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Research Article

Neurocognitive Strategies for School Adaptation with Children Aged 7 to 12 with Intellectual Disability Level 1 and 2

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ABSTRACT

This article addressed the review of neurocognitive strategies for school adaptation in children with intellectual disabilities level 1 and 2 in the "Ángel Polibio Chávez" Educational Unit of the Bolívar Province, Guaranda canton, where the following problem was developed: How does the Application of neurocognitive strategies in school adaptation in children aged 7 to 12 with intellectual disabilities level 1 and 2?. The purpose of this research was to propose neurocognitive strategies to stimulate attention, concentration, perception, language, logical reasoning, verbal comprehension and long-term memory storage. This research had a mixed approach since qualitative and quantitative aspects were used, which were of great relevance at the time of presenting the research proposal, giving way to the application of instruments and techniques that served us for data collection, which consisted of sheets. observation, (students) surveys (parents and interviews (teachers, educational psychologist and psychologist). From the results obtained we confirm that neurocognitive strategies can be used in children with intellectual disabilities to improve cognitive memory. The results achieved show that these strategies are known by teachers, but not developed in the classroom.

Keywords: Neurocognitive strategies, intellectual disability, cognitive memory, school adaptation, information storage.

INTRODUCTION

The development of neurocognitive strategies in children with intellectual disabilities referred mainly to the difficulties, complications they have in the academic, social, and family environment, therefore, from the strategies their cognition was developed, understanding the way they interact in the classroom. (Mujica, 2015)

In this way, the purpose of the research was to contribute to the development of long-term brain plasticity and skills together with teachers through school adaptation, this allowed the implementation of strategies to strengthen the brain and mind with specific activities to stimulate and strengthen cognitive skills such as memory, attention, reasoning, perception . (Muriel et al., 2014)

Topics such as neurocognitive strategies, cognitive and rationing skills, benefits of applying these strategies, some strategies that can be applied within the classroom, intellectual disability, its types, causes of intellectual disability, limitations that people with intellectual disabilities have, intervention by the tutor teachers (Rivas, 2004) (Soledad, 2011)

The methodological design used was quasi-experimental because instruments such as observation cards, surveys and interviews were applied to a sample of three students with intellectual disabilities to their respective parents, five teachers from the educational unit and two educational psychologists from the DECE. (Rubiales, 2021)

These neurocognitive strategies were applied to children with intellectual disabilities where activities were carried out according to level 1 (mild) and 2 (moderate). (Ruiz, 2017)

Based on the results obtained, it was established that when implementing neurocognitive strategies, it benefited the student to better understand, remember information so that learning has a positive impact. This research contributed to improving the intervention and education of children with intellectual disabilities. (Lázaro, 2021)

MATERIALS AND METHODS

The research carried out with a field design was supported by observation cards, surveys and interviews where the population was made up of the total number of students from 7 to 12 years of Basic General Education with intellectual disabilities level 1 and 2 of second, third and seventh grade. The instruments for data collection were the observation sheet that was carried out on the students and the surveys aimed at the three parents of the children with intellectual disabilities and the interview carried out with three teachers and two educational psychologists, in addition to using programs such as the SPSS to obtain statistical analyses Ministry of Public Health (2022) .

The elaboration of a manual of neurocognitive strategies was carried out, it is structured with activities consciously or unconsciously, thus improving language comprehension, assimilation and memory storage in children with intellectual disabilities. (Oxford, 1990)

Peredo, (2016) , school adaptations were carried out with various activities focused on the needs of children with intellectual disabilities, taking into account the development of different cognitive and simple reasoning skills, to develop long-term benefits, where the general objective of the research was raised the I (Labrador, 2018) to implement neurocognitive strategies for school adaptation in children aged 7 to 12 years with level 1 and 2 intellectual disabilities at the Ángel Polibio Chaves Educational Unit, Guaranda canton, Bolívar province, 2023-2024.

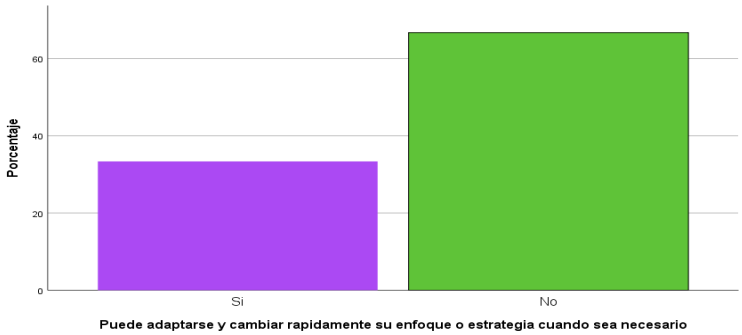
RESULTS

1. Understands and assimilates new concepts or skills

		Frequency	Percentage	Valid percentage	Cumulative percentage
Valid	**No**	3	100,0	100,0	100,0

Children with intellectual disabilities can understand and assimilate new concepts or skills, although it requires more time and specialized support compared to their peers. (DeWitt, 2020)

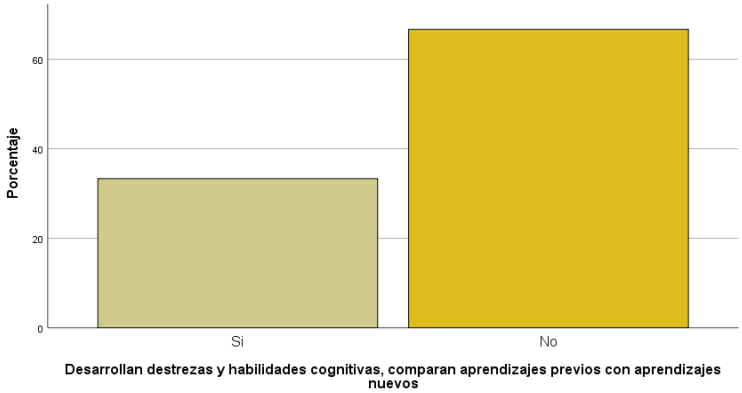
2. They can quickly adapt and change their approach or strategy when necessary.



		Frequency	Percentage	Valid percentage	Cumulative percentage
Valid	Yes	1	33,3	33,3	33,3
	No	2	66,7	66,7	100,0
	Total	3	100,0	100,0	

If they may have difficulty adapting and quickly changing their approach or strategy. This is because their understanding and processing of information may be more limited than that of their peers.

3. They develop cognitive skills and abilities, compare previous learning with new learning.



Developing cognitive skills and abilities can take more time and effort, so it is necessary to provide them with additional support and use neurocognitive strategies adapted to their needs. Meanwhile, there are children who do have difficulty developing skills and abilities (Kringelbach & Berridge, 2010) .

DISCUSSION

The implementation of neurocognitive strategies tailored to the individual needs of children with level 1 and 2 intellectual disabilities has proven to be instrumental in improving their learning, participation, and quality of life in the school environment. The results obtained reflect the prevailing need for teachers, parents and education experts to have a broad knowledge of these strategies, understanding when and how to apply them effectively (Muriel et al., 2014) .

It is crucial that school accommodations are designed with each child's unique abilities and abilities in mind, ensuring a personalized approach that fits their level of disability. (Zamora, 2017)

Detailed observation through flashcards and feedback from parents, teachers, and experts have revealed the importance of identifying children's specific issues, such as information retention, and addressing them appropriately. The gap in education in relation to the care of children with intellectual disabilities highlights the urgency of implementing effective strategies that promote their integral development.

The creation of a manual of neurocognitive strategies is presented as a valuable tool for teachers by facilitating the planning and application of personalized interventions that enhance the learning of these children (Editorial, 2019) .

This manual not only has a positive impact on the academic performance of children with intellectual disabilities, but also contributes to strengthening their motivation and confidence in the educational process, thus fostering an inclusive and enriching environment for their development (Dunlosky et al., 2011) .

CONCLUSIONS

It was possible to identify the various situations faced by children with intellectual disabilities and the need to apply neurocognitive strategies, since it contributes significantly in the educational field, demonstrating that they can improve learning, participation and quality of life of children (Pérez et al., 2022)

It is necessary that teachers, parents and experts have extensive knowledge about the strategies, know when and how to apply, so that the result favors children with intellectual disabilities in a positive way and they feel motivated by the teaching provided by their teacher. Early Childhood Learning and Knowledge Center, 2020)

When analyzing the results, it was possible to show that all children have different skills and abilities, therefore it is essential to make school adaptations that are according to their needs, taking into account the level of disability (Stephen Brian Sulke, 2022) .

With the observation sheet it can be seen that the children did not have a good retention of information provided by the teacher, in addition, they presented other difficulties, from the surveys to parents, interviews with teachers and experts, the gap that exists in the educational field was evidenced. (Powell & Royce, 1981)

The creation of a manual of neurocognitive strategies is a useful tool for teachers in the planning and application of them where they have a positive impact on the learning of children with intellectual disabilities (Lizano, 2019) .

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