question (explicit and implicit) and the total percentages of correct responses in the question-and-answer method in the three school years analyzed.

The standard deviations of the percentage of correct responses observed in the Cloze technique (Table 2) were lower than those obtained in the question-and-answer method (Table 3) in the three school years.

These results can also be observed in Figure 1, which presents the total comparison of correct responses in the two evaluation methods of reading comprehension of texts in the three school years.

Comparison between the means of the percentages of correct responses in the Cloze technique and the question-and-answer method, per school year, showed that:

- The mean percentage of correct responses in the Cloze technique was higher than that in the explicit questions ( $p<0.001$ ), and this result was valid for the three school years ( $p=0.150$ );
- The mean percentage of correct responses in the Cloze technique was higher than that in the implicit questions

( $p<0.001$ ), and this result was valid for the three school years ( $p=0.324$ );

- The mean percentage of correct responses in the Cloze technique was higher than the mean of the total percentage of correct responses in the question-and-answer method ( $p<0.001$ ), and this result was valid for the three school years ( $p=0.159$ ).

Table 4 shows that all 4<sup>th</sup> grade students assessed by the question-and-answer method were classified as above-average in the Teste de Vocabulário por Figuras USP (TVFUSP). In the 5<sup>th</sup> grade, only one student was rated as below-average.

In the 3<sup>rd</sup> and 5<sup>th</sup> grades, the means of the total percentage of correct responses in question-and-answer method observed in the groups classified as above-average in TVFUSP were higher than those observed in the below-average category, suggesting a correlation between the total percentage of correct responses and the TVFUSP classification.

Table 5 shows that of all the schoolchildren evaluated by the Cloze technique only one 3<sup>rd</sup> grade student was classified as below-average in the TVFUSP; the same occurred for the 5<sup>th</sup> grade.

In the 3<sup>th</sup> and 5<sup>th</sup> grades, the means of percentages of correct responses in the Cloze technique of individuals classified as above-average in the TVFUSP were higher than those observed for the below-average category, suggesting correlation between the two tests in those school years.

**Table 1.** Performance classification of 3<sup>rd</sup> to 5<sup>th</sup>-grade students in the Teste de Vocabulário por Figuras USP (TVFUSP)

Grade	TVFUSP Classification		
	Below-average	Above-average	Total
3 <sup>rd</sup>	6 27.3%	16 72.7%	22 100.0%
4 <sup>th</sup>	4 18.2%	18 81.8%	22 100.0%
5 <sup>th</sup>	2 8.0%	23 92.0%	25 100.0%
Total	12 17.4%	57 82.6%	69 100.0%

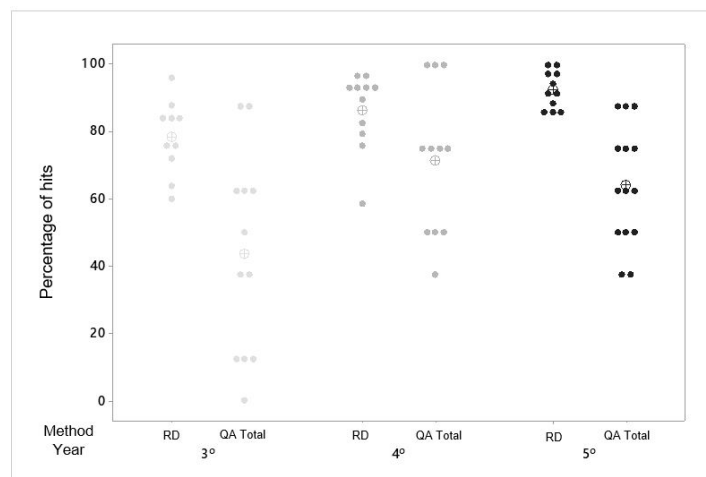
**Table 2.** Percentage of correct responses in the reading comprehension of texts using the Cloze technique according to school year

Grade	n	Mean	Standard deviation	Minimum	Median	Maximum
3 <sup>rd</sup>	10	78.4	11.0	60	80	96
4 <sup>th</sup>	11	86.5	11.6	58.6	93.1	96.5
5 <sup>th</sup>	11	92.4	5.6	85.7	91.4	100
Total	32	86.0	11.1	58.6	88.25	100

**Table 3.** Total percentage of correct responses according to school year

Grade	n	Mean	Standard deviation	Minimum	Median	Maximum
3 <sup>rd</sup>	12	43.8	29.9	0	43.8	87.5
4 <sup>th</sup>	11	71.6	22.4	37.5	75	100
5 <sup>th</sup>	14	64.3	17.6	37.5	62.5	87.5





**Caption:** ⊕: mean; RD: reading comprehension using the Cloze technique; QA Total: reading comprehension using the question-and-answer method  
**Figure 1.** Individual and mean values of total percentage of correct responses in the reading comprehension of texts using the Cloze technique and the question-and-answer (explicit and implicit) method according to school year

**Table 4.** Total percentage of correct responses in the reading comprehension of texts using the question-and-answer method in each category of the Teste de Vocabulário por Figuras USP (TVFUSP) according to school year

Grade	TVFUSP Classification	n	Mean	Standard deviation	Minimum	Median	Maximum
3 <sup>rd</sup>	Below-average	5	15.0	13.7	0	12.5	37.5
	Above-average	7	64.3	18.3	37.5	62.5	87.5
	Total	12	43.8	29.9	0	43.8	87.5
4 <sup>th</sup>	Above-average	11	71.6	22.4	37.5	75.0	100.0
	Total	11	71.6	22.4	37.5	75.0	100.0
5 <sup>th</sup>	Below-average	1	50.0	.	50	50.0	50.0
	Above-average	13	65.4	17.8	37.5	62.5	87.5
	Total	14	64.3	17.6	37.5	62.5	87.5

**Table 5.** Total percentage of correct responses in the reading comprehension of texts using the Cloze technique in each category of the Teste de Vocabulário por Figuras USP (TVFUSP) according to school year

Grade	TVFUSP Classification	n	Mean	Standard deviation	Minimum	Median	Maximum
3 <sup>rd</sup>	Below-average	1	84.0	.	84	84	84
	Above-average	9	77.8	11.5	60	76	96
	Total	10	78.4	11.0	60	80	96
4 <sup>th</sup>	Below-average	4	80.2	16.5	58.6	84.45	93.1
	Above-average	7	90.1	6.7	79.3	93.1	96.5
	Total	11	86.5	11.6	58.6	93.1	96.5
5 <sup>th</sup>	Below-average	1	91.4	.	91.4	91.4	91.4
	Above-average	10	92.5	5.9	85.7	92.8	100
	Total	11	92.4	5.6	85.7	91.4	100

## DISCUSSION

The objective of this study was to prepare an instrument to assess reading comprehension and verify the influence of receptive vocabulary on the reading comprehension of 3<sup>rd</sup> to 5<sup>th</sup>-grade Elementary School students with typical development.

Most of the schoolchildren investigated presented above-average performance in receptive vocabulary in the Teste de Vocabulário por Figuras USP (TVFUSP) at the three school years analyzed, confirming that the individuals in this school have typical performance on vocabulary regardless of their low socioeconomic level.

This finding contradicts those of other studies<sup>(6,7)</sup> which have reported that socioeconomic level proved to be a positive predictor of vocabulary growth, that is, children with higher socioeconomic level had superior performance in receptive vocabulary.

Moreover, the percentage of individuals with above-average scores increased with schooling progress, that is, 5<sup>th</sup> graders presented better performance in receptive vocabulary compared with those of 3<sup>rd</sup> and 4<sup>th</sup> graders; however, significant difference was observed between the percentages of above-average students in the three years ( $p=0.204$ ) assessed. This occurred because of the small sample size of the study, which was not sufficient to

consider the differences between the observed percentages as significant. Sixty-one students from each school year would be necessary for the difference between the percentages observed in the 3<sup>rd</sup> and 5<sup>th</sup> grades be considered significant. Nevertheless, as observed in the both methods employed, the instrument used in the selection of individuals - the Teste de Desempenho Escolar (TDE), showed that many students from the three analyzed school years did not obtain typical performance, which considerably reduced the study sample.

Comparative performance results in the two methods used to evaluate the textual reading comprehension of students showed that, in the three school years, performance in the Cloze technique was superior to that in the question-and-answer (explicit and implicit) method, with Cloze technique presenting performance variability smaller than that obtained in the question-and-answer method. Thus, students responded more homogeneously when the Cloze technique was applied.

It should be considered that the better performance observed in the Cloze technique may be associated with the fact that two words were provided below each blank, that is, support for reading comprehension was offered<sup>(20,21)</sup>. Thus, higher scores were expected for this method of evaluation than in the question-and-answer method when implicit responses were considered, especially for 5<sup>th</sup> grade students. However, due to the proximity of the semantic categories of the words provided, it was assumed that individuals would have to make a lexical choice that would require some degree of knowledge about the functioning of grammatical structures - a fact that could differentiate individuals with regards to reading comprehension even within the same educational level<sup>(27)</sup>.

It was also expected that the question-and-answer method, when only the explicit responses were analyzed, would produce high degree of assertion because it did not require comprehensive understanding of the text contents. This assumption was confirmed in the findings of this study, which corroborate those of another national study<sup>(28)</sup>. However, the students presented inferior performance in this type of question (explicit) compared with that in the Cloze technique.

These findings were surprising, firstly because of the great familiarity that students have with assessments through explicit questions and answers - a method widely used by teachers and often found in textbooks; secondly, due to the fact that explicit questions are easier to answer because they do not require highly complex skills, considering that the answers are practically described in the text, demanding greater memory activation than in processes of textual reading comprehension<sup>(28,29)</sup>.

Even though the mean percentage of correct responses in the Cloze technique was higher than the mean of the total percentage of correct responses in the question-and-answer method, it cannot be stated that one method is more effective than the other in assessing reading comprehension, because a gold standard method was not included among those selected for this research.

Because the Cloze technique requires reading the whole text and then filling the blanks, it draws the attention of readers to the phrasal structures and thus seems to facilitate reading decoding; readers place more attention in the linguistic elements

that compose the sentences and develop morphosyntactic and lexical knowledge, considering that it is necessary to make a mental selection of the words that will be inserted to complete the meaning of the text sentences<sup>(20)</sup>. Furthermore, because it is not a technique commonly used in regular teaching, it facilitated the reading comprehension of texts, motivating the participation of individuals and matching their performances according to school year. Thus, it is assumed that the Cloze technique can be a very useful instrument in the remediation of reading comprehension<sup>(27,30)</sup>.

The question-and-answer method, especially when implicit questions were used, seemed to select the students better, because it differentiated students more accurately according to grade and educational level, proving to be a precise instrument to evaluate reading comprehension. However, the care in the preparation, number, and balance in the types of questions used, as well as in the application of this method should be emphasized<sup>(2,17)</sup>.

It can be stated that the instrument prepared for this study to assess reading comprehension of texts was efficient and corroborated the first hypothesis of this research, considering that both tests, with their specificities, differentiated the participants according to educational level.

Correlation between receptive vocabulary and the total percentage of correct responses regarding reading comprehension in the question-and-answer method and in the Cloze technique could not be verified due to the small sample size and because of the study procedure adopted, which did not apply both methods to all individuals to avoid possible learning bias of the text. Thus, it was possible to conduct an association test between the percentages of correct responses in both methods with the TVFUSP by school year.

Correlation between the total percentage of correct responses in the question-and-answer method and performance in the TVFUSP showed that most of the study sample presented above-average performance in receptive vocabulary, with 100% above-average performance for 4<sup>th</sup> grade students. Results showed that above-average individuals also had mean performance superior to the total mean for the school year in this method of reading comprehension assessment. It is worth noting that the fact that all 4<sup>th</sup> grade students presented above-average performance in receptive vocabulary probably produced a superior result for that school year compared with those of the other years.

Correlation between the percentage of correct responses in the Cloze technique and performance in the TVFUSP showed that, except for 3<sup>rd</sup> grade students, individuals with above-average classification presented high reading comprehension performance means in this method. Interestingly, among the 3<sup>rd</sup> grade students, the only individual with a below-average mean on receptive vocabulary presented mean performance superior to that for his school year.

Regarding comparison of receptive vocabulary between the reading comprehension evaluation methods, no conclusive results were observed, considering that most students presented performance above the expected in the TVF-USP, but those classified as below-average in this test did not present equally poor performance in the reading comprehension assessment methods.

However, consistency was observed in the performance pattern between the students' results in the question-and-answer method and in the TVFUSP, with 3<sup>rd</sup> and 5<sup>th</sup> grade students presenting similar performance and 4<sup>th</sup> grade students showing the best performance. Consistency was observed in the performance pattern between the students' results in the Cloze technique and in the TVFUSP, which presented an upward performance curve according to schooling. However, this is a descriptive analysis that cannot be generalized due to the small sample size of this study.

Nevertheless, results suggest a possible correlation between receptive vocabulary and the instrument developed to evaluate the reading comprehension of texts, partially corroborating the second hypothesis of this survey. In addition, it corroborates the findings of a national study<sup>(11)</sup> that showed that, in the absence of changes indicative of reading and writing impairment, presence of a good vocabulary significantly contributes to the reading comprehension of texts.

## CONCLUSION

Correlation between receptive vocabulary and reading comprehension of texts could not be verified, but the data indicate that there is influence of vocabulary on the comprehension of textual reading, mainly regarding the question-and-answer method.

Assessment using the question-and-answer method confirms that, as schooling progresses, individuals present higher scores of correct responses in implicit questions, with significant difference between 3<sup>rd</sup> and 5<sup>th</sup> grade students, evidencing evolution in the reading comprehension of texts.

The Cloze technique demonstrates more homogeneous results among the school years, and is relevant for evaluation both in the 3<sup>rd</sup> and 5<sup>th</sup> grades, with significant results in these two segments.

The instrument prepared to evaluate the reading comprehension of texts in this study is efficient, considering that both methods are equally accurate in investigating and characterizing comprehension of textual reading in 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup>-grade Elementary School students, and differentiated 3<sup>rd</sup> and 5<sup>th</sup> grade students. By comparing two assessment methods of reading comprehension of texts with receptive vocabulary in Elementary School children with typical development, this study provides an unprecedented contribution both to professionals inserted in the educational context and those who work in clinics in the area of reading and writing.

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### Author contributions

*RCC was responsible for the collection, classification, analysis and interpretation of the data and writing of the manuscript; MSC was the study adviser; and contributed to the analysis and interpretation of the data and writing and revision of the manuscript.*