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CIIPME

## CONICET investigators edited a book to stimulate visual impaired babies

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The idea arose from the absence of specific material for blind infants aged between 2 months to 3 years. The book contains different textures, sounds and smells with inscriptions in Braille and conventional writing.

Seven months ago, Alicia Oiberman and Elsa Bei - investigators at the CONICET -, Daniela Teisseire – coordinator at Number 33 Public School at the city of Buenos Aires- and Jorgelina Barres -psychologist at the same school- met to establish an interdisciplinary group to study infant's cognitive strategies for visual impairment infants. The idea of writing and designing a book was not the objective at first. However, from their research work, they created a device/a piece of material specially designed for babies who can not see.

There are some antecedents that led to this investigation such as the previous study/work of Alicia Oiberman, psychologist and independent investigator at the CONICET in the Interdisciplinary Research Centre for Psychology, Maths and Experimental "Dr. Horacio Rimoldi" (CIIPME, CONICET-USAL), who started her investigations on infant's intellectual processes more than ten years ago. As a result, considering Jean Piaget cognitive theory, Oiberman elaborated the Argentine Scale of Sensorimotor Intelligence for babies between 6-24 months old (E.A.I.S.).

"When we initiated this work with visual impairment babies and we observed them at school, our question was: which are the forms-different from sighted infants-in which babies acquire the proper level of cognitive development?" Oiberman comments. The research project between the investigators and the Child cabinet of the Number 33 Special Education School "Santa Cecilia" began in 2006.

"Our target was to adapt the EAIS to our population of infants and evaluate the cognitive strategies adopted by them" Teisseire, coordinator of the School Psycho-pedagogical cabinet, comments. This institution accepts blind children aged between 45 days to five who attend the nursery school and then primary school until the age of 14 or 16.

The team began to assess visually impairment babies aged between two months to three years old accompanied by their parents at the Gesell Dome of the CIIPME.

"The idea of the book emerged from parent's concern about the absence of specific material for babies. So, we thought about the design/creation of a stimulation book that comprises textures, sounds and smells with the inscription in Braille and the conventional writing. Consequently, *El osito y la rana* was created. With this piece of material we stipulate the right to play for visual impairment babies", Oiberman explains.

Barres remarks that the book facilitates the stimulation of the baby's different senses, including Braille.

## **Different ways to reach knowledge**

The research project aims to foster a twin-track approach. On the one hand, sensory motor stimulation from the nursery school and, on the other, the observation of cognitive strategies. Both approaches comprise a salutogenic model.

“Why salutogenic? Because our intention is to provide parents with feedback on their babies’ potential abilities due to the fact that in this experimental situation we concentrate on achievements instead of deficiencies”, Oiberman explains.

As for Bei, who is developing her PhD dissertation in the framework of this investigation, she remarks that parent’s role is vital for visual impairment babies’ stimulation. For this reason, at the end of every session at the CIIPME, parents are provided with a report on the evaluation of the scale where it indicates which stage the child completed and what type of stimulation is necessary.

“For instance, there was a girl with palpebral ptosis. In her case, we observed that her mother limited the daughter’s space to a small carpet due to her own fears. Consequently, this situation provoked a delay in walking for the girl. After that, with our work and assistance, her mother could recognize that her daughter managed to acquire the same cognitive developments as sighted children. Consequently, she participated in the girl’s stimulation and later on the baby developed the expected behaviour”, Bei comments.

The group remarks that through touch, smell and the ear, these children create mental images collecting information from objects. For instance, in the case of a table, they look for the edges of the table first because they are benchmarks for recognizing the shape and the edges. “Sighted people go from a global to a particular form”. Nevertheless, in the case of visual impairment babies, they go from a particular to a global way”, Barres added.

The kinds of tests they perform are based on five thematic axes: objects exploration, finding objects, orientation and spatial location, spatial tactile exploration and organizers and intermediaries. The book *El osito y la rana* allows the child to apply different sensory pathways to knowledge by reorganizing the information from sensory impressions.

“The baby who cannot see spends more time in the oral recognition of an object because, in this early stage, the part that surrounds the mouth is much more sensible than the hand. So they explore the object with their mouths in different ways: they do a linear route, they rotate it and use their hands for recognition”, Teisseire clarifies.

Another important issue is how they get oriented spatially. According to Teisseire, part of the early approach is to promote elements for the child to be inserted in that space and get to know it. Since that space does not come from a visual perspective, the child has to search for it and go around it. Similar to the relationship with objects, the space is set through the child’s body and vice versa.

## **About the CONICET**

The National Scientific and Technical Research Council (CONICET) is the main organization in charge of the promotion of Science and Technology in Argentina. The principal objective of this agency is to boost and implement scientific and technical activities in the country and in all different fields of knowledge.

This institution has its own researchers and professionals. Thus, CONICET offers different grants and finances projects, institutions and national research centres in all parts of the country.

CONICET comprises general areas so as to enable comprehensive development of scientific and technological research. Thus, it is in charge of all social interest and productive areas of

Argentina. Apart from that, this organization promotes different exchanges and stimulates national and international cooperative processes.

Areas of knowledge of CONICET:

- Agrarian, Engineering and Material Sciences.
- Biological and Health Sciences.
- Exact and Natural Sciences.
- Social Science and humanities.

Technology is present in all the areas and it promotes the implementation of knowledge.

Founded in 1958, CONICET is a national institution under the Ministry of Science, Technology and Productive Innovation of Argentina. Besides, this agency is considered as one of the principal assets for the national fund in terms of science and technology.

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