

REVIEW

An educational strategy with a comprehensive approach to developing cognitive skills in preschool children

Estrategia educativa con enfoque integral para la formación de habilidades cognitivas en niños de preescolar

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ABSTRACT

Early childhood education is fundamental to a child's overall development. During this crucial period, which spans from birth to age six, the cognitive, emotional, social, and physical foundations are laid. The development of cognitive skills is particularly important, as these skills are necessary for future learning and the coherent development of critical thinking, problem solving, and creativity. The objective of the research was to analyse the main theories that underpin educational strategies for the formation of cognitive skills in preschool children with a comprehensive approach, their perspectives, as well as the challenges and counterarguments that arise in the educational, social and cultural spheres. Empirical (documentary analysis) and theoretical (analytical-synthetic, inductive-deductive, historical-logical analysis, systems approach) methods were used to conduct the research. The comprehensive educational strategy for the development of cognitive skills in preschool children is much more than a pedagogical model: it is a commitment to the comprehensive development of children and the construction of more just and equitable societies. Early childhood education is a crucial pillar for the social, cultural and economic development of any society, and a comprehensive approach is the path to more meaningful and transformative learning.

Keywords: Comprehensive Educational Strategy; Cognitive Skills Training; Preschool Children.

RESUMEN

La educación en la primera infancia es fundamental para el desarrollo integral del niño. En ese periodo crucial, que abarca desde el nacimiento hasta los seis años, se establecen las bases cognitivas, emocionales, sociales y físicas. La formación de habilidades cognitivas es especialmente relevante, ya que esas habilidades son necesarias para el aprendizaje futuro y el desarrollo coherente del pensamiento crítico, la resolución de problemas y la creatividad. El objetivo de la investigación fue analizar las principales teorías que sustentan las estrategias educativas para la formación de habilidades cognitivas en niños preescolares con enfoque integral, sus perspectivas, así como los desafíos y contraargumentos que surgen en el ámbito educativo, social y cultural. Para el desarrollo de la investigación se utilizaron métodos empíricos (análisis documental) y teóricos (analítico-sintético, inductivo-deductivo, análisis histórico-lógico, enfoque de sistema). La estrategia educativa con enfoque integral para la formación de habilidades cognitivas en niños de preescolar es mucho más que un modelo pedagógico: es un compromiso hacia el desarrollo integral de los niños y la construcción de sociedades más justas y equitativas. La educación infantil es un pilar crucial para el

desarrollo social, cultural y económico de cualquier sociedad, y un enfoque integral es el camino hacia un aprendizaje más significativo y transformador.

Palabras clave: Estrategia Educativa con Enfoque Integral; Formación de Habilidades Cognitivas; Niños De Preescolar.

INTRODUCTION

Early childhood education is fundamental to a child's overall development. The cognitive, emotional, social, and physical foundations are laid during this crucial period from birth to age six.

The development of cognitive skills is significant, as these skills are necessary for future learning and the coherent development of critical thinking, problem-solving, and creativity. Early childhood education is a topic of growing interest and relevance in contemporary society.

Since the 1960s, studies have accumulated evidence on the importance of the early years of life and their impact on children's cognitive, social, and emotional development. Educational strategies to foster these skills are diverse and evolve and are the subject of research and debate among educators, psychologists, pedagogues, and neuroscientists.

Cognitive development during childhood is a topic of great relevance, not only in the educational context but also in the social and cultural spheres. The preschool stage lays the foundations for future learning and the child's overall development. In this sense, the "Educational strategy with a comprehensive approach to the development of cognitive skills in preschool children" is presented as an educational model that seeks not only the acquisition of knowledge but also the development of skills that enable children to face the challenges of everyday life.

The present research aims to analyze the main theories that support educational strategies for developing cognitive skills in preschool children with a comprehensive approach, their perspectives, and the challenges and counterarguments that arise in the academic, social, and cultural spheres.

DEVELOPMENT

Historical context and theories of child development

Our understanding of child development has evolved considerably throughout history. Developing educational strategies for cognitive skills training in early childhood is not recent.

Educational approaches have evolved significantly since the early 20th century. At the end of the 20th century and the beginning of the 21st, with the advent of the information age and technologies, the need to reform traditional educational methods to adapt to society's new demands became evident.

Early childhood education has undergone various pedagogical trends that have influenced the development of educational programs worldwide, from the traditional approach, which prioritized memorization and repetition, to more contemporary methodologies that value experiential learning.

Philosophers such as Jean-Jacques Rousseau made important contributions to child education. They suggested that learning is a natural process that should be guided rather than imposed. Rousseau's work influenced educators such as Maria Montessori,⁽¹⁾ who developed a child-centered educational approach promoting autonomy and active exploration.

Psychologists and educators such as Jean Piaget and Lev Vygotsky have significantly influenced our understanding of how children learn. Piaget⁽²⁾ presented a constructivist theory that posits that children construct knowledge through interacting with their environment. According to Piaget⁽²⁾, cognitive development occurs in stages, and it is essential to adapt education to these stages to promote meaningful learning. Vygotsky⁽³⁾, on the other hand, emphasized the importance of the social and cultural environment in learning, introducing the concept of the "zone of proximal development."

These philosophies laid the foundation for strategies that address cognitive development as well as social and emotional areas. Based on their theories, several contemporary educational programs have sought to implement strategies that strengthen the construction of age-appropriate cognitive skills.

The Escuela Nueva (New School) and Constructivism advocated for holistic education, considering children's cognitive abilities and emotional, social, and physical aspects. This change sought to develop critical and creative citizens capable of adapting to a constantly evolving society.

The implementation of comprehensive educational strategies in Latin America has been variable. In many countries, efforts have been made to adapt these trends to specific contexts, considering each region's cultural, economic, and social particularities.⁽⁴⁾

Contemporary educational strategies

Currently, educational strategies for developing cognitive skills in preschoolers include practices such as play-based learning, early stimulation, and a focus on emotional intelligence. Some of these are analyzed below.

Play-Based Learning (PBL)

Play-based learning is a widely recognized methodology that promotes cognitive development through playful activities. Studies have shown that play is essential for physical development and for the development of critical thinking, creativity, and logic.

For example, using construction toys like blocks or puzzles encourages problem-solving and planning. Educators who implement ABJ promote an environment where children's curiosity and imagination can flourish, allowing them to explore mathematical and scientific concepts through hands-on activities.

According to studies by the American Academy of Pediatrics, play is essential for children's healthy development. It allows children to explore, experiment, and understand their environment in a natural way. Learning through play involves physical activities and role-playing games that promote problem-solving and critical-thinking skills. For example, children can introduce and practice basic math concepts, language skills, and teamwork when playing store, reinforcing their cognitive understanding through meaningful contexts.

Structured teaching programs

While play is essential, structured teaching also has its place in preschool education. Programs such as the HighScope model use a combination of planned and flexible activities that allow educators to guide children's learning. This approach helps children develop specific skills like letter and number recognition while fostering curiosity and self-efficacy.

Early stimulation

Early stimulation refers to educational interventions that maximize children's cognitive, emotional, and social development from the earliest years of life. This strategy includes activities that promote communication and language, fine and gross motor skills, and social development.

For example, reading stories to children from an early age has been shown to improve their language skills, attention span, and memory. Early stimulation programs promote a curriculum tailored to children's needs, often incorporating elements of local culture to make learning more relevant and foster educational inclusion and regional development.

Focus on emotional intelligence

In addition to traditional cognitive skills, contemporary education emphasizes emotional intelligence's importance in child development. Strategies that integrate social-emotional skills, such as emotion recognition and regulation, foster broader and more meaningful learning. A child who understands their own emotions and those of others will be better able to collaborate, resolve conflicts, and make informed decisions, impacting their cognitive skills.

Social interaction and collaborative learning

Vygotsky⁽³⁾ argued that learning is a social process, and in that sense, promoting peer interaction is crucial for cognitive development. Group activities, such as team projects, encourage dialogue, negotiation, and conflict resolution, which are essential skills for critical thinking. For example, when working on a collective art project, children develop motor skills and learn to express their ideas and consider the perspectives of others.

Encouraging curiosity and exploration or project-based learning

Curiosity is a driver of learning. Educational strategies that encourage children's natural curiosity can help develop cognitive skills. Providing opportunities for exploration and investigation allows children to ask questions, make hypotheses, and seek answers. Example: Implementing outdoor activities, such as explorations in a garden or forest, where they can investigate plants, insects, and the environment, promotes critical thinking and observation.

Multisensory strategies

Multisensory strategies, which involve using multiple senses to facilitate learning, have proven effective in preschool education. Incorporating visual, auditory, and kinesthetic elements into classroom activities can help children retain information more effectively. For example, letter games that use blocks, songs, and movements can facilitate learning the alphabet in a fun and memorable way.

When considering educational strategies for cognitive skill development, it is crucial to analyze the different perspectives that converge in this field. The following perspectives are analyzed:

The psychological perspective

From psychology, various theories address cognitive development. Several studies have shown that integrating diverse learning modalities, including visual, auditory, and kinesthetic approaches, produces more effective results in preschool education.

Howard Gardner's theory of multiple intelligences⁽⁵⁾, for example, proposes that each child can display abilities in different areas (linguistic, logical-mathematical, spatial, and musical, among others). Educational strategies that recognize this diversity and allow children to explore their strengths tend to be more successful.

The sociocultural perspective

From a sociocultural perspective, learning takes place in a social context. Vygotsky's theory of social mediation⁽³⁾ emphasizes that interaction with peers and adults has a profound impact on the development of thinking. Educational strategies that promote group work and collaboration not only develop cognitive skills but also create a sense of community and belonging among children.

Counterarguments and challenges

Despite many practical strategies and methods, several counterarguments and challenges exist. Some critics argue that an excessive focus on play and a lack of clear structures can lead to insufficient preparation for formal education. They say that play must be combined with direct instruction to ensure children acquire the cognitive skills to face future academic challenges.

Another challenge is socioeconomic context. Not all children have access to quality programs that promote these strategies. Inequality in access to preschool education underscores the need for coordinated interventions to ensure all children have equal opportunities to develop their cognitive skills.

This is a strength in Cuba, as all children have access to free educational institutions. Economic limitations lie in the Cuban state's ability to access material resources to continue providing free education to all on an equal footing.

Another concern among specialists and researchers is the standardization of education. Some critics argue that an excessive focus on standardized outcomes can limit creativity and individualized learning.

This concern is valid in the sense that each child has their own pace and style of learning. Therefore, implementing a balanced approach that combines standardized assessment with flexibility to adapt activities is essential.

Another counterargument is the lack of adequate training for educators. Many practical strategies require teachers to understand child development well and contemporary methodologies.

However, educators in preschool settings often do not receive sufficient training, limiting the implementation of these strategies. Investing in ongoing training for educators is crucial to ensuring that the most effective practices are used in the classroom.

Implications and significance

The development of cognitive skills through comprehensive educational strategies in preschool children has a profound impact on society. Investment in preschool education and mental skills training is essential for the development of society.

Well-prepared children tend to become more competent adults, which benefits the economy and social cohesion. Furthermore, in an increasingly globalized and technological world, fostering skills such as creativity, innovation, and critical thinking in childhood becomes imperative. Adapting to new circumstances and solving complex problems is crucial in today's world.

According to a study by Harvard University⁽⁵⁾, investments in early childhood education can generate significant economic returns for society. From a cultural perspective, educational strategies must be tailored to the needs of diverse communities. For example, in multicultural communities, strategies must incorporate and value diverse traditions and languages, promoting an inclusive environment that respects and celebrates diversity.

Educational institutions and public policy programs must recognize the importance of early childhood and commit to implementing quality programs that address diversity in learning. Collaboration between educators, parents, and the community is key to ensuring all children have access to an education that fosters their cognitive skills.

Cognitive skills development in preschool children is a critical aspect of child development that deserves attention, reflection, and action. Despite the challenges and counterarguments, focusing on inclusive, quality education can have a lasting impact on children, their families, and, by extension, society as a whole.

However, it is essential that educators continue their training and that educational policies focus on practices that value individualized and flexible learning. Finally, given that research and practice in education are constantly evolving, it is vital to continue exploring new strategies and approaches to ensure that we

meet the needs of future generations. Investing in cognitive skills training during early childhood is an ethical responsibility and a smart strategy for building more equitable and resilient societies.

The development of cognitive skills as a social problem in science

The development of cognitive skills in preschool children is a social issue in science because it is directly related to the overall development of future generations and, therefore, to society's social, cultural, educational, and scientific progress. This issue involves education, psychology, public policy, health, and social equity.

Foundation for future learning and development

- Cognitive skills, such as memory, attention, reasoning, and language, are essential for children to understand the world, solve problems, and adapt to new situations.⁽⁶⁾
- Cognitive development in early childhood lays the foundation for lifelong learning, problem-solving, and communication skills, which directly impact academic and personal success throughout life.^(6,7)

Social impact and equity

- Inequalities in access to adequate cognitive stimulation from early childhood education can perpetuate social, economic, and cultural gaps. If these differences are not addressed, children in vulnerable contexts will have fewer opportunities to reach their potential, affecting social mobility and equity.^(8,9)
- Early childhood care is a priority on the agendas of governments and institutions because poor cognitive development can translate into long-term social and economic problems, such as lower productivity and higher school dropout rates.⁽⁸⁾

Role of science and education

- Science is responsible for researching, proposing, and validating pedagogical strategies that enhance cognitive development from an early age.^(8,10)
- Lack of knowledge or underestimation of preschoolers' cognitive abilities and the lack of appropriate educational strategies limits their development and ability to understand natural and social phenomena.⁽¹⁰⁾
- Educators and scientists must work together to create learning environments that stimulate curiosity, critical thinking, and creativity. These are essential for forming citizens capable of facing the challenges of the 21st century.^(8,11)

Consequences of lack of cognitive development

- Problems in cognitive development can manifest in difficulties with reading and writing, logical reasoning, and emotional regulation, which affect not only school performance but also the child's social and emotional adaptation.⁽⁸⁾
- Insufficient cognitive skills can lead to emotional and social maladjustment, reinforcing the need for early and coordinated intervention between family, school, and society.^(8,11)

The comprehensive approach to preschool education

The comprehensive educational strategy focuses on developing fundamental cognitive skills for children's development. These skills include critical thinking, problem-solving, creativity, and effective communication. This approach considers children active participants in their learning process, promoting exploration, play, and social interaction. A comprehensive educational strategy for the development of cognitive skills in preschool children should include:

- Recreational activities and guided games: play is essential for cognitive development in preschool, promoting attention, memory, reasoning, and language through memory games, puzzles, role-playing, and strategy games.^(12,13,14,15)
- Multisensory stimulation incorporates activities involving the senses to improve perception and logical reasoning, such as manipulating objects, exploring textures, and sorting.⁽⁶⁾
- Reading and storytelling: encourage imagination, comprehension, and vocabulary, as well as improve attention and memory.⁽⁶⁾
- Structured routines and active participation: establish clear routines and promote active participation by children to develop anticipation and understanding of sequences.^(6,13)
- Integration of technology: Technology can be a valuable tool in preschool education. Educational apps and interactive games can engage children and complement traditional strategies. Educational websites or apps that promote cognitive skills by developmental area at that age can offer an innovative

way to learn. However, it is essential to balance the use of technology with the other elements mentioned and physical activity.

- The active role of the educator: Teachers should create stimulating learning environments, adapt activities to individual needs, and use differentiated strategies to support each child's comprehensive development.^(6,16)
- Family and community involvement: Train legal guardians to support cognitive development at home by reinforcing educational activities and games.^(14,16) The success of this approach also depends on the participation of the family and the community. Collaboration between the school, legal guardians, and the social environment is essential to creating an enriching learning environment.
- Continuous and personalized assessment: implement formative assessment methods to monitor progress and adjust educational strategies according to each child's needs.⁽¹⁶⁾ Assessment should be continuous and formative, considering not only academic results but also the child's learning process, motivation, and emotional well-being.

Integrating guided play, multisensory activities, reading, routines, technology, specialized teaching support, and family involvement forms an effective, comprehensive strategy for enhancing cognitive skills in preschool education. The curriculum should be diversified and cover various areas of knowledge: science, math, language, art, physical education, and meaningful learning. This allows children to relate theory to practice and develop skills in a real-world context.

Contemporary relevance of the comprehensive approach

In today's world, where the demands of the 21st century require new skills and abilities, the comprehensive approach becomes even more relevant. Critical and creative thinking skills are essential for adapting to rapid change and different realities in a globalized and technological world.

In addition, the COVID-19 pandemic has highlighted educational and social inequalities. While online education has advantages, it has also revealed limitations in access to resources and the need to innovate in teaching methodologies. Educational strategies that advocate a comprehensive approach can minimize these inequalities by focusing on developing skills that make children more resilient.

Arguments in favor of a comprehensive approach

One of the main arguments favoring a comprehensive educational strategy is that it is aligned with research on child development. With his theory of multiple intelligences, scholars such as Howard Gardner have shown that children have different learning styles and that it is crucial to address these differences to promote effective learning.

A recent UNESCO study⁽¹⁸⁾ indicates that comprehensive approaches to preschool education improve children's self-esteem and motivation, which is correlated with better academic performance later in life. In addition, children who participate in comprehensive educational programs have been found to have greater problem-solving and teamwork skills, which are valuable in adulthood.

On the other hand, the comprehensive approach promotes inclusion. It considers each child's particularities, creating an educational environment in which cultural, social, and learning differences are respected.

Counterarguments and responses

Despite the apparent benefits of a comprehensive approach, there are criticisms and concerns. Some educators argue that implementing these strategies can be costly and require more teacher preparation time.

In addition, some believe that a comprehensive approach can dilute the focus on fundamental curriculum content. However, these concerns can be addressed through adequate teacher training and technological resources that facilitate the implementation of active methodologies.

It is important to remember that education should not be just a process of transmitting knowledge but a journey that prepares children for life. While the development of cognitive skills remains a priority, it must be done in a way that fosters comprehensive development.

Implications and social significance

Implementing comprehensive educational strategies has repercussions in the academic sphere and in constructing more just and equitable societies. When children are comprehensively educated, they are prepared to pass exams and be active and committed citizens.

An approach that promotes empathy, collaboration, and critical thinking helps shape future leaders who can face global challenges. In a world increasingly faced with complex issues such as climate change, inequality, and social conflict, comprehensive education is an investment in a sustainable and peaceful future.

CONCLUSIONS

A comprehensive educational strategy for developing cognitive skills in preschool children is much more than a pedagogical model: it is a commitment to the holistic development of children and the construction of more just and equitable societies. This approach responds to the needs of the 21st century. It promotes not only the acquisition of knowledge but also the development of skills that are essential for facing future challenges. Governments and educational institutions must continue to invest in teacher training, diversified curricula, and support for families so that this approach is not just an aspiration but a reality in all contexts. Early childhood education is a crucial pillar for any society's social, cultural, and economic development, and a comprehensive approach is the path to more meaningful and transformative learning.

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CONFLICT OF INTEREST

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