

Preschool Children's Engagement and Verbal Participation During Shared Book Reading

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Received: August 23rd, 2022.

Accepted: August 11th, 2023.

Section editor: Alessandra Gotuzo Seabra.

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Abstract

Introduction: Many studies suggest that shared book reading (SBR) helps children to develop verbal repertoires, which can be enhanced by using extratextual strategies for the explicit teaching of words. Few studies explicitly relate the type of extratextual strategy to children's levels of engagement and verbal participation. **Objective:** To verify the relationship between extratextual strategies for teaching words and measures of engagement and verbal participation of children, during SBR and complementary activity sessions. **Methodology:** Participants were 13 preschool children (five girls), aged between 4 and 5 years. Videos of three SBR sessions and a complementary activity session were transcribed and categorized according to the type of extratextual strategy used by the researcher, the type of engagement (active or passive, measured by children's non-verbal behavior), and the children's verbal participation during the sessions (related or not to the activity and the target words). **Results:** Total engagement was similar across all sessions, but it was more frequently related to the researcher than to peers. The strategies of explaining the meaning of target words and starting conversations seemed to evoke more speeches from children related to the target words than highlighting and verbal instruction strategies; during this ones, verbal utterances related to the activity, or the story were more frequent. **Conclusions:** some extratextual strategies seem to establish more favorable contexts for children's verbal participation, and it's essential to organize contingencies that further engagement and verbal participation about the taught content since these two response classes seem to be complementary.

Keywords: verbal behavior, vocabulary, reading, child, child rearing

ENGAJAMENTO E PARTICIPAÇÃO VERBAL DE CRIANÇAS PRÉ-ESCOLARES DURANTE LEITURA COMPARTILHADA DE HISTÓRIAS

Resumo

Introdução: Estudos sugerem que a leitura compartilhada de histórias (LCH) contribui para que crianças desenvolvam repertórios verbais, o que pode ser potencializado por estratégias extratextuais de ensino explícito de palavras. Há poucos estudos que buscam relacionar o tipo de estratégia com níveis de engajamento e participação verbal de crianças. **Objetivo:** verificar a relação entre o uso de estratégias extratextuais de ensino explícito de palavras e o engajamento e a participação verbal de crianças pré-escolares, durante sessões de LCH e de atividade complementar. **Metodologia:** Participaram 13 crianças (cinco meninas) entre 4 e 5 anos. Vídeos das sessões de LCH e da atividade complementar foram transcritos e categorizados quanto ao tipo de estratégia extratextual utilizada pela pesquisadora, o tipo de engajamento (ativo ou passivo, medido pelo comportamento não-verbal das crianças), e de participação verbal das crianças durante as sessões (relacionadas ou não à atividade e às palavras-alvo). **Resultados:** o engajamento total foi similar em todas as sessões, mas foi mais frequente em relação à pesquisadora do que aos pares. As estratégias de explicar o significado das palavras-alvo e iniciar conversas pareceram evocar mais falas das crianças relacionadas às palavras-alvo do que as estratégias de destaque e de instrução verbal; durante estas últimas, foram mais frequentes emissões verbais relacionadas à atividade ou à história. **Conclusões:** Algumas estratégias extratextuais parecem estabelecer contextos mais favoráveis para a participação verbal das crianças, sendo essencial organizar contingências que favoreçam o engajamento e participação verbal sobre o conteúdo ensinado, pois essas duas classes de resposta parecem ser complementares.

Palavras-chave: comportamento verbal, vocabulário, leitura, criança, educação infantil

INVOLUCRAMIENTO Y PARTICIPACIÓN VERBAL DE PREESCOLARES DURANTE LA LECTURA COMPARTIDA DE HISTORIAS

Resumen

Introducción: Estudios sugieren que la lectura compartida de historias (LCH) contribuye a que los niños desarrollen repertorios verbales, lo que puede ser potencializado con el uso de estrategias extratextuales de enseñanza de palabras. Hay pocos estudios que relacionen explícitamente el tipo de estrategia con los niveles de involucramiento y participación verbal de los niños. **Objetivo:** Verificar la relación entre uso de estrategias de enseñanza explícita de palabras y medidas de involucramiento y participación verbal de

niños, durante sesiones de LCH y actividades complementarias. Metodología: Los participantes fueron 13 preescolares (cinco niñas) entre 4 y 5 años. Videos de tres sesiones de LCH y una sesión de actividad complementaria fueron transcritos y categorizados en términos del tipo de estrategia extratextual utilizada por la investigadora, el tipo de involucramiento (activo o pasivo, medido por el comportamiento no verbal) y de la participación verbal de los niños durante las sesiones (relacionadas o no con la actividad y las palabras objetivo). Resultados: el involucramiento total fue similar en todas las sesiones, pero más frecuente con la investigadora que con los pares. Las estrategias de explicar el significado de las palabras objetivo e iniciar conversaciones, parecían evocar más emisiones verbales dos niños relacionados con las palabras objetivo que las estrategias de destacado y instrucción verbal. Conclusiones: Algunas estrategias extratextuales parecen establecer contextos más favorables para la participación verbal de los niños, siendo fundamental organizar contingencias que favorezcan involucramiento y participación verbal acerca del contenido enseñado, ya que estas dos clases de respuesta parecen ser complementarias.

Palabras-clave: conducta verbal, vocabulario, lectura, niño, crianza del niño

Many studies suggest that vocabulary learning during childhood is related to the development of language and reading-related skills in later years (Can et al., 2013; Feldman et al., 2005; Peng et al., 2019; Rajan et al., 2018; Shanahan & Lonigan, 2010). However, research shows that significant portions of Brazilian preschool children have restricted vocabulary (i.e., lower levels than would be expected compared to peers of the same age) regarding changes in the acquisition and development of both verbal expression (expressive vocabulary) and verbal comprehension (receptive vocabulary). For example, a study by Araújo et al. (2010), evaluated the receptive vocabulary of 159 early childhood education students in São Paulo and found that 61% performed worse than expected for their age. In addition, students from the public school system presented lower performance on vocabulary tests than students from the private school system in the study by Brancalioni et al. (2018).

Some studies in Brazil and some English-speaking countries indicate that children from low-income families have less access to experiences that contribute to the development of language precursors (Campos et al., 2011; Cruz et al., 2014; Whitehurst & Lonigan, 1998). Conditions that interfere with language development, such as restricted vocabulary, are among the most common developmental problems, especially for children of low socioeconomic status (Leffel & Suskind, 2013). A meaningful way to mitigate these difficulties is to provide teaching contingency arrangements that can give the children an environment that allows the development of complex verbal repertoires, especially for children at a socioeconomic disadvantage (Miranda et al., 2020). These arrangements range from environmental and material conditions (e.g., access to children's books), to strategies for teacher-children and children-children interaction (e.g., reading stories, conversation circles, responsiveness to children's speeches, strategies for expanding children's vocabulary, among many others).

Shared book reading (SBR) is a common activity in early childhood education and is a pedagogical tool that favors the development of verbal repertoires, and a naturally playful activity (Souza & Bernardino, 2011). This type of activity is related mainly to significant vocabulary gains, both expressive and receptive (Hassinger-Das et al., 2016), mainly due to providing opportunities for incidental learning, which consists of learning vocabulary in an unplanned way (Leffa, 2000). Despite its importance, incidental learning seems to be modulated by children's previous verbal repertoire. Children with limited repertoires tend to learn fewer words incidentally than their peers with a broader repertoire (Coyne et al., 2004). Furthermore, much of what is learned incidentally remains for a short time (Teng, 2016), which means that, although incidental exposure to language during SBR brings gains in children's vocabulary, the maintenance of such gains depends on other conditions that adults (in school and outside of it) can establish.

The effects of SBR on the expansion of children's verbal repertoire can be enhanced when the teacher organizes teaching contingencies for the explicit teaching of vocabulary throughout the reading/narration of the story (Miranda et al., 2020) and when the words are taught in a planned way (Al-Darayseh, 2014). Within this logic, several strategies can be used

during SBR, called, in general, extratextual strategies (Blewitt & Langan, 2016), such as highlighting the word to be taught, modifying the voice intonation and emphasizing the target words during the story reading (e.g., Lever & Sénéchal, 2011), and explaining the meaning of the word one wishes to teach during the narrative (e.g., Hassinger-Das et al., 2016). Another common strategy that significantly affects learning is to start conversations about the target words before, during, and/or after reading the story. This type of strategy favors the dialogue between the reader and the listener, during which the child's responses can be expanded, which, according to Gonzalez et al. (2014), is directly associated with learning new words.

In addition to these, another strategy that presents positive results when applied during or after SBR sessions is based on the use of non-verbal instructions related to the unknown words present in the story, such as requesting representations of the actions of characters (referring to verbs presented in the story) in a role-playing game, or handling/selecting cards with pictures referring to the words spoken by the reader. For example, Toub et al. (2018), tested the learning of target words by preschool children after an intervention that included SBR and playing after reading. In the different conditions, children could play freely or with the support of an adult (directed or guided play). The children had access to toys related to the story (e.g., dragon dolls) and the adult talked and suggested activities with the toys (e.g., "How was the dragon 'reborn'? Show me"). All children learned more words (expressive and receptive vocabulary) in the conditions with adult support, compared to free play. Furthermore, the use of complementary activities to the story, of a playful nature and related to the words present in the story, has also been related to greater engagement and active participation of children in activities about the story read (Hassinger-Das et al., 2016).

The use of extratextual strategies during SBR has been related to the greater engagement of children in the activity. For example, Blewitt and Langan (2016) found that using extratextual strategies, such as asking questions about unfamiliar words during the story and responding to children immediately and contingently, promotes children's attention and interest in the activity. The greater engagement of the children, in turn, was related to the learning of new words by the children in the SBR activity.

Engagement is a multidimensional and dynamic concept, which encompasses aspects only sometimes well defined by the literature. In the context of SBR, engagement has been described as the child's attention to the story told, their ability to sustain that attention throughout the reading, and their interest and enthusiasm for the story itself (Richter & Courage, 2017). Although they are aspects related specifically to the child, there is consensus that engagement is closely related to the behavior of the adult who performs the reading (Kaderavek et al., 2014; Wicks et al., 2020).

In studies on SBR, children's engagement is often measured from observations in terms of behavioral and emotional aspects (Reich et al., 2019). Still, behavioral elements have been used more since the analysis of emotional aspects is complex and tends to depend on interpretations about the child's behavior. Newmann et al. (1992) suggest that engagement

should be seen from the perspective of a continuum of less to more, rather than the dichotomy that presupposes only being engaged or disengaged. In this sense, a possible way of thinking about engagement is from different types of behavior, related to more active or passive interactions of children about the activity. For example, Blewitt and Langan (2016) indicate that adults can promote different levels of child engagement. Conditions of low engagement would be those in which the adult repeats new words that appear in the text or points to the figure of the book. Other conditions for engagement would involve asking questions about the new words and asking the children to point to the pictures in the book (moderate engagement), or, in addition, promoting dialogue with children and responsiveness to the verbal comments made by them (high engagement). This description by Blewitt and Langan (2016) illustrates conditions of engagement of the child itself, which would range from paying attention to reading and comments made by the adult (passive engagement) to answering questions, proposing questions, and making comments, and pointing out figures in the book, related to the target words (active engagement).

Child's verbal participation has been, in some research, analyzed as a form of engagement of children in the activity of SBR (Reich et al., 2019). Still, sometimes, it has been analyzed as a separate category. Blewitt and Langan (2016) highlight that the adult who reads to children must establish a favorable environment so that they can develop verbal repertoires (receptive and expressive) and start to play a more active role as listeners. One way to measure children's verbal participation during SBR sessions may be by accounting for their verbal utterances on the topic that contain intelligible words, occurring spontaneously or in response to adult questions (Fleury et al., 2014; Reich et al., 2019). In the analysis of these verbal emissions, it is even possible to analyze the use of the target words by the child during the SBR session itself.

The use of different extratextual strategies for teaching words can have different effects on children's participation and engagement during SBR activities. Although studies indicate that some teaching strategies may produce more engagement and verbal participation of children than others, such as the use of complementary questions and activities (e.g., Blewitt & Langan, 2016; Gonzalez et al., 2014; Hassinger-Das, 2016; Hindman et al., 2008; Zucker et al., 2013), few Brazilian studies assess the relationship between the specific type of extratextual strategy used during SBR and the level of engagement and verbal participation of children during the activity. Thus, the present study aimed to verify the relationship between the use of extratextual strategies of explicit teaching of words and preschool children's engagement and verbal participation during SBR sessions and complementary activities. The related extratextual strategies used were to highlight the target words, explain their meaning, initiate conversations about the target words, and provide non-verbal response instruction related to the target word. The measures of engagement analyzed were non-verbal behaviors of the children directed to the researcher, other children, and materials of the SBR activity (cards with pictures and storybooks). The measures of verbal participation analyzed were verbal behaviors of the children directed to the researcher or the other children.

Method

This study is an additional analysis of the research data “Strategies for teaching words in story reading for preschool children” (Miranda et al., 2020), whose objective was to measure the learning of 20 target words of preschool children from the repeated reading of the same story, with the use of different extratextual strategies. In the research, three SBR sessions and a complementary activity session were conducted, in which the book “Os voos de Thiago” (Waechter, 2016) was read to a group of preschool children, within their class. At each reading session, the use of one of four extratextual strategies for teaching words was planned (see Table 1). The last strategy was conducted during a complementary activity, in which the participants, in pairs, should stick on a board the cards referring to the words dictated by the researcher, after identifying them among the other cards arranged on the table. Although the original research has a quasi-experimental design, the analysis conducted here is descriptive, and based on observational methodology.

Participants

Participants were 13 children (five girls and eight boys) aged between 4 and 5 years at the time of data collection (mean of 4 years and 7 months), all from the same class of a public Early Childhood Education school and whose participation was authorized by their parents from the signing of a Free and Informed Consent Form (ICF). The sample was, therefore, of convenience. For the present analysis, however, we used the data of the 10 participants who were present and could be viewed at least half of the time of the filming. The research was analyzed and approved by the Research Ethics Committee of FFCLRP – USP (CAAE 61182316.0.0000.5407). The data were collected in 2017 in a state daycare center located in a middle-class neighborhood of the municipality of Ribeirão Preto (SP). The activities were carried out inside the classroom, where, in addition to the researcher and the children, the teacher responsible for the class also remained.

Materials

For the analysis, four video recordings referring to the three SBR sessions and one complementary activity session were used, lasting approximately 20 minutes each session, totaling 1 hour and 20 minutes of analyzed videos. For the filming of the activities, a camera (Sony, HDR CX220) was attached to a tripod and positioned at the back of the room, so that the researcher and as many participants as possible were in the focus of the filming.

Procedures

The analysis of the videos was carried out in stages: transcription of the filming, definition of categories, and, finally, categorization itself. These steps are further described below.

Step 1: Transcription of reading sessions and complementary activity

To identify all occurrences of verbal emissions during the sessions, the videos were transcribed in full, including the verbal emissions of the children and the researcher, all recorded from beginning to end.

Step 2: Defining categories

The verbal participation of the children was analyzed from their verbal emissions during the SBR sessions. From the transcription performed in Stage 1, verbal episodes were initially identified, which consisted of verbal interactions between the researcher and one or more children during the SBR sessions and complementary activity. Each episode began with the use of one of the extratextual strategies by the researcher (see Table 1) and ended when the researcher used another strategy, marking the beginning of a new episode. For example, when the researcher highlighted a target word during reading, it was considered the beginning of a verbal episode, which ended when she highlighted another word during reading. Throughout each episode, all the children's (and the researcher's) statements were transcribed in full.

Then, each verbal episode was divided into turns. A turn began with the speech of the researcher or the child(ren) and ended when another person initiated a verbal emission. The verbal utterances of the children (their speeches) were distributed into six categories of verbal participation. The researcher's statements were analyzed in terms of the use of extratextual strategies. Table 1 presents the descriptions of the extratextual strategies used by the researcher and the children's verbal participation categories.

Table 1

Categories of Behaviors Regarding the Use of Strategies Issued by the Researcher and Verbal Participation of Children.

| Researcher | | Children | |
|---|--|---|---|
| Category | Definition | Category | Definition |
| Highlight the target keyword (De) | Repeat the target word with changes in voice intonation. | Comprehension and emission of the target word (B1) | Issue the target word, presenting its meaning correctly in the story's context; use the target word in a sentence or name a card with a picture correctly. Example: "Autumn is the day that the leaves fall!" |
| Explain the meaning of the target word (Ex) | Provide information about the target word, such as synonyms or simplified meaning; present the card and speak the corresponding target word; or explain the target word from the context of the story. Example: "Arreliada is when someone feels unwilling to do something and angry about having to do that thing." | Emission without understanding the target word (B2) | Repeat the word issued by the researcher or use the word in isolation in a question. |

Table 1

Categories of Behaviors Regarding the Use of Strategies Issued by the Researcher and Verbal Participation of Children.

| Researcher | | Children | |
|--|---|--|---|
| Category | Definition | Category | Definition |
| Start conversations about the target keyword (In) | Ask questions such as “what,” “who,” “when,” “where,” and similar questions, or reduced questions that referred to previous questions. Example: “Who has ever seen a flight?” | Comprehension without emission of the target word (B3) | Correctly define the target word, without emitting it; emitting phrases with information pertaining to the word, issuing synonyms, correctly identifying picture cards, or correctly answering a word-related question. Example: “Speaking in the ear!”, defining the word <i>fuxicar</i> . |
| Provide nonverbal response statement related to the target word (Inst) | Present vocal verbal discriminative stimuli specifying the topography of non-verbal response that should be emitted by the children during the complementary activity (e.g. “Bring me autumn and stick on the green board!”). | No emission and no understanding of the target word (B4) | Answering closed-ended questions about the target word (yes or no), making assertions about the target word, asking questions about the target words without quoting them, or defining the word incorrectly without uttering it. |
| | | Verbal responses related to the activity (B5) | Issue vocal verbal responses referring to the context of the activity, history, or elements of it, unrelated to the target words. |
| | | Unrelated verbal responses (B6) | Emit vocal verbal responses unrelated to the context of the activity, history, or elements of it, or emit onomatopoeias (e.g., “Hmm...”). |

The analysis of the children's engagement involved the categorization only of the non-verbal behaviors emitted by them. After watching all the footage in full, it was found that some children engaged with the activity through physical and mimic gestures, while others paid attention, looking towards the researcher while reading the book. From this observation, two categories of engagement were defined: active engagement and passive engagement. Active engagement (A) was considered when the child emitted non-verbal responses, associated or not with a verbal emission, related to the target words of the book, events of the story, or elements of the proposed activities. Passive engagement (P) was considered when the child looked toward the researcher or another child during or shortly after they emitted actively engaged behaviors or verbal emissions related to the story. Active and passive engagement were analyzed about whom they were directed: whether to children (Ac; Pc) or the researcher (Ap; Pp). The description of the engagement categories is presented in Table 2.

Table 2*Engagement Categories*

| Categories | Subcategories | Definitions |
|------------------------|---|--|
| Active Engagement (A) | Active child-child interaction (Ac) | Non-verbal behaviors, associated or not with a verbal vocal behavior, emitted by a child and directed to another child, related to the proposed activities. |
| | Active child-researcher interaction (Ap) | Non-verbal behaviors, associated or not with a verbal vocal behavior, emitted by a child and directed to the researcher, related to the proposed activities. |
| Passive engagement (P) | Passive child-child interaction (Pc) | Direction of the gaze to another child, during or shortly after they emit an Ac or verbal emissions related to activities. |
| | Passive child-researcher interaction (Pp) | The direction of the gaze to the researcher, during or shortly after she emits some behavior (verbal or non-verbal) related to the activities or the children. |

Step 3: Categorization

Each turn of the verbal episodes was analyzed according to the categories proposed in Table 1, both for the use of strategies by the researcher and for the verbal participation of the children. In the analysis of children's verbal participation, all verbal emissions that could not have their sender identified or were incomprehensible in the transcription of the data were discarded, making their analysis impossible. For the analysis of the children's engagement data, the technique of recording by time sampling was used, in which the occurrence (or not) of the behavior category was marked at intervals of 15 seconds. For this, the focal recording method was used, in which everyone is focused during an entire period of observation (Danna & Matos, 2011). This means that each child was focused for analysis in each session, and to be analyzed, the child had to be visible in the footage during more than half the time of the sessions.

Data analysis

The total number of turns was calculated, and the number of turns in which each extratextual strategy was used by the researcher. The percentage of the use of each extratextual strategy by the researcher was calculated concerning the total number of turns in which any of the four strategies analyzed was used. For example, if in-session strategies were issued in a total of 20 turns, the percentage of emissions of each of the strategies used was calculated concerning total number of 20 turns. Similarly to the calculation of the percentage of extratextual strategies, the verbal participation of the children was calculated from the average emission of each of the categories by the set of children in each of the sessions, concerning the total number of turns in which the children issued the analyzed categories.

A second judge categorized the researcher's use of extratextual strategies and the children's verbal participation in one of the four intervention sessions (25% of the total transcriptions). For the analysis of the agreement between evaluators, we counted how many times each category had been computed in each verbal episode, in the categorization of the researcher and the second judge. The categories recorded in the session were: In and Inst for the

researcher; B1, B2, B3, B4, B5, and B6 for children. All had an agreement equal to or greater than 85%, except for the categories Inst and B6, whose agreements were equal to 84%. Of the remaining categories, B3, B4, and B5 were between 85 and 90% of agreement, while In and B2 were in the range of 94 to 96%. Finally, for B1, the researcher and the second judge agreed 100% of the time. The mean agreement of all categories recorded in the session was 90%.

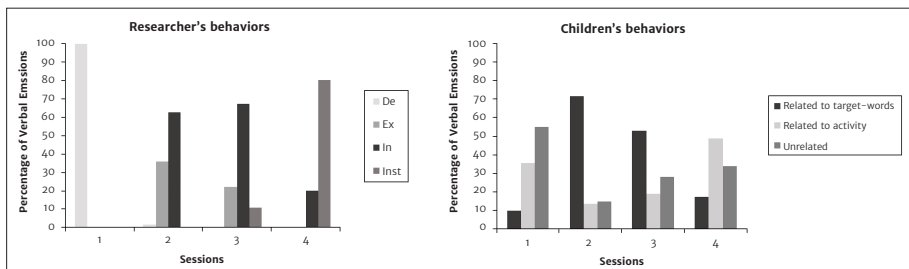
For the analysis of the children's engagement data during the sessions, the average percentage of emission of each category was calculated for all the children present in each of the four sessions. A second judge categorized the engagement of 30% of the children present in each session. The average agreement index (Danna & Matos, 2011) of these categorizations was 86.1% in the four sessions.

Results

Initially, the results regarding the verbal participation of the children (verbal emissions) and the use of extratextual strategies by the researcher will be presented. Figure 1 shows the percentage of emissions of each of the strategies by the researcher and the percentage of speech emissions of the children from the categories analyzed.

Figure 1

Percentage of Use of Each Extratextual Strategy by the Researcher per Session (Left Panel) and Average Percentage of Children's Verbal Emissions Related to Target Words (B1, B2, B3 and B4), Activity (B5) or Unrelated (B6) – Right Panel.



Note. De (highlight the target word); Ex (explain the meaning of the target word); In (start conversations about the target word); Inst (provide nonverbal response statement related to the target word); B1 (comprehension and emission of the target word); B2 (emission without understanding the target word); B3 (comprehension without emission of the target word); B4 (no emission and no understanding of the target word); B5 (verbal responses referring to the activity or story); B6 (unrelated verbal responses).

In general, the researcher mostly used the extratextual strategy planned for each session, except for the second session. The category De (highlight the target word) was used in 100% of the turns in which there was emission of strategies in the first session, but in the other sessions, the use of two different strategies was observed. The categories In (start conversations about the target word) and Ex (explain the meaning of the target word) were used in sessions 2 and 3

(Ex – 36% and 22% and In – 62% and 67%, respectively) and, in both, the In strategy was more frequent than the Ex. In the fourth session, the In strategy was also used, but at a much lower frequency than the strategy planned for the session (Inst – provide non-verbal response instruction related to the target word – 81%). It is observed, therefore, that, although the intervention proposal was to use only one strategy per session, other strategies were employed even without prior planning.

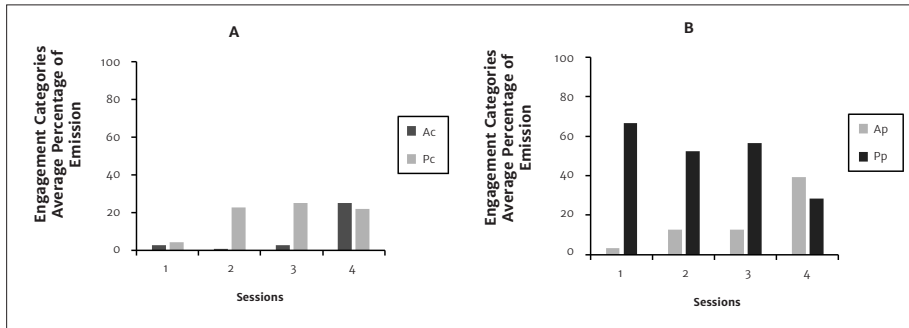
In the analysis of the children's verbal emissions, the categories B1 (emission and comprehension of the target word), B2 (emission of the target word), B3 (comprehension of the target word), and B4 (without emission and comprehension of the target word) were considered as related to the target words. Category B5 (emission related to activity or history) was considered activity-related and, as unrelated, category B6 was considered. It can be verified that unrelated verbal emissions were more frequent (55%) than related emissions (45%) only in the first session. Throughout the sessions, there is an increase in the percentage of related verbal emissions and the consequent decrease in the percentage of unrelated emissions, especially in the second and third sessions.

In Figure 1, right panel, the percentages of verbal emissions related to target words, to activity, and unrelated are presented. It is verified that the lowest percentages of emissions of categories that did not refer to the target words of the story occurred in the first and fourth sessions (10% and 17%, respectively), when the strategies of highlighting the target words and verbal instruction were mostly used. Throughout sessions 1 and 4, the highest percentages of speech emissions related to activity or history were also observed (35% and 49%, respectively). In the second and third sessions, it was possible to verify a higher percentage of the utterance of speeches related to words (72% and 53%, respectively) than speeches not related or related to the activity. These results occurred in the sessions in which the researcher mostly used the strategies to explain the meaning of the target word (Ex) and to initiate conversations about the target word (In).

In general, the children's engagement remained stable throughout the sessions. Only small variations were observed between sessions, so that the lowest percentage of engagement was identified in the second session (62%) and the highest percentage in the first session (71%). Figure 2 shows the average percentage of intervals in which the categories of engagement analyzed occurred in each of the four sessions, with a separate presentation of the child-child and child-researcher interactions.

Figure 2

Average Percentage of Intervals in which Categories Ac (Active Child–Child Interaction) and Pc (Passive Child–Child Interaction) (Panel A); and Categories Ap (Active Child–Researcher Interaction) and Pp (Passive Child–Researcher Interaction) were emitted (Panel B).



There was a progressive increase in the occurrence of the categories of active engagement (Ac and Ap) throughout the four sessions, while the categories of passive engagement (Pc and Pp) showed a progressive decrease. In addition, it is possible to notice that the categories of engagement related to the researcher (Ap and Pp – Panel B, Figure 2) had a higher frequency than those related to the pairs (Ac and Pc – Panel A, Figure 2). The increase in the average percentage of engagement between the first and fourth sessions, both of Ap (from 3% to 39%) and of Ac (from 2% to 25%) seems to be related to the type of activity performed, since in the fourth session a game involving card manipulation was performed.

Discussion

The main objective of this study was to verify the relationship between the use of explicit word teaching strategies and measures of engagement and verbal participation of preschool children during three SBR sessions and one complementary activity session. In general, the results suggest that the type of verbal participation of the children varied throughout the sessions, so that the participation related to the target words occurred more frequently during the sessions in which the strategies explaining target words and initiating conversations were the most used. In addition, it was found that the overall amount of children's engagement did not vary between sessions, but that active engagement (Ap and Ac) was higher in the last session, which may be related to the type of activity proposed.

The engagement and verbal participation of children during SBR have been referred to in the literature as important elements for word learning by preschool children in this type of activity (Blewitt & Longan, 2016). Hutton et al. (2017) suggest, in a study using functional neuroimaging, that children's engagement and interest in SBR are correlated with increased activity and functional connectivity in areas of cerebellar association, which would possibly

improve learning levels. According to Blewitt and Langan (2016) engagement during story-reading, which involves children's attention and interest, is strongly determined by how the adult establishes context and conducts shared reading. A context that promotes effective children's engagement would involve the use of extratextual strategies, especially with the formulation of questions that require their verbal participation and, therefore, encourage children to pay attention to the information contained in the story. The results of the present research seem to support this statement since it was verified that the verbal participation of the children, related to the target words, occurred precisely in the sessions in which the researcher most frequently used the strategies that established context to talk about these words.

Although the children's total engagement remained constant throughout the observation sessions, it was observed that the type of engagement varied between sessions. The lowest frequency of active engagement among the researcher and peers occurred in the first session, when the researcher only highlighted target words during reading, and more often in the session in which complementary activity was applied. Concomitantly, the verbal participation of the children was also higher in sessions 2, 3, and 4 than in the first session. These results are similar to those found by Blewitt and Langan (2016), although the authors did not take specific measures of participant engagement, and to those of Wicks et al. (2020), obtained with children diagnosed with autism spectrum disorder in SBR sessions with their mothers and fathers. The results of the present research, together with the data present in the literature, suggest, therefore, that the types of extratextual strategies used during the SBR sessions may create favorable contingencies for certain types of engagement and verbal participation.

Compared to the sessions in which the extratextual strategies of initiating conversations and explaining the meaning of words, in the session in which the strategy of highlighting the target word was the most used, the highest frequency of passive engagement and verbal participation of children exclusively in themes not related to the target words and the activity itself was verified. This result can be understood by considering two variables. The strategy of highlighting words during reading promotes only incidental vocabulary learning opportunities, without explicitly establishing any relationship between the target words and any other stimuli present in the situation, such as the figures in the book, for example (Miranda et al., 2020). At least apparently, just changing the voice intonation during the reading of the words, associated with their repetition, seems insufficient to promote the children's verbal participation. Blewitt and Langan (2016) found that this type of strategy produces low engagement on the part of children during the SBR session, in addition to lower chances of learning new words, a result also verified by Smeets and Bus (2012). It is necessary to consider, however, that this strategy was used in the first reading session, a time when the children still had limited knowledge about the researcher and her history. It cannot be ruled out, therefore, that the high frequency of passive engagement and the type of verbal participation not related to the target words have had a great influence on the novelty context.

The set of these results shows that the role of the adult who reads stories to children is fundamental to creating contexts more conducive to learning, guiding children's attention to the relevant aspects of the story, and increasing their overall engagement, not only in cases of typical development but also for children with some type of developmental difficulty (Fleury et al., 2014; Kaderavek et al., 2014; Wicks et al., 2020). Initiating conversations and explaining the meaning of target words, strategies that, in the present research, were used together, are strategies specifically designed to evoke verbal participation related to the target words and characteristics of the story, increasing the engagement of participants in the activity (Lenhart et al., 2019; Martinez & Teale, 1993; Sénéchal, 1997). On the other hand, by actively participating in the activity, children can have their participation strengthened and adult feedback can both strengthen children's learning about the new vocabulary and serve as a model for the use of this vocabulary in an appropriate context (Fleury et al., 2014). According to Maynard et al. (2010), interventions that promote more discussions and explanations about the target words can increase the number of repetitions of these and, consequently, produce a more solid knowledge base, perhaps enhancing the learning process. This interaction shows that the engagement and verbal participation of children during SBR are inseparable and complementary components, which are possibly part of the same phenomenon.

In addition, it is possible to assume that the increase in children's verbal participation about the target words in the present study is also a consequence of reading the same story over three sessions, since any word has the potential to become known when the child is exposed to it repeatedly (Horst, 2013). According to Uchihara et al. (2019), in a meta-analysis on the effects of repetition on incidental word learning, the frequency of encounters is an important predictor of this type of learning, although other variables are involved in the process. These results suggest that the repeated reading of the same book can potentiate the effect of the use of extratextual strategies, even though the present study did not evaluate vocabulary learning (only children's verbal emissions, which may or may not reflect this phenomenon). In addition, the results of the meta-analysis by Uchihara et al. (2019) also reinforce the importance of using explicit word-teaching strategies during SBR.

It is also important to analyze the use of the complementary activity as an extratextual strategy for teaching the target words. In the fourth session, a game was proposed for the children, in which non-verbal response instructions (select pictures) related to the target words were presented. In this session, there was an increase in the active engagement of the children, compared to the previous sessions. The proposed game demanded more active interactions on the part of the children, such as manipulating cards with pictures, interacting with peers in the search for the corresponding figure and repeating the target word dictated by the researcher. According to Toub et al. (2018), using games to review the words learned allows children to be more engaged and active, as well as potentiating gains in expressive vocabulary, as interactive learning environments promote more connections with children's repertoire and interests. This result indicates that the combined and planned use of extratextual strategies during and

complementary activities after reading can produce complementary effects on the type of engagement and verbal participation of children, which may be related to more opportunities for learning new vocabulary.

The present study has limitations to be considered. The most evident is that, although it was planned to use a single extratextual strategy per session, this only actually occurred in the first session. In the others, combinations of strategies were used. If, on the one hand, in the sessions in which this combined use occurred, there was also greater engagement and verbal participation of the children during the sessions, on the other hand, it was impossible to identify indications of possible effects of the isolated use of each strategy. The use of more than one extratextual strategy during the same session is common in other studies, which often analyze the effects of interventions composed of several SBR strategies (Al-Darayseh, 2014; Hassinger-Das et al., 2016; Lever & Sénéchal, 2011; Pollard-Durodola et al., 2011; Sim & Berthelsen, 2014). The results obtained here and in other studies indicate that different strategies have characteristics and establish contingencies that complement each other and can enhance learning (or, at least, greater verbal participation) when used together (Miranda et al., 2020). For example, when explaining the meaning of a word, one may be contributing to the learning of receptive vocabulary. At the same time, initiating conversations can promote the learning of expressive vocabulary. According to Bettio et al. (2021), teaching preschool children offers varied opportunities to practice what has been learned. In this sense, when initiating conversations about a word and teaching it, the necessary context is also provided for it to be issued. Also, according to the authors, this is a way to evaluate learning, which can contribute to favoring learning continuously.

Another relevant limitation refers to the small sample size and the type of analysis used. This reduced number is related to technical difficulties in visualizing and identifying all the children present in the filming. Future studies that aim to evaluate the effects of extratextual strategies of explicit word teaching on children's learning may benefit from focal subject filming. This technique allows the observation of each child from the beginning to the end of the activity, which could contribute both to a general analysis of the class, as well as to an individual analysis focused on the learning of each participant. In addition, it is necessary to consider the limitations of analyzing a small sample. The analysis performed here was descriptive, making it impossible to do correlations that would require a much larger number of participants to conduct more elaborate statistical analyses. Future studies should foresee the performance of the intervention in a larger number of classes and of different ages, which may enable a more robust quantitative analysis, contributing to a greater understanding of the relationships found here.

Despite the limitations, the present study suggests that the use of extratextual strategies in SBR sessions may have effects on the type of engagement and verbal participation of preschool children, showing the role of adults in the occurrence of these components. Although other factors may have interfered and altered the children's behavior (such as the tasks they performed with the teacher at the moment before the SBR sessions, or familiarity with the researcher), it is

possible to assume that the organization of contingencies that evoke engaged behaviors (active and passive) and verbal participation related to the context of the activity and the vocabulary taught is important for a context with greater chances of learning. In addition, these results suggest that engagement and verbal participation are behaviors that complement each other, so engagement seems to be an important aspect for verbal participation to happen. In short, parents, mothers, and teachers must use extratextual strategies while reading stories, prioritizing not only the presentation of the book but also the maintenance of the levels of engagement and verbal participation of children from the beginning to the end of the proposed activity.

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