"WATER" SENSORY BOOK AS A COMPLEMENTARY SOURCE IN THE CHILD PSYCHOLOGICAL ASSESSMENT PROCESS (CPA)

LIVRO SENSORIAL "ÁGUA" COMO FONTE COMPLEMENTAR NO PROCESSO DE AVALIAÇÃO PSICOLÓGICA INFANTIL (API)

LIBRO SENSORIAL "AGUA" COMO FUENTE COMPLEMENTARIA EN EL PROCESO DE EVALUACIÓN PSICOLÓGICA INFANTIL (API)

Raquel DONEGÁ[1]
e-mail: queldonega@gmail.com

Mara Sizino da VICTORIA[2]
e-mail: marasizino@id.uff.br

Nayara MESQUITA[3]
e-mail: psi.nayaram@gmail.com

How to reference this article:

DONEGÁ, R.; VICTORIA, M. S. da; MESQUITA, N. "Water" sensory book as a complementary source in the child psychological assessment process (CPA). **Doxa: Rev. Bras. Psico. e Educ.**, Araraquara, v. 25, n. 00, e024013, 2024. e-ISSN: 2594-8385. DOI: https://doi.org/10.30715/doxa.v25i00.19527

| **Submitted**: 29/07/2024
| **Revisions required**: 11/10/2024
| **Approved**: 19/11/2024
| **Published**: 13/12/2024

Editor: Prof. Dr. Paulo Rennes Marçal Ribeiro
Editor Adjunto Executivo: Prof. Dr. José Anderson Santos Cruz

[1] Federal University of Rio de Janeiro (UFRJ), Rio de Janeiro – RJ – Brazil. Clinical Psychologist; Master's student in History of Sciences and Techniques and Epistemology (HCTE-UFRJ); Psychology (UFF), Literature (UNIB) and Pedagogy (UNINTER); Specialist in Portuguese Language (PUC-SP).

[2] Fluminense Federal University (UFF), Rio das Ostras – RJ – Brazil. Doctoral degree in Mental Health (IPUB/UFRJ), Adjunct Professor, UFF, Rio das Ostras Campus, Psychology Dept.

[3] Fluminense Federal University (UFF), Rio das Ostras – RJ – Brazil. Clinical Psychologist, graduated in Psychology (UFF); Postgraduate student in Psychology and Neuropsychology Assessment (Faculdade Líbano).

ABSTRACT: Sensory books are mainly used in the educational context and are considered structured playful resources. This article aims to present the sensory book "WATER" to enrich, deepen, and expand the process of Psychological Assessment of Children, promoting the analysis of developmental aspects through a dynamic approach. Composed of felt pages that stimulate investigation through a variety of scenarios, textures, colors, and shapes, this material can be a powerful element in the evaluative processes of children aged 3 to 5, highlighting the possibility of individual customization, as it is a handmade product. As a result, the possibilities for investigating cognition, psychomotricity, and socio-emotional aspects are presented. Therefore, it is proposed that the sensory book be investigated as a complementary resource in the child psychological assessment.

KEYWORDS: Sensory book. Child Psychological Assessment. Cognition. Psychomotricity. Socio-emotional.

***RESUMO**: Os livros sensoriais são utilizados principalmente no contexto educacional, sendo considerados recursos lúdicos estruturados. Este artigo visa apresentar o livro sensorial "ÁGUA" para enriquecer, aprofundar e ampliar o processo da Avaliação Psicológica Infantil, favorecendo a análise de aspectos do desenvolvimento por meio de uma abordagem dinâmica. Composto por páginas de feltro que estimulam a investigação por meio de uma diversidade de cenários, texturas, cores e formas, este material tem o potencial de se tornar um elemento eficaz nos processos avaliativos de crianças de 3 a 5 anos. Ressalta-se, ainda, a possibilidade de personalização individual, considerando que se trata de um produto artesanal. Como resultado, apresentam-se as possibilidades de investigação da cognição, da psicomotricidade e dos aspectos socioemocionais. Diante disso, propõe-se a investigação do livro sensorial como recurso complementar na API.*

***PALAVRAS-CHAVE**: Livro sensorial. Avaliação psicológica infantil. Cognição. Psicomotricidade. Socioemocional.*

***RESUMEN**: Los libros sensoriales se utilizan principalmente en el contexto educativo y se consideran recursos lúdicos estructurados. Este artículo tiene como objetivo presentar el libro sensorial "AGUA" para enriquecer, profundizar y ampliar el proceso de Evaluación Psicológica Infantil, favoreciendo el análisis de aspectos del desarrollo a través de un enfoque dinámico. Compuesto por páginas de fieltro que estimulan la investigación a través de una variedad de escenarios, texturas, colores y formas, este material puede ser un elemento potente en los procesos evaluativos de niños de 3 a 5 años, destacando la posibilidad de personalizarlo individualmente, ya que se trata de un producto artesanal. Como resultado, se presentan las posibilidades de investigación de la cognición, la psicomotricidad y los aspectos socioemocionales. Por lo tanto, se propone investigar el libro sensorial como recurso complementario en la Evaluación Psicológica Infantil.*

***PALABRAS CLAVE**: Libro sensorial. Evaluación psicológica infantil. Cognición. Psicomotricidad. Socioemocional.*

Introduction

Child Psychological Assessment (CPA) is considered a complex process that involves several stages in which the child's psychological phenomena can be observed and analyzed (Lins; Muniz; Cardoso, 2018; Mansur-Alves *et al.*, 2021). In this sense, promoting an appropriate *setting* for assessment, which favors the psychologist-child relationship, contributes to the perception and investigation of aspects related to cognitive, psychomotor, and socio-emotional development (Roza *et al.*, 2022).

According to Resolution 31/2022 (CFP, 2022a), which establishes guidelines for conducting psychological assessments, scientific methods, techniques, and instruments should be used as fundamental sources of data collection (CFP, n.d). In addition, the resolution provides for the "use of complementary sources of information", such as technical documents and resources not specific to psychology, whose scientific support is recognized by relevant research (CFP, 2022a). In order to assess children's psychological aspects, it is necessary to use different work methodologies that stimulate their interest and involve them in this process (Silva; Naves; Lins, 2018). In addition, it is necessary to consider that playful aspects are adopted to provide greater adherence of the child to the process and fluidity in communication (Roza *et al.*, 2022).

It should be borne in mind that API is often directed at children whose behavior or development does not match what is expected for their age group. Thus, when faced with complaints from professionals and the adults around them, such as educators, doctors, family members and professionals, an investigation is called for in order to screen for possible delays, progress and compliance with standards (Giacomoni; Bandeira, 2016; Souza; Velludo, 2021), with the priority being to identify these issues through fundamental sources, to which can be added complementary sources whose scientific criteria are valid (Silva; Yates; Oliveira, 2021; Souza; Velludo, 2021). The process can be accompanied and conducted simultaneously by a team of professionals, including the psychologist, whose role will be to investigate the psychological characteristics required in the context, always in line with specific objectives (CFP, 2022b).

The scenario is marked by the use of careful, psychometric methods, but demands complementary resources that enhance the search for relevant results. In view of this, this article aims to present the sensory book "*WATER*" produced to enrich, deepen, and broaden API by analyzing cognitive, psychomotor, and socio-emotional aspects through a dynamic approach.

Book as support in the API and the potential of the sensory book

In the API, there are few initiatives aimed specifically at this audience, despite the efforts of quality references such as Lins, Muniz and Cardoso (2018) and Mansur-Alves *et al.* (2021). In light of this, the Child Psychological Assessment Laboratory (LAPi) at the Fluminense Federal University, Rio das Ostras campus, is a space that has been investing in API research since 2019, with positive results in the Applied Psychology Service (SPA), developing research for cognitive, psychomotor and socio-emotional assessment, arriving at the sensory book "*WATER*".

The sensory book can be described as a structured material made of fabric, felt, or Ethyl Vinyl Acetate (EVA). Due to its handmade nature and target audience, it uses seams and collages that can be interacted with by hand and, therefore, needs to be child resistant. According to Ochoa (2015), it has an attractive appearance and a pedagogical or educational function, focused on the exercise of development. This material, which can also sometimes be found in the expressions *quiet book* or *busy book* is so named because it is an artifact that resembles the conventional book: cover, pages, and characters, but produced with materials that exploit the tactile sense through materials with textures, colors, and shapes. It can be said that the sensory book values the sensory aspects in a more enriching way than the traditional book, which places more emphasis on the visual sense, due to illustrations and printed narratives.

The perspective adopted here is that of the sensory book as a book object, which can be manipulated freely and safely by the child, preserving its playful character while enabling a close relationship between the author and the mediator of the object created (Ramos, 2017; Letria, 2020; Regatão *et al.*, 2021). In this way, the interaction can be broadened by the ever-new encounter between the author's creation and the child's use of it. This resource is in line with the propositions of Maria Montessori (1987; 2010), who focused her practice on the "education of the senses", with the creation of teaching materials with a sensory emphasis. Sensory books, therefore, offer the opportunity for children to use stimuli in a variety of ways, creating a unique narrative.

In API, there are few publications on the relevance of children's literature in the assessment process (Roza *et al.*, 2022; Roza *et al.*, 2023; Oliveira *et al.*, 2023), and there is no content relating sensory books to the area of psychological assessment. However, some

have shown the importance of this resource with children in early childhood education (Pettenon *et al.*, 2017), with visual impairments (Ochoa, 2015; Jacob, 2017; Francisco, 2021), and hearing impairments (Alves, 2021).

Child development assessment

Child development has been the subject of extensive and in-depth study based mainly on cognitive psychology, developmental psychology, and neuropsychology. In light of this, the contributions of Wajman (2021); Fonseca (2011; 2018); Salles, Haase and Malloy-Diniz (2016); Vigotsky (2007); Piaget (1999); Biaggio (2015), among others, are noteworthy. We are particularly interested in the interdisciplinary aspects of these studies, especially the basic concepts and developmental milestones relating to aspects of cognition, psychomotricity, and socio-emotional skills in children.

Cognition can be understood as knowledge. It results from the association of "attention, perception, emotion, memory, motivation, integration and central monitoring, sequential and simultaneous processing, planning, problem-solving and the expression of information communication" (Fonseca, 2011, p. 32, our translation). In view of the conceptual breadth of child development, we highlight aspects relating to attention and memory, temporal and spatial orientation, sensory perception and psychomotor skills, and, finally, social and emotional skills.

Attention is a construct organized into subtypes and is associated with the ability to select environmental stimuli and process them differently from others (Carreiro; Machado-Pinheiro, 2019). In this sense, sustained attention should be assessed (Rueda *et al.*, 2008); concentrated and divided attention (Braga, 2007) and alternating and diffuse attention (Dalgalarrondo, 2019; Braga, 2007).

Memory can be described as the part of cognition marked by the ability to retrieve information and learning that is coded and stored in an integrated way, even if it is non-specific, since this retrieval can follow complex patterns that are difficult to trace and understand (Fonseca, 2011; Dalgalarrondo, 2019). In this way, it is suggested that it be observed from the manifestation of the relationships between attention and working memory, competitive selection, sensory control *top-down*, and salience filters, so it is worth briefly going into these aspects (Dalgalarrondo, 2019). It is suggested to evaluate working memory (Roscioli; Tomitch, 2022); episodic memory (Kochhann *et al.*, 2020); semantic memory

(Boroujeni; Mahmoudian; Jarollahi, 2020; Dalgalarrondo, 2019), and procedural memory (Dalgalarrondo, 2019; Mourão Jr.; Faria, 2015), observing the stages of development.

According to Dalgalarrondo (2019), spatial orientation is the ability to assess direction and distance, while temporal orientation is a mental aspect that concerns the ability to indicate chronological moments, perceiving variations in duration and continuity. These skills tend to be developed late, a factor that leads us to dialog with Piaget's (1999) propositions about the preoperative period. At this stage, the child is not yet able to carry out mental operations in an abstract way and is in a more concrete phase, marked by egocentric thinking and difficulty in understanding abstract concepts. In this period, due to the abstract nature of time, children can have perceptual difficulties, such as confusing size with age, for example, interpreting a short adult as a child, and the number of stops with the time elapsed - a journey, for example, can seem excessively tiring if there are too many stops along the way.

Sensory perception stems from becoming aware of a sensory stimulus, i.e., physical, chemical, or biological stimuli that are external or internal to the body, which can be received from visual, tactile, auditory, olfactory, gustatory, proprioceptive, and kinaesthetic sources. A didactic separation gives indications that sensation is passive and perception is active, creative, and subjective, since the former stems from reception by the organism while the latter results from the construction of a synthetic perception about the stimuli received, which results from the articulation between the current stimulus and previous experiences in the face of a perceived stimulus (Dalgalarrondo, 2019).

Studies in the area of psychomotricity find a solid basis in the provocations of Bloom *et al.* (1979), who described the psychomotor domain as part of three domains intrinsic to educational objectives: cognitive, affective, and psychomotor. According to him, the development objectives related to this domain focus on motor or muscular skills and the manipulation of materials and objects, which require neuromuscular coordination.

Fonseca (2011; 2018) explores psychomotricity as an area of knowledge responsible for investigating the interaction between psychological functions and motor development. When assessing psychomotor skills, it is essential to understand that aspects related to intellectual development are analyzed in conjunction with motor skills in order to achieve the proposed objectives. In this context, it is essential to observe how the individual selects stimuli, focuses on details, repeats actions in search of excellence, identifies differences and similarities, and generalizes situations (Fonseca, 2011). To this end, procedures such as

questioning and asking for justifications are relevant, since these processes stimulate metacognition through reflective provocations. From a motor point of view, it is essential to pay attention to elements such as tone, posture, laterality, somatognosy, spatial-temporal structuring and organization, rhythm, global and fine praxis, visual-motor integration and slowness (Fonseca, 2011; Rebelo *et al.*, 2020; Sacchi, Metzner, 2019).

The socio-emotional aspect is considered a complex construct that can be observed through non-cognitive skills (Marin *et al.*, 2017). The term comes from the combination of social and emotional, and refers to both competencies and skills related to these two fields (Oliveira, 2023). It is, therefore, worth going into aspects related to each of these areas in order to understand the central elements of the assessment of socio-emotional aspects.

The research by Marin *et al.* (2017) addresses socio-emotional as a competence, investigating the concepts and instruments associated with this construct. According to the authors, socio-emotional factors are related to aspects of the development and social and emotional adjustment of young people and to the assessment of levels of pleasure and well-being. In addition, the proposals of the *Collaborative for Academic, Social and Emotional Learning* (CASEL), an American institution that gathers research and promotes the school and educational systematization of social and emotional learning (*Social and Emotional Learning* - SEL), guide an integrated learning process between school and society. In this process, five fundamental dimensions are developed: 1) Self-awareness; 2) Self-management; 3) Social awareness; 4) Relational skills; and 5) Responsible decision-making (Casel, 2020).

Thus, socio-emotional is stable in terms of the perception of external behavioral aspects, which are more related to social and internal regulation, which is directly related to emotional manifestations (Oliveira, 2023). Therefore, when looking at this construct, we suggest being clear about the model used and the aspects that will be observed during the evaluation.

Methodology

The production of the sensory book "*WATER*" took place within the scope of extension and research at the Fluminense Federal University, Rio das Ostras campus (RJ), Psychology course, in 2023 and followed a number of stages.

First stage - Bibliographic survey: a bibliographic survey of pages in Portuguese was carried out through Google Scholar using the expression "sensory book", from 2015 to 2023, and 119 works were found. However, none of them were directly related to the area of child psychological assessment. The presence of this resource in education stands out as a pedagogical strategy, especially in early childhood education, as well as in arts and design. In this sense, some references were inspiration for this work, among them: Regatão *et al.* (2021), Ramos (2017), Giraud *et al.* (2017), Brandão (2016), and Ochoa (2015), whose work mobilized discussions and decisions about the format; the narrative, thematic and scenographic continuity; the variety of materials; and, above all, the perception of the book-object as a potential resource for clinical management. Goulart (2008); Efrom *et al.* were used as the theoretical basis for designing the scenarios. (2011), Fonseca (2011, 2018) and Delval (2002).

Second stage - Creation of the book's theme and selection of the target audience: after some discussions on children's book themes, the basic theme "*WATER*" was decided upon, which provides a relationship with various characters, animals, nature, water cycles, and their transformations. The material was structured with a focus on assessing children aged 3 to 5.

Third stage - Page planning: The team got together and set the book with the objective of building scenarios based on the theme of water, going through challenges, and playing with the characters. It was decided that the sensory book would consist of four scenarios, with no written narrative, containing only the cover and the title "*WATER*". A *storyboard* sketch of the ideas for each scenario, presented in continuous frames, was produced, and reference images were selected to guide the development of the project.

Fourth stage - Selection of materials and tools: research was carried out to identify safe and resistant materials suitable for the theme of the sensory book. The materials used included: felt as a base for the pages; tulle fabric; Velcro; synthetic grass; sisal fabric; crystal clear plastic; buttons; beads; movable eyes; mini pompoms; mini clothespins; round magnets; decorative plastic appliqués; rice; waxed thread; sewing thread; trimmings; grosgrain and satin ribbons; sisal rope; and lobster, T, magnetic, snap and hook-and-loop

fasteners. The tools used were a sewing machine, hot glue guns (large and small), sewing and crochet needles, and scissors.

Fifth stage - Selecting the characters: The number of characters and their characterizations were established. We, therefore, decided on the following elements for the finger puppet scenes: (1) butterfly, which flies; (2) frog and alligator, which swim but also roam on land; (3) cat, which only roams on land and doesn't like water; and (4) human.

Sixth stage - Making the book: It was made by just one member of the team, and two copies were finished.

Results

When using the material, it is recommended that the child and assessor interact, starting with the child freely handling the material. After the initial investigation, the assessor offers the child the opportunity to investigate the material, inviting them to choose a character to go through the scenes in the book. The child should be encouraged to interact with the scenery if they don't.

In view of the perceived lack of thematic continuity, confirmed by Ochoa's research (2015), the proposal seeks to materialize a common childhood theme: water. When handling the material, it is possible to observe aspects of motor, linguistic, and behavioral development that are enhanced by investigating children's sensory perception. The API can be facilitated through interaction with the book, which is made up of a variety of textures, colors, shapes, and materials. The theme "water cycle" serves as the basis for constructing a path to be explored, and the pages function as the setting for a narrative to be enunciated by the assessor. In addition, the book features a variety of characters that can be chosen during use.

The cover (Figure 1) is made from blue felt and contains a pocket where the characters are stored. Above, it reads "*WATER*" in stick letters. At the top of the bag, the vowels are displayed using movable beads.

Figure 1 - Cover

Source: Prepared by the author.

Scenario 1 (Figure 2) shows a separation between sky and ground, identified visually and by the change in fabric. The clouds are made from different materials, colors, and shapes, as are the three trees. One of the trees can be connected to another by wires attached to buttons. The lower part represents a pond with water lilies, but it can also be interpreted as a grass path. This route begins with a pink flower that holds, in a pocket on the back, circular pieces with beads varying in number from 1 to 7, arranged consecutively from left to right. The course contains circles of increasing size.

Figure 2 - Scenario 1, Garden View

Source: Prepared by the author.

The second scenario (Figure 3) continues the gray clouds that appeared in the previous scenario. In this one, the whole background is greyish, with a greater number of clouds (7) made of various soft materials, and larger than those on the previous page. The lower part is made up of a waterfall on the right, with three wavy strands with different clasps at the end, which can be attached to the end of the element: 1) magnet; 2) T-clasp; and 3) ball attachment. Also, on that side, you can walk through a labyrinth from left to right and

top to bottom with beads of different sizes, shapes, and quantities. On the left, you can see a sequence of seven columns made from a thin, flexible fabric. Each column has consecutive beads from 1 to 7 that can be moved up and down. The lower part contains sequentially numbered beads in the same quantities. In addition, the beads can be hidden at the bottom of the clouds.

Figure 3 - Scenario 2, Rainy Day

Source: Prepared by the author.

The third scenario (Figure 4) has a light blue background. On the right-hand side, you can see a hollowed-out circle at the top. On the right, a triangular-shaped hut stands out. This element has a zipper closure and is located under a sand-colored fabric. The zipper is more difficult to close, requiring two hands to open. On the right is a sea scene. It's made up of rice and themed beads (pearl, mermaid, skull, coin, seahorse, and others) under transparent, flexible plastic. It also has geometric shapes on the back (circles, triangles, squares, and rectangles), each attached with a blue thread.

Figure 4 - Scenario 3, Walk on the beach

Source: Prepared by the author.

The last scene (Figure 5) is made up of a ribbon with clouds on it, from which 7 colors with different fasteners and colors come out on the left side: 1) red, snap fastener; 2) orange, carabiner fastener; 3) yellow, hitch fastener (bag); 4) green, zipper; 5) blue, button; 6) indigo, magnet fastener; 7) lilac, hitch buckle (backpack). On the right-hand side, there is a square with a 9-piece jigsaw puzzle showing a composition of blue sky, sun, clouds, sea, and boat. The sun and the boat are made of geometric figures. The pieces are attached to the felt with Velcro. The back of the book has no activities.

Figure 5 - Scenario 4, Rainbow

Source: Prepared by the author.

The motor skills present in the child's repertoire may be improved and enriched by handling the sensory book, considering that, throughout the pages, the child is encouraged to make movements for different purposes, using the characters and the environment in various ways. During the interaction with the book, motor coordination is observed, the character's ability to move around based on critical and logical thinking, the recognition of environmental aspects and the variability in the orientation of elements, the precision or difficulty in removing and repositioning pieces in other places, as well as reactions to the

tasks of fitting and moving the pieces present in the story. The sensory book also allows children to create their own stories, promoting the development of narratives based on the elements they choose to use. In addition, at the end of the book, the assessor is presented with different alternatives that form the shape of a rainbow. At this point, you can observe how the child fits the pieces together, their reaction to the levels of difficulty, and their response to the noise made by the pieces.

Discussion

Fonseca (2011) proposes that child assessment should be marked by integrating information in a humanized, precise, and interactive way, aiming to predict interventions by observing the cognitive apparatus already developed and paying attention to potential.

The sensory book is a flexible, playful resource for enriching the evaluation process for children, making it possible to assess skills and stimulate development. However, it is clear that mere exposure to isolated activities may not be enough to observe global and intersubjective aspects in the API, so promoting the playful space through play is a necessary activity. The use of a sensory book, which allows for play, is in line with Maria Montessori's contributions.

The Italian doctor and educator points out that play goes beyond simple entertainment and is a fundamental activity for children. She reiterates the importance of providing an environment that allows free choices to foster autonomy and the free exploration of individual interests, so that the use of this material should not be imposed. Her contributions highlight play as a crucial tool for children's overall development, providing valuable experiences that contribute to building skills throughout their growth (Montessori, 1987; 2010). In view of the above, we propose to broaden the discussion about cognition, psychomotricity, and socio-emotional skills in order to support the use of the book as a complementary source to interviews, observations, and psychological tests.

When handling the book, attention can be assessed globally, by observing, for example, whether the child remains fully attentive to the resource or looks for external elements, even when instructed to remain focused; or how they deal with the investigation of each resource, such as finishing an activity or switching between activities without concentrating on solving any of them. In addition, it is possible to observe the child's focus on pages with many stimuli, analyzing the duration of attention and selection modes. In this

context, aspects such as concentration capacity and time, fatigue, perception of environmental stimuli, distraction, and distractibility are assessed, elements that can help diagnose disorders such as attention deficit and/or hyperactivity disorder (ADHD) and autism spectrum disorder (ASD) (Dalgalarrondo, 2019).

Working memory can be analyzed by asking for a sequence of relatively complex tasks, observing what is retained and carried out, or by the cognitive resources used to solve a puzzle. Episodic memory can be assessed by asking the child to narrate an event related to the scenes in the book, an important celebration, something that happened in the last session, or to recount the activities carried out at the end of a session. Finally, procedural memory, because it is implicit, should be analyzed through motor skills and performance in recurring activities, such as cutting with scissors, tying shoes, conjugating verbs, or playing an instrument, considering that repetition and exposure to trial and error contribute to its consolidation.

Temporal and spatial orientation can be assessed based on the child's perception of the outside world, since in order to produce images and mental representations of themselves, they are anchored to concrete resources in their daily lives, such as natural light, meals and the departure or arrival of a guardian. In addition, children at this age are expected to be able to formulate answers about spaces, times, quantities, relationships, and transformations, such as front, back, next to, inside, outside, above, below, bigger, smaller, equal, together, apart, near, far, etc.

Based on the psychomotor development criteria, the assessment begins with the child's postural observation, investigating possible alterations in global motor skills that can be referred to specialized professionals. In handling the book, especially fine motor skills and the expected synchronization between intention and movement should be observed, including analyzing the emotional effects of the inability to carry out mental planning. To this end, the proposed questions encourage observation of the problem-solving process carried out by the child, including asking them to pause, reflect, listen to the guidance again, observe and imagine what needs to be done, and then carry out an action and, if possible, explain it to the evaluator. Thus, activities such as running, jumping, throwing, kicking, balancing, dancing, reaching, and climbing up and down stairs should be observed, but when handling the book, it is possible to observe actions such as holding, pinching, pressing, fitting, squeezing, dragging, joining, separating, rubbing, among others. It is also recommended to observe the alternation of limbs, laterality, voluntary and involuntary

movements, bizarre movements, rhythm of movement, hyperkinesis, hypokinesis, laterality, stereotypes, and perseverance, among others.

In the socio-emotional construct, the book contributes to the evaluation of the recovery of childhood experiences. The playful aspect provides the conditions for investigating social relationships; moreover, the characters in the finger puppets make it possible to personify subjects with whom the child relates. In this sense, in the social field, it is possible to investigate the ability to communicate feelings and affections, as well as interpersonal communication, which can be stimulated between the evaluator and the evaluator or between the different characters. Conflict management, problem-solving, and decision-making can also be investigated, since the scenarios present a variety of situations that can be interpreted as problems, such as hiding in the tent, being without an umbrella, not knowing how to swim, forgetting sunscreen, among others, considering that these actions depend on the ability to carry out activities together with other subjects or under their influence.

Final considerations

Using children's books as a resource in API is a way of tapping into the child's imagination and enabling hidden aspects to emerge from the interaction between the individual and the play. From this perspective, the sensory book is an instrument that can be inserted into children's environments, enabling other ways of investigating phenomena.

Given the complexity of child development, offering a range of fundamental and complementary sources for API is valuable. By using the sensory book as additional material, it is possible to investigate the child considering the greater number of crossings present in their constitution. Thus, the sensory book is a valuable resource in the evaluation, since it intertwines the playful with the sensory, making it possible to explore the multiple elements that surround the youngest child, from 3 to 5 years old.

In addition, it is a craft resource and can be used as a basis for producing and elaborating other materials. Finally, we would like to highlight the introductory and investigative nature of this study on the use of sensory books and recommend in-depth studies on each of the areas of development identified in the research: cognition, motor skills, communication, behavior, and emotions.

It is important to emphasize that the use of complementary resources not only serves

to confirm results, as one might believe, but also to observe factors that were overlooked during the formal evaluation process. Thus, using resources that favor the emergence of hidden subjective aspects is essential to give direction to the psychodiagnosis, focusing both on possible difficulties and the child's potential.

REFERENCES

ALVES, V. C. A Produção de Material Didático para a Estimulação de Bebês Surdos e Ouvintes: o Livro Sensorial. *In*: PRINCIPAIS DO SEMINÁRIO DE EDUCAÇÃO, 29., Cuiabá. **Anais** [...]. Porto Alegre: Sociedade Brasileira de Computação, 2021. p. 1254- 1265. Available at https://sol.sbc.org.br/index.php/semiedu/article/view/20251. Access: 18 Feb. 2024.

BIAGGIO, A. M. B. **Psicologia do desenvolvimento**. Petrópolis, RJ: Vozes, 2015.

BLOOM, B. S.; ENGELHART, M. D.; FURST, E. J.; HILL, W. H.; KRATHWOHL, D. R. **Taxonomia de objetivos educacionais**: domínio cognitivo. Porto Alegre: Globo, 1979.

BOROUJENI, M. K.; MAHMOUDIAN, S.; JAROLLAHI, F. The investigation of semantic memory deficit in chronic tinnitus: a behavioral report. **Brazilian Journal of Otorhinolaryngology**, [*S. l.*], v. 86, n. 2, p. 185-190, 2020, DOI: 10.1016/j.bjorl.2018.11.003.

BRAGA, J.L. **Atenção concentrada e atenção difusa**: elaboração de instrumentos de medida. 2007. Dissertação (Mestrado em Psicologia) - Universidade de Brasília, Brasília, 2007. Available at: http://www.realp.unb.br/jspui/bitstream/10482/3485/1/2007_JulianaLeaoBraga.PDF Access: 28 Feb. 2024.

BRANDÃO, I. **Livro Sensorial**: Ficha de Atividade – Como construir um livro sensorial. Direção-Geral da Educação. Brasília: Ministério da Educação - MEC, 2016. Available at https://plataforma.dge.mec.pt/pluginfile.php/342/mod_resource/content/2/Ficha-livro%20sensorial_ultima%20vers%C3%A3o.pdf. Access: 22 Mar. 2024.

BRASIL. Ministério da Educação. **Base Nacional Comum Curricular**. Brasília, 2018

CARREIRO, L. R. R.; MACHADO-PINHEIRO, W. Avaliação psicológica e atenção. *In:* BAPTISTA, M. N; MUNIZ, M; REPPOLD, C. T.; NUNES, C. H. S. S.; CARVALHO, L. F.; PRIMI, R. NORONHA, A. P. P.; SEABRA, A. G.; WECHSLER, S. M.; HUTZ, C. S.; PAQUALI, L. (Org.) **Compêndio de Avaliação Psicológica**. Petrópolis, RJ: Vozes, 2019.

COLLABORATIVE for Academic, Social, and Emotional Learning (CASEL). **CASEL'S SEL framework**: what are the core competence areas and where are they promoted?

CASEL, 2020. Available at: https://casel.org/casel-sel-framework-11-2020/?view=true. Access: 11 May 2023.

CONSELHO Federal de Psicologia (CFP). **Sistema de Avaliação de Testes Psicológicos** (SATEPSI). Available at https://satepsi.cfp.org.br/testesFavoraveis.cfm. Access: 27 Feb. 2021.

CONSELHO Federal de Psicologia (CFP). **Resolução do Exercício Profissional Nº 31/2022**. Brasília, 2022a. Available at: https://atosoficiais.com.br/cfp/resolucao-do-exercicio-profissional-n-31-2022-estabelece-diretrizes-para-a-realizacao-de-avaliacao-psicologica-no-exercicio-profissional-da-psicologa-e-do-psicologo-regulamenta-o-sistema-de-avaliacao-de-testes-psicologicos-satepsi-e-revoga-a-resolucao-cfp-no-09-2018?origin=instituicao&q=31/2022. Access: 05 Feb. 2023.

CONSELHO Federal de Psicologia (CFP). **Cartilha Avaliação Psicológica**. Brasília: CFP, 2022b.

DALGALARRONDO, P. **Psicologia e semiologia dos transtornos mentais.** Porto Alegre: Artmed, 2019. 3. ed.

DELVAL, J. **Introdução à prática do método clínico:** descobrindo o pensamento das crianças. Porto Alegre: Artmed, 2002.

EFROM, A. M.; FAINBERG, E.; KLEINER, Y.; SIGAL, A. M.; WOSCOBOINIK, P. A hora de jogo diagnóstica. *In:* OCAMPO, M. L. S. de *et al*. **O processo psicodiagnóstico e as técnicas projetivas.** São Paulo: Martins Fontes, 2011.

FONSECA, V. **Cognição, neuropsicologia e aprendizagem**: abordagem neuropsicológica e psicopedagógica. Petrópolis, RJ: Vozes, 2011. 5. ed.

FONSECA, V. **Neuropsicomotricidade**: ensaio sobre as relações entre corpo, motricidade, cérebro e mente. Rio de Janeiro: Wak Editora, 2018.

FRANCISCO, H. C. V. B. **O desenvolvimento de livros sensoriais como materiais de apoio para o ensino de habilidades matemáticas na educação infantil**: uma perspectiva inclusiva considerando discentes com deficiência visual. 2021. Dissertação (Mestrado em Educação em Ciências e Matemática) – Universidade Federal de São Carlos, Araras, 2021. Available at: https://repositorio.ufscar.br/handle/ufscar/15839. Access: 12 Feb. 2024.

GIACOMONI, C. H.; BANDEIRA, C. M. Entrevista com pais e demais fontes de informação. *In*: HUTZ, C; BANDEIRA, D; TRENTINI, C; KRUG, J. (org.). **Psicodiagnóstico**. Porto Alegre: Artmed, 2016. p. 370-378.

GOULART, I.B. **Piaget:** Experiências Básicas para utilização pelo professor. Petrópolis, RJ: Vozes, 2008.

GIRAUD, S.; TRUILLET, P.; GAILDRAT, V.; JOUFFRAIS, C. DIY" Prototyping of Teaching Materials for Visually Impaired Children: Usage and Satisfaction of Professionals. *In*: INTERNATIONAL CONFERENCE ON UNIVERSAL ACCESS IN HUMAN COMPUTER INTERACTION, 11., 2017, Vancouver, Canada**. Proceedings** [...]. Vancouver, Canada: [s. n.], 2017. Available at: https://hal.science/hal-01809355. Access: 22 Mar. 2024.

JACOB, E. M. Para além do campo da visão: materiais complementares para a educação de crianças cegas e de baixa visão. **Pensares em revista**, [*S. l.*], n. 11, p.121-138, 2017. Available at https://www.e-publicacoes.uerj.br/pensaresemrevista/article/view/33431. Access: 28 Mar. 2024.

KOCHHANN, R.; BEBER, B. C.; FERREIRA, P.; HOLZ, M. R.; RUSCHEL, R.; PÁDUA, A. C.; GODINHO, C. C.; IZQUIERDO, I.; CHAVES, M. L. F. The effect of intentionality on verbal memory assessment over days. **Dementia & Neuropsychologia**, [*S. l.*], v. 14, n. 4, p. 366- 371, 2020. DOI: 10.1590/1980-57642020dn14-040006.

LETRIA, A. Livro-objeto: A literatura como experiência sensorial. **FronteiraZ: Revista do Programa de Estudos Pós-Graduados em Literatura e Crítica Literária**, *[S. l.]*, n. 24, 2020. Available at: https://revistas.pucsp.br/index.php/fronteiraz/article/view/49390. Access: 12 Feb. 2024.

LINS, M. R. C; MUNIZ, M.; CARDOSO, L. M. **Avaliação psicológica infantil**. São Paulo: Hogrefe, 2018.

MANSUR-ALVES, M., MUNIZ, M.; ZANINI, D. S.; BAPTISTA, M. N. (org.). **Avaliação Psicológica na Infância e Adolescência**. Petrópolis, RJ: Vozes, 2021.

MARIN, A. H.; SILVA, C. T.; ANDRADE, E. I. D.; BERNARDES, J.; FAVA, C. V. Competência socioemocional: conceitos e instrumentos associados. **Rev. bras. ter. cogn.**, Rio de Janeiro, v. 13, n. 2, p. 92-103, dez. 2017. Available at: http://pepsic.bvsalud.org/scielo.php?script=sci_arttext & pid=S1808-56872017000200004&lng=pt&nrm=iso. Access: 14 Feb. 2024.

MONTESSORI, M. **Mente absorvente.** Rio de Janeiro: Nórdica, 1987.

MONTESSORI, M. *In*: RÖHRS, H. **Maria Montessori**. M. Recife: Fundação Joaquim Nabuco; Editora Massangana, 2010.

MOURÃO JR.; C. A.; FARIA, N. C. Memória **Psicologia: Reflexão e Crítica**, [*S. l.*], v. 28, n. 4 , p. 780-788, 2015. DOI: 10.1590/1678-7153.201528416.

OCHOA, M. F. **Livros sensoriais e sinestésicos**: experimentando a arte através dos cinco sentidos e da falta deles. 2015. Monografia (Graduação em Artes Visuais) – Universidade Federal do Rio Grande do Sul, Porto Alegre, 2015. Available at: https://lume.ufrgs.br/handle/10183/134691. Access: 23 Mar. 2024.

OLIVEIRA, R. D. **Socioemocional**: Um estudo sobre modos de manifestação e evolução histórica do uso do termo. Monografia (Graduação em Psicologia), Universidade Federal Fluminense, Rio das Ostras, 2023.

OLIVEIRA, R. D.; RIBEIRO, N.M.; MACEDO, L. X.; ROZA, J. A. G.; SILVA, L. H.; VICTORIA, M. S. O uso de narrativas literárias na prática de avaliação psicológica infantil. **DESidades: Temas em destaque**, [*S. l.*], n. 36, ano 11, maio/ago. 2023. Available at: https://desidades.ufrj.br/artigo/o-uso-de-narrativas-literarias-na-pratica-de- avaliacao-psicologica-infantil/. Access: 01 Apr. 2024.

PETTENON, N.; SIPLE, I. Z.; MANDLER, M. L.; COMIOTTO, T. Livro sensorial: uma proposta lúdica para o ensino de matemática na educação infantil. *In*: COLÓQUIO LUSO-BRASILEIRO DE EDUCAÇÃO, 3., 2017, Florianópolis, SC. **Anais** [...]. Florianópolis, SC, 17-18 out. 2017. Available at: https://www.academia.edu/91529030/Livro_sensorial_uma_proposta_l%C3%BAdica_para_o_ensino_de_matem%C3%A1tica_na_educa%C3%A7%C3%A3o_infantil. Access: 20 Feb. 2024.

PIAGET, J. **Seis estudos de psicologia**. Rio de Janeiro: Forense, 1999.

RAMOS, A. M. Aproximações ao livro-objeto: das potencialidades criativas às propostas de leitura. **Tropelas e Companhia**, 2017. Available at: https://livrosobjeto.files.wordpress.com/2017/04/miolo_livro-objeto-provas-5.pdf. Access: 13 Feb. 2024

REBELO, M.; SERRANO, J.; DUARTE-MENDES, P.; PAULO, R. MARINHO, D. A. Desenvolvimento Motor da Criança: relação entre Habilidades Motoras Globais, Habilidades Motoras Finas e Idade. **CPD**, Murcia , v. 20, n. 1, p. 75-85, Apr. 2020. Available at http://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S1578-84232020000100007&lng=es&nrm=iso. Access: 31 Mar. 2024.

REGATÃO, P. J.; LOUREIRO, C.; ANGELOZZI, M.; RITA, V. L. C.; ALMEIDA, A. M.; SAMAGAIO, M. C. Livros Sensoriais: Conexões entre criação artística e mediação educativa. **Convergências** - **Revista de Pesquisa e Educação Artística**, [*S. l.*], v. 14, n. 27, p. 13–26. 2021. Available at: https://repositorio.ipcb.pt/bitstream/10400.11/7598/1/Jos%c3%a9%20Pedro%2c%20e%20outros.pdf. Access: 31 Mar. 2024.

ROSCIOLI, D.C; TOMITCH, L. M. B. A influência da capacidade de memória de trabalho na geração de inferências e na compreensão leitora. **Alfa: Revista de Linguística**, São José do Rio Preto, v. 66, 2022. DOI: 10.1590/1981-5794-e13543.

ROZA, J. A. G.; SILVA, L. H.; MACEDO, L. X.; ALBUQUERQUE, N. G.; OLIVEIRA, R. D.; VICTORIA, M. S. Avaliação Psicológica Infantil (API). **Revista AMAzônica**, [*S. l.*], v. 15, n. 2, p. 343-382, 2022. Available at: https://periodicos.ufam.edu.br/index.php/amazonica/article/view/10265#:~:text=%C3%89%20um%20trabalho%20restrito%20a,a%20escola%20e%20a%20comunidade. Access: 31 Jan. 2024.

ROZA, J. A. G.; SILVA, L. H.; MACEDO, L. X.; ALBUQUERQUE, N. G.; OLIVEIRA, R. D.; VICTORIA, M. S. O processo de avaliação psicológica infantil: da identificação da demanda à entrevista devolutiva. *In*: VIANA, W. C.; SANTOS, D. M. A. **AMAZÔNIA**: Tópicos atuais em ambiente, saúde e educação. Guarujá: Editora Científica Digital, 2023. v. 3.

RUEDA, F. J. M.; NORONHA, A. P. P.; SISTO, F. F.; BARTHOLOMEU, D. Evidência de validade de construto para o teste de atenção sustentada. **Psicol. cienc. prof.**, Brasília , v. 28, n. 3, p. 494-505, 2008. Available at: http://www.scielo.br/scielo.php?script=sci_arttext & pid=S1414-98932008000300005 & lng=en&nrm=iso. Access: 05 Mar. 2024.

SACCHI, A. L.; METZNER, A. C. A percepção do pedagogo sobre o desenvolvimento psicomotor na educação infantil. **Revista Brasileira de Estudos Pedagógicos**, [*S. l.*], v. 100, n. 254, p. 96-110, 2019. DOI: 10.24109/2176-6681.rbep.100i254.3804.

SALLES, J. F.; HAASE, V. G.; MALLOY-DINIZ, L. F. (org.). **Neuropsicologia do desenvolvimento**: infância e adolescência. Porto Alegre: Artmed, 2016.

SILVA, T. C.; NAVES, A. R. C. X.; LINS, M. R. C. Estratégias lúdicas na avaliação infantil. *In*: LINS, M. R. C; MUNIZ, M.; CARDOSO, L. M. **Avaliação psicológica infantil.** São Paulo: Hogrefe, 2018. p. 179-202.

SILVA, M. A.; YATES, D. B.; OLIVEIRA, S. E. S. Avaliação Psicológica de crianças de até 6 anos. *In:* MANSUR-ALVES, M.; MUNIZ, M.; ZANINI, D. S.; BAPTISTA, M. N. (org.). **Avaliação Psicológica na Infância e Adolescência**. Petrópolis, RJ: Vozes, 2021.

SOUZA, D. H.; VELLUDO, N. B. Aspectos desenvolvimentais típicos de crianças e adolescentes. *In:* MANSUR-ALVES, M., MUNIZ, M.; ZANINI, D. S.; BAPTISTA, M. N. (org). **Avaliação Psicológica na Infância e Adolescência**. Petrópolis, RJ: Vozes, 2021.

VIGOTSKY, L.S. **A formação social da mente**: o desenvolvimento dos processos psicológicos superiores. 7. ed. São Paulo: Martins Fontes, 2007.

WAJMAN, J. R. Neuropsicologia Clínica: Notas Históricas, Fundamentos Teórico-Metodológicos e Diretrizes para Formação Profissional. **Psicologia: Teoria e Pesquisa**, [*S. l.*], v. 37, p. e37215, 2021. Available at: https://www.scielo.br/j/ptp/a/8HtkkNskDLKyBf4gNT99jrp/#. Access: 02 Apr. 2024.

CRediT Author Statement

- **Acknowledgements**: Not applicable.
- **Funding**: Not applicable.
- **Conflicts of interest**: There are no conflicts of interest.
- **Ethical approval**: Not required.
- **Availability of data and material**: Not applicable.
- **Author contributions**: Raquel Donegá: Conceptualization, Data management, Resources, Writing and Review; Mara Sizino da Victoria: Conceptualization, Methodology, Project management, Writing and Review; Nayara Mesquita: Conceptualization, Writing and Review.

Processing and editing: Editora Ibero-Americana de Educação.
Proofreading, formatting, standardization and translation.