

INTERVENTION PROGRAM WITH THE CLOZE TECHNIQUE: ELABORATION AND CLINICAL SIGNIFICANCE

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ABSTRACT

The hypothesis of this study is based on the fact that a remediation program with the Cloze Technique, leveled by different degrees of difficulties, it can contribute to the development of reading comprehension of students with reading comprehension difficulties. Therefore, the objective was to develop this program and analyze the clinical significance. For this, an intervention program was developed through a bibliographic review and after that a pilot study was carried out and applied in 28 elementary school students, divided into Group I Experimental (students with difficulty in narrative text submitted to the intervention); Group I Control (students with difficulty in narrative text not submitted to the intervention); Group II Experimental (students with difficulty in expository text submitted to the intervention); Group II Control (students with difficulty in expository text not submitted to the intervention). The results analyzed by the JT Method showed a reliable positive change with clinical significance for students in Group I Study, and significantly for students in Group II Experimental.

Keywords: reading; reading comprehension; cloze test; reading remediation

PROGRAMA DE INTERVENCIÓN CON LA TÉCNICA DE CLOZE: ELABORACIÓN Y SIGNIFICANCIA CLÍNICA

RESUMEN

La hipótesis de este estudio está centrada en el hecho de que un programa de remediar con la Técnica de Cloze, nivelado por distintos grados de dificultades, puede contribuir para el desarrollo de la comprensión lectora de escolares con dificultades de comprensión lectora. Por eso, se tuvo por objetivo elaborar este programa y analizar la significancia clínica. Para ello, se elaboró un programa de intervención por intermedio de una revisión bibliográfica y después se realizó un estudio piloto y aplicado en 28 escolares enseñanza básica I, divididos en Grupo I Experimental (escolares con dificultad en texto narrativo sometidos a la intervención); Grupo I Control (escolares con dificultad en texto narrativo no sometidos a la intervención); Grupo II Experimental (escolares con dificultad en texto expositivo sometidos a la intervención); Grupo II Control (escolares con dificultad en texto expositivo no sometidos a la intervención). Los resultados analizados por el Método JT apuntaron cambio fiable positivo y con significancia clínica para escolares del Grupo I Estudio, y de forma significativa para escolares del Grupo II Experimental.

Palabras clave: lectura; comprensión de la lectura; prueba de cloze; remediación de la lectura

Programa de intervenção com a Técnica de Cloze: elaboração e significância clínica

RESUMO

A hipótese deste estudo está pautada no fato de que um programa de remediação com a Técnica de Cloze, nivelado por diferentes graus de dificuldades, pode contribuir para o desenvolvimento da compreensão leitora de escolares com dificuldades de compreensão leitora. Sendo assim, objetivou-se elaborar este programa e analisar a significância clínica. Para isto, elaborou-se um programa de intervenção por meio de uma revisão bibliográfica e após foi realizado um estudo piloto e aplicado em 28 escolares ensino fundamental I, divididos em Grupo I Experimental (escolares com dificuldade em texto narrativo submetidos à intervenção); Grupo I Controle (escolares com dificuldade em texto narrativo não submetidos à intervenção); Grupo II Experimental (escolares com dificuldade em texto expositivo submetidos à intervenção); Grupo II Controle (escolares com dificuldade em texto expositivo não submetidos à

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intervenção). Os resultados analisados pelo Método JT apontaram mudança confiável positiva e com significância clínica para escolares do Grupo I Experimental, e de forma significativa para escolares do Grupo II Experimental.

Palavras-Chave: leitura; compreensão da leitura; teste de cloze; remediação da leitura

INTRODUCTION

Reading is a skill in which the final objective is significant apprehension of what is written, that is, reading comprehension. It expressively contributes to academic success because it is the means by which students obtain the necessary information to provide for the needs of their study and knowledge attributions (Hazzard, 2016).

Diverse processes are involved in reading comprehension. Examples of such processes are perception, work memory, stored knowledge, monitoring, information integration, in addition to the comprehension of text ideas for the creation of mental models combined with text comprehension based on context and on the reader's point of view (Kintsch, 1998; Mota & Santos, 2014). Reading also involves linguistic skills where we can find syntactic, semantic, and lexical elements as well as the decoding skill (Cavalcante & Leitão, 2012).

Before reading comprehension takes place, readers must go through a process of construction and interaction between the ideas in the text and their previous personal knowledge (Kintsch, 1998; Lopes, Silva, Moniz, Spear-Swerling, & Zibulsky, 2015). In the model described by Kintsch (1998), there are two processes in the act of comprehending: one at a basic level and another one at a higher level. The first one refers to more mechanical processes, such as work memory, and lexical/syntactic processes. The high level one comprehends the capacity to realize inferences, general linguistic skills, vocabulary, memory skills, world knowledge and monitoring (Baliza & Silva, 2015).

According to the Text Processing Model, proposed by Kintsch and van Dijk (1978), reading comprehension takes place by proposition and is understood in three levels: the representation of the surface structure (decoding), the representation of the base text, which involves semantic relations between the different text components and parts, at a local level (microstructure) and at a global level (macrostructure) and the representation of the situational model, which contains the representations of the text base, the reader's previous knowledge, including their knowledge on the diverse text types and genres.

The experience and the exposure to text genres lead to command over these structures because they allow students to compare each type of text and how it is represented. Regarding representation, narrative and expository texts have different structures and recruit different cognitive processes. The first one presents a sequence of time/causal events that is repetitive and

the vocabulary is of high frequency. On the other hand, the expository texts demand different types of structure knowledge because the information is passed down by means of a logic representation order, involving actions of analysis and synthesis, the use of cohesive elements and the information focuses on a determined topic, many times with a technical vocabulary (Coelho & Correa, 2017). This genre demands more previous knowledge as well as knowledge of different structures, becoming a more complex process of inference and comprehension (Pereira & Baretta, 2018).

That is the reason why text genres interfere in the process of reading comprehension. They differ in structure, characteristics, grammar, and social action form. And in this sense, the narrative texts are considered easier when compared to expository texts. (Cunha & Capellini, 2014; Pereira & Baretta, 2018).

The poor performance in reading comprehension has proven an important agent for difficulty in the learning-teaching process (Cunha & Capellini, 2014; Pereira & Baretta, 2018). Thus, there is the necessity to search for strategies to promote the development of this complex skill.

In this sense, we find the Cloze Technique in the literature (Taylor, 1953), initially described as an instrument for assessment of reading comprehension. It consists of the manipulation of a text with approximately 200 words. Every fifth word is systematically taken out of the text and replaced with a blank that must be filled in by the reader, after a full reading of the text.

Years later, the technique proved relevant in the reading comprehension intervention because it is an interactive process between the reader and the text. It stimulates the reader to reflect upon their comprehension skills (Condemarin & Millicic, 1988). It also demands a conscious activation of a complex network of cognitive and linguistic processes, which places students directly in an active position in the creation of meaning. It takes a high level of active cognitive engagement (Abreu, Garcia, Hora, & Souza, 2017).

The use of the technique as an instrument for developing reading comprehension makes it possible for texts to be manipulated in a selective way, with the removal of nouns, verbs, and adverbs in order to demand a different type of knowledge by the reader (level of the sentence, phrase, text). Therefore, the omissions must take place according to the recommendations found in the literature: get started with blanks containing multiple choices (ex: two alternatives). The number of choices can be gradually increased and then removed so that

the children can make their own choices (Melo, 2019). Besides that, some published intervention programs with the Cloze Technique reveal that the percentage of mistakes increases in accordance with the use of the strategy to fill in blanks (Santos, 2004; Suehiro & Boruchovith, 2016).

In the national and international literatures, there are many scientific articles that are connected to the validation of the Cloze Technique as an assessment instrument, as well as the ones related to comprehension and intelligibility (Eze, 2015; Trace, Brown, Janssen, & Kozhevnikova, 2017). In Brazil, a review realized in 2015 regarding scientific production with the technique showed that out of the 26 assessed articles, only one aimed at intervention and remediation in the reading (Suehiro & Boruchovith, 2016).

Although the body of research in the specific area with the reading comprehension using the Cloze Technique consists of five dissertations and four theses produced in Brazil, the works published in scientific journals are still restricted, especially works published in studies that focus on the scholar public in basic education. Regarding the importance of the development of this complex skill for the learning/teaching of Brazilian scholars, this study gets its justification in its intention to fill in a blank in the Brazilian literature, and realizes an investigation on the intervention in reading comprehension difficulties by means of the Cloze technique on students in Basic Education.

Thus, the hypothesis of this study is grounded on the fact that a remediation program with the Cloze technique, in different levels of difficulty, can contribute to the development of reading comprehension among students with difficulty in this reading skill. Based on this hypothesis, this study aimed at producing this program and assessing its clinical significance.

METHODS

This project was submitted to the Ethics Committee, under protocol number CAAE 72957317.3.0000.5406, and obtained approval. This study was realized in the two phases described below:

Phase 1: Elaboration of the intervention program with the Cloze Technique

The program elaboration started with a literature review, by means of the verification of the studies that employed the Cloze Technique as intervention with students in Basic Education. As theoretical basis for execution of the program, only works fully published works were included (Santos, 2004; Santos & Oliveira, 2010; Joly & Piovezan, 2012; Capellini & Donadon, 2012; Cunha & Capellini, 2014).

With the support of these studies, it was possible to elaborate a program that consisted of five levels. Each level was based upon four texts containing approximately

200 words, where different clues are given in order to facilitate filling in. Difficulty increases gradually. Thus, in Level 1, there are two options below the blank that are semantically different; in level 2, the two options below the blank are semantically equal; in level 3, there are also two options below the blank. However, this time they are visually similar and their upper parts were removed, creating the need for a visual conclusion; in Level 4, the omitted words were deposited below the text (Limited Cloze); and finally, in Level 5, there is no clue for filling in the blanks.

Thus, for elaboration of the levels of the program, researchers elected 20 texts. Ranked by complexity, 13 of them were narrative and 7 of them were expository (Martins & Capellini, 2018). The manipulation of the texts was based on the Cloze Technique: lexical, multiple choice, limited and traditional. The first one consists of omitting lexical items, while prioritizing nouns, but also with the possibility of omitting adjectives and adverbs; in the multiple choice one, words are provided as choices for filling in the blanks. In the third one, the omitted words are below the text. In the last one, no clues are provided (Abreu *et al.*, 2017). For better comprehension, examples are presented above Box 1.

During manipulation, the structure of the text was assessed and researchers respected the types of Cloze Techniques described; therefore, at some moments, it was necessary to increase the omission interval or remove vocabulary items that were not nouns in order to keep the interval pattern.

Finally, the texts were presented in A4 paper, with margin varying from 1,27 cm x 1,27 cm to 2,5 cm x 3 cm, Arial font, size from 11 to 13, and the clues with size from 9 to 13. Variations take place because of preoccupations with better disposition of text on a single page. It is important to emphasize that, in order to do this formatting, researchers also verified whether there was some scholar with visual difficulty but that information was not confirmed.

Phase 2: Analysis of Clinical Significance of The Performance of Individuals Submitted and Not Submitted to The Intervention Program with The Cloze Technique

Participants

The inclusion criteria were: not having any records at school of difficulty referring to the presence of sensorial, motor, or cognitive disability, or motor, visual, or auditory complaint; participation in all sessions of the intervention program. The only participants in this study were students whose legal guardians signed the Free Informed Consent Term. In addition to the described inclusion criteria for the selection of participants, the teachers of the 4th and 5th years should indicate students with difficulty in reading comprehension. After indication, the students were submitted to the application of the

Box 1 - Examples of the used techniques.

Level	Technique	Example
1	Lexical and multiple-choice	"Although they are always _____, leaves can change _____ throughout ..." (cool – green) (color – usage)
2	Lexical and multiple-choice	"She was rather _____ with the news that her _____ would visit..." (excited / happy) (school / class)
3	Lexical and multiple-choice	When he was 24 years _____, he went to _____, here he started investing. (old – icon) (France – dance)
4	Lexical and Limited Cloze	"Pirates hovered over commercial _____. Attacked other ships and _____, and looted them..." The words 'routes' and 'ports', respectively removed, were randomly mixed with the other ones under the text.
5	Traditional Cloze	"Meteorologists warned _____ to stay within their _____, in their basements..." With no clues for filling in blanks.

Protocol of Reading Comprehension Assessment – PROCOMLE (Cunha & Capellini, 2014). This instrument is made up of four texts: two expository texts (E1 and E2) and two narrative texts (N1 and N2), each one with eight questions, while four questions were literal, four were inferential, two were related to text microstructure, and two to text macro-structure. Each question, from all texts, contains four alternatives so that students can choose the right one. This protocol was chosen because it is provided with quantitative analysis of mistakes and data were standardized by school year.

Thus, in the pre-testing, the students did the reading of texts N1 and E1 and the ones who obtained superior performance in the two genres were excluded. Only the ones who presented average or inferior performance in one or more genres participated in this study. Texts N2 and E2 were applied in post-testing and on all participants in this study.

Overall, 28 students from the 4th and 5th years of Basic Education participated in the study. The school was a private institution in Indaiatuba-SP. 13 participants (46,4%) were female and 15 (53,5%) were male, between the ages of 8 years and 11 months and 10 years and 10 months, divided into two groups:

- **Group I (GI):** made up of 12 students with average to inferior performance in reading comprehension for narrative texts, subdivided into two groups:
 - **GI experimental (Gle):** composed by 6 students of the 4th year that were submitted to the intervention program with the Cloze Technique;

- **GI control (Glc):** composed by 6 students from the 5th year that were not submitted to the intervention program with the Cloze Technique.
- **Grupo II (GII):** made up of 16 students with average to inferior performance in reading comprehension for expository text, subdivided into two groups:
 - **GII experimental (GIIe):** composed by 8 students of the 4th year that were submitted to the intervention program with the Cloze Technique
 - **GII controle (GIIc):** composed by 8 students from the 5th year and that were not submitted to the intervention program with the Cloze Technique.

Instruments and Procedures

All students were submitted to pre and post testing by means of the PROCOMLE Protocol (Cunha & Capellini, 2014). These phases were realized collectively and contemplated the two first and last sessions.

The program was also applied collectively (Gle and GIIe). In order to make sure that all students understand the activity, at the beginning of each level, the researcher requested students to realize a silent, careful reading and informed them that, subsequently, they would be handed out the same text with an attached activity to be accomplished. Thus, at the beginning of every level, researchers wrote out on the whiteboard a sample of what the students would find in the activities and

how the blanks were supposed to be filled in, how the strategy worked and what kinds of reasoning could possibly be realized (memorization, context analysis, a second reading of what comes before and after the blank, analyzing possibilities, reflecting on the first realized reading, and so on). After the explanation, the researcher requested each student to realize their activity individually and made herself available for answering questions.

Thus, the application was realized inside a classroom, collectively, consecutively, and with one text per day, and average duration of 30 minutes, adding up a total sum of 20 intervention sessions.

Analysis of the answers in the Intervention Program

The analysis of the answers from the students considered it a mistake when students chose any other word that was not the one in the original text, since the Cloze Technique is regarded as a mnemonic technique (Taylor, 1953). Thus, any other type of mistake, including misspelling, was not considered fit for performance verification in the performance of students in the elaborated intervention program.

DATA ANALYSIS

For analysis of results in this study, researchers applied the JT Method (Jacobson & Truax, 1992; Del Prette & Del Prette, 2008). This method realizes a comparative analysis between scores with the objective to decide whether the differences between them represent reliable changes and whether they are relevant (Santos & Capellini, 2020).

The JT method, therefore, implies two complementary processes, they are: (a) assessment of the reliability of the alterations that took place and that were described in terms of the Reliable Change Index (IMC) and (b) analysis of the clinical meaning of these alterations described in terms of Clinical Significance (SC). The IMC determines whether the changes verified in the comparison between the pre and post intervention can be attributed to the realized intervention, or to measuring mistakes, or to the degree at which the SC is related to external validity, that is, how effective the changes produced by the intervention were (Jacobson & Truax, 1992). Thus, the change can be positive reliable (when there is improvement); negative reliable (when there is deterioration); with clinical significance (that makes or will make a difference in the clinical realm), and there also might be absence of change (Jacobson & Truax, 1991; Del Prette & Del Prette, 2008).

The SC was calculated by means of the B criterion, because there are scores in the functional population and, a clinically relevant change will be considered when the post-intervention score places individuals within the distribution of the functional population. The authors of the method defend that this is the most trustworthy criterion for intervention studies, since the

statistical significance tests are limited for assessment of the efficacy of an intervention because such tests demonstrate how the whole group reacted to the treatment, but do not reveal what the performance of each individual was like during the interview (Del Prette & Del Prette, 2008).

For treatment of the data, the online PSICOINFO software was used (Villa, Aguiar & Del Prette, 2011).

RESULTS

For this analysis, the index of change and clinical significance among the pre and post testing performance of the groups of individuals, that were submitted and not submitted to the intervention program, were put together with the individuals that were submitted and not submitted to the interventions of groups GIe and GIc, and GIIe and GIIc because, that way, it was possible to observe the reading comprehension performance of the individuals in the pre and post testing of this study. Therefore, the individuals will be presented in accordance with the description of Box 2.

Table 1 presents the index of reliability and the clinical significance between the pre and post testing performances of the group of individuals that were submitted and that were not submitted to the intervention program with poor performance in the reading comprehension of narrative text.

The data reveal that, regarding the index of reliable change, participants S1, S3, S4, S5, S6, S7, S8, S10 and S12 presented improvement because there was reliable positive change. Among them, only participants S1, S3, S4, S5 and S6 are included in the GIe, whereas individuals S7, S8, S10 and S12 are included in the GIc, that is, they present improvement (reliable positive change) without being attributed to the intervention. Students S2, S9, and S11 did not present improvement, because there was absence of change, while individual S2 was included in the GIe, while S9 and S11 are included in the GIc.

Regarding clinical significance, participants S1, S3, S5, S6, S8 and S10 were included in the functional population regarding the attribute that is being measured.

Box 2 - Division of the individuals for analysis by means of the JT Method

Groups	Sub-groups	Individuals
GI	GIe	S1, S2, S3, S4, S5, S6
	GIc	S7, S8, S9, S10, S11, S12
GII	GIIe	S1, S2, S3, S4, S5, S6, S7, S8
	GIIc	S9, S10, S11, S12, S13, S14, S15, S16

Subtitles. GI – Group I; GII – Group II; GIe – Experimental Group I; GIc – Control Group I; GIIe – Experimental Group II; GIIc – Control Group II.

Table 1 - Index of Clinical Change and Clinical Significance of the pre and post intervention GI in Narrative Texts.

Group	Individuals	Index of Clinical Change	Clinical Significance
I	1	MCP	SC
	2	-	-
	3	MCP	SC
	4	MCP	-
	5	MCP	SC
	6	MCP	SC
Total	6	5	4
II	7	MCP	-
	8	MCP	SC
	9	-	-
	10	MCP	SC
	11	-	-
	12	MCP	-
Total	6	4	2

Subtitles. MPC – reliable positive change; SC – clinical significance.

Participants S1, S3, S5 and S6 were included in GIe, whereas S8 and S10 were included in GIc.

Table 2 presents the change reliability of the clinical significance between the pre and post testing performances of the group of individuals that were submitted and that were not submitted to the intervention program with poor reading comprehension performance in expositive text.

Regarding the index of reliable change, participants S1, S2, S3, S4, S5, S6, S7, S9, S11 and S14 presented improvement because there was a reliable positive change. Among these participants, S1, S2, S3, S4, S5, S6 and S7 were included in GIle, whereas S9, S11 and S14 were included in GIlc. S8, S10, S12, S13, S14 and S16 did not present any improvement because there was no absence of change where the first one was included in GIle and the other ones were included in GIlc. S15 of GIlc presented a deterioration in reading comprehension performance, that is, there was reliable negative change.

Regarding clinical significance, S2, S4, S5, S6 e S7 were included in the functional population regarding the attribute that is being measured, and they are all included in GIle. S8 and S13 were initially included in the dysfunctional population and remained in it, and there was no change in the clinical status, whereas S8 is included in GIle, and S13 in GIlc. Finally, S15 went from the functional to the dysfunctional population regarding the attribute that is being measured. Thus, there was change in the clinical status from functional to dysfunctional.

After the realization of the study, researchers

conducted an analysis of the index of reliable change between the levels of the program in order to detect whether any level could be removed from the program in order to reach the ceiling effect. Thus, the levels of the program were separated into pairs for analysis by means of the JT Method. Consequently, S1 is the analysis of performance from level 1 to 2; S2 is from level 2 to 3; S3 is from level 3 to 4; S4 is from 4 to 5 and, S5 is from level 1 to 5.

In order to do so, two analyses were realized: the first one was to verify the index of reliable change of the program for individuals with poor performance in narrative text reading comprehension (GIe), and the second one to verify the index of change and reliability of the program for individuals with poor performance in expositive text reading comprehension (GIle).

The analysis of the structure of the program was realized for both groups. Regarding the difficulty of the levels of the program, only GIe, made up of individuals with poor performance in narrative text reading comprehension and who went through intervention, showed that the participants' performance fell from level 3 to level 4. However, performance improved again from level 4 to level 5, revealing that there was

Table 2 - Index of Clinical Change and the Clinical Significance of Pre and Post Testing GH in Expositive Texts.

Group	Individuals	Index of Clinical Change	Clinical Significance
I	1	MPC	-
	2	MPC	SCP
	3	MPC	-
	4	MPC	SCP
	5	MPC	SCP
	6	MPC	SCP
	7	MPC	SCP
	8	-	-
Total	8	7	5
II	9	MPC	-
	10	-	-
	11	MPC	-
	12	-	-
	13	-	-
	14	MPC	-
	15	MNC	-
	16	-	-
Total	8	4	0

Subtitles. MPC – reliable positive change; MNC – clinical negative change; SC – clinical significance.

an absence of the index of reliable change, that is, the participants' performance remained the same, even with one difficulty that was found. Regarding clinical significance, there was no change in the clinical status.

When it comes to the change reliability of the program realized by the GIIe, made up of elements with poor performance in expositive text reading comprehension who went through intervention, the participants' performance remained the same by changing levels, that is, there was absence of index of reliable change. Regarding clinical significance, there was no change in clinical status.

DISCUSSION

The data, compared with the national and international literatures, lead us to the conclusion that the results in phase 1 of this study revealed the scarcity of the studies in the literature using the Cloze Technique as intervention with reading comprehension in structured programs, especially with schoolchildren (Keenan & Meenan, 2014; Santos, 2004; Santos & Oliveira, 2010; Machado & Capellini, 2016).

The program produced in this study used strategies that can also be observed in other studies (Joly & Piovezan, 2012; Santos, 2004; Santos & Oliveira, 2010; Capellini & Donadon, 2012; Machado & Capellini, 2016), such as the use of lexical, multiple-choice, and limited techniques. In addition, one can also verify that, except for the study by Joly and Piovezan (2012), the other ones included the traditional Cloze Technique, which is in accordance with the elaborated program. On the other hand, other studies disagreed with this program, such as the use of three alternatives for filling blanks; say the first letter of the blank; and trace it to the exact number of letters (Joly & Piovezan, 2012; Santos, 2004; Santos & Oliveira, 2010).

It was possible to verify that the program realized by Santos and Oliveira (2010) did not propose a repetition of the strategies and did not present a significant result in post-training. The other studies, although they make it clear that the clues add to the level of difficulty in filling in blanks and that there is a hierarchy, did not present structured levels.

Cunha and Capellini (2014) report that most of the scientific works in reading comprehension restrict themselves to narrative and expositive texts, due to greater exposure to such material during childhood and the educational process. However, concerning the texts used in the intervention programs that can be found in the literature, it was possible to observe that the investigations focused on narrative texts, in their majority, which is in disagreement with present research work, where narrative and expositive texts were used.

In this sense, no program that was found in the literature established the difference between the participants' performance in narrative and expositive

texts. Most of the works that were found used as tools for assessment, in the pre and post intervention, a single narrative text with the Cloze Technique. Therefore, the present study proves a forerunner in this type of analysis, which is also very important because, as we have already mentioned, the literature also shows that there is distinction between the participants' performances and different difficulties, depending on text structure.

One research (Kida, Carvalho, & Ávila, 2012) was careful when selecting texts for working on reading comprehension and considering factors related to the text such as genre and consequent text structure, syntactic complexity, demands that come with the number of inferences, topic coherence, and so on. The authors also emphasized the importance of the instruction that is provided before handing out texts for preparing and motivating readers. In this study, all these aspects were taken into consideration when structuring and executing the program. In the studies that were found in the literature, it was possible to verify the careful treatment given to the instructions provided in all programs. However, regarding the attention paid to the process of selecting different textual genres, it was only observed in the works by Joly and Piovezan (2012).

The results of phase 2 of this study proved that there was improvement in post testing for 5 to 6 participants in GIIe, because among the participants who presented improvement, 4 obtained clinical significance, that is, the recovery was clinically relevant and represented a positive impact in the life of participants, while benefiting generalization. However, one participant improved but it could not be attributed to the program. In GIIc, from 4 to 6 participants obtained better results, with 2 participants with clinical significance; thus, it becomes possible to raise the hypothesis that, since these participants did not go through the intervention program, the pedagogical strategies used in the classroom benefited the development of reading comprehension, but were not enough for the other participants of the control group.

In GIIe, it was possible to observe in post testing that 7 out of the 8 participants presented improvement; out of these participants, 5 obtained clinical significance, that is, the improvement was clinically relevant and represented a positive impact on the life of participants, benefiting generalization. On the other hand, in GIIc, there was improvement for only 3 participants, but none of them presented clinical significance, that is, this improvement was not relevant in the participants' life.

Regarding such information, it becomes evident that the program was positive for both groups; however, for GIIe, made up of participants with difficulty in expositive text in reading comprehension, the elaborated intervention program was more effective, because most of them presented clinical significance because the control group did not present any clinical significance.

Using the JT Method made it possible to verify the improvement in the performance of some participants in G1c and in G1c, who were not submitted to the intervention, which can be attributed to the learning-teaching situation that was experienced by these participants in the school environment.

In the results, it was also possible to observe an interesting piece of information referring to G1c. In this group, there was a participant with reliable negative change, that is, the participant presented deterioration in reading comprehension, which might be a sign that during the realization of the intervention there was a deviation of cognitive demand, which can be a sign that this student needs a specific learning assessment. Such behavior can be associated with possible change, which is specifically related to learning.

It was also possible to notice that for G1e there was considerable improvement in the macro-textual level, literal as well as inferential, in the pre-intervention there were 8 mistakes in the macro-textual literal questions, while in post there was no mistake, whereas for macro-textual inferential questions, there was a decrease from 8 mistakes in pre to 4 in post intervention. In the micro-textual literal questions, the number of mistakes remained 3 in the pre and post intervention; in the micro-textual inferences, there was reverse behavior because there were 4 mistakes in the pre and 5 in the post intervention.

The G1e presented a performance that was opposite to the G1e one, because there was significant improvement in the micro-textual level, literal as well as inferential in the post intervention, so that for 9 micro-textual literal question mistakes, there were 5 in the post intervention, and in the micro-textual inferential questions, there were 6 mistakes in the pre and only 2 in the post intervention. For macro-textual questions, there was literal improvement because 8 initial mistakes came down to 7; however, in the macro-textual inferential questions, the number of mistakes remained 7. Thus, in the results we find that, for students with difficulty in expositive text reading comprehension, this program promoted the development of reading comprehension in the micro-textual level, which led to greater clinical significance.

In contrast with the findings of Santos (2004) and Suehiro and Boruchovith (2016), this study made it possible to observe that the mistake percentage increased in two situations: in the first text of each level, because when they come across a different strategy, the students committed a few omissions, especially in texts dealing with more complex topics that contained lexical items that were unusual in the school environment. This last piece of information corroborates with other studies that consider that reading comprehension also depends

on world knowledge – a high-level process (Kintsch, 1998; Nalom, Soares, & Carnio, 2015).

According to the results found here, many participants in the study groups presented clinical significance in post-intervention when compared to control groups; thus, according to the literature, the Cloze Technique is an important tool for the development of reading comprehension (Nalom *et al.*, 2015; Santos, 2004; Machado & Capellini, 2016).

The analyzed results using the JT Method led to a verification of the analysis of efficacy of the elaborated program when it comes to change reliability between the levels of the referred program, which proved well balanced and reached that ceiling effect. For G1e, there was a fall in performance from level 3 to 4; however, the performance improved in the following level. Therefore, even with a further level of difficulty for this group, the execution of the text within level 4 promoted an increase in performance in the next level. For G1e, the performance proved crescent from one level to another.

Based on the studies found in literature, it was possible to elaborate an intervention program for reading comprehension with the Cloze Technique that is structured by levels of increasing difficulty. The program proved efficacious because the improvement presented clinical significance, that is, it was clinically relevant and had a positive impact on the lives of students. In addition, the analysis of the levels of the program demonstrated that it is balanced and without the ceiling effect.

Therefore, it is possible to conclude that the elaborated program proved efficient and applicable, and it was demonstrated that it can be used for intervention based on scientific evidence that helps in the development of reading comprehension for students with learning difficulties, especially the ones who present poor performance in expositive text reading comprehension.

FINAL CONSIDERATIONS

The present study had yielded another benefit. It was the opening of a new form of intervention in the classroom. However, it poses a challenge for intervention researchers due to the huge number of variables that take place on the way. Regarding the results, it is important to emphasize that the Cloze Techniques is an important tool for the development of reading comprehension and can be used in groups. However, we consider that, for a more robust conclusion, it is necessary that new studies be realized with a population that is larger and that comprehends other school years in order to subsidize this amplified analysis. In addition, we point at the necessity to study the program with the public education population in order to verify some difference in order to verify some result difference.

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