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The Relevance of Incorporating Habits of Mind in to Preschool Curriculum: Promoting Higher-Order Thinking Skills in Early Childhood Education

L'Importance d'Intégrer des Habitudes Intellectuelles dans les Programmes Préscolaires :Promouvoir les Compétences de la Pensée Critique dans l'Éducation des enfants

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Abstract: The «Habits of Mind" is a concept that has recently been addressed in educational literature and which refers to a range of practical cognitive skills that a learner can employ in the face of problems in educational contexts. The present study aims to define the concept of the habits of the mind by tracking the most important studies on the subject of the Habits of Mind and their classification. It then addresses the importance of the habits of the mind in general, and provides models of some educational curricula that have adopted the habits of the mind. In addition, at the end of this paper, we will point out the role of the teacher in developing learners' mind habits.

***Keywords**: Habits of Mind; educational curricula; preparatory school child.*

1. INTRODUCTION

The early childhood stage is considered one of the most critical foundations for building an individual's personality, as it is a crucial developmental period that shapes the child's growth and has implications for their wellbeing across their lifespan. During this stage, children undergo changes that impact their cognitive, linguistic, sensory, motor, and social development.

As Al-Dulaij (2008) states, the experiences children have in early childhood largely determine the trajectory of their personality, having profound effects that

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persist into adulthood. At this formative stage, children are especially open to influences that can guide their realization of potential later in life.

The concept of Habits of Mind, which emerged in the 1980s, represents an important modern variable connected to children's cognitive performance across educational stages. Thus, with the turn of the 21st century, many studies have stressed the value of teaching, reinforcing, and discussing Habits of Mind with young students, ingraining these patterns of thinking and behavior within children's cognitive structures (Qatami, 2007). Habits of Mind denote the "individual's reliance on certain employed patterns of mental functioning, utilizing particular cognitive skills and processes when facing a novel experience or situation, aimed at superior performance and efficacy" (Goleman & Perkins, 1991-1995). Accordingly, contemporary educational approaches advocate for Habits of Mind as a major learning objective at all academic levels, from primary school through advanced education.

Cultivating positive Habits of Mind and constructive attitudes is an important research priority in modern pedagogy. While learners have an innate propensity to develop and expand their capabilities, providing supportive conditions to enable this growth is key. In today's information-rich climate, Habits of Mind are increasingly vital, equipping learners to effectively gather, process, and apply knowledge.

Educational practitioners and others invested in nurturing learners play a crucial role in furthering Habits of Mind and favorable learning orientations. They can assist children in transitioning from counterproductive mental states to more active, positive ones, furnishing them with the skills to navigate an information-filled world. By incorporating Habits of Mind and affirmative attitudes within school curricula, educators empower students in two key ways. They can help students become more competent learners and better primed for real-world success.

This study responds to calls from the Ministry of Education to advance students' thinking abilities, prioritize preparatory education, and ensure young children have opportunities to learn foundational academic and life skills. Additionally, Habits of Mind strongly align with the social constructivist foundations underlying the education system, shifting away from traditional techniques toward approaches centered on enriching student thought and enabling comprehensive learning across social, emotional, cognitive, and physical domains. Habits of Mind also support theories of multiple intelligences (Gardner, 2011), acknowledging diverse learner strengths.

As research has been established (e.g., Ayman Habib, 2006; Noha Samir, 2007; Reem Ahmed 2009; Nermin Mustafa Muhammad, 2004; Eman Saber Abdel Qader Al-Azab, 2015; Samah Bint Hussein, 2010), Habits of Mind have measurable beneficial impacts. These impacts have been noted across various educational settings.

This study makes several meaningful contributions: highlighting the importance of Habits of Mind and justifying their incorporation into school curricula; benefiting from previous experiences integrating Habits of Mind to promote sustainable positive effects; guiding instructors on training kindergarten teachers about Habits of Mind as purposeful patterns of thought and behavior for overcoming challenges; underscoring how habit formation requires consistent practice and reinforcement to become ingrained; and adding to the limited related research in Algeria.

The current study aims to:

- Enrich researchers' conceptual background regarding Habits of Mind as a strategy for enhancing student thought and thinking skills.
- Provide an additional investigation in the area of preparatory education in the Algerian context.
- Identify effective strategies for instilling positive Habits of Mind among young learners.

2. Habits of Mind Concept:

Several classifications have examined the Habits of Mind concept. This study relies primarily on the framework delineated by Costa and Kallick & Costa (as cited in Abdullah Nofal, 2008), given its grounding in extensive prior research compared to alternative models. Through synthesizing previous findings, these scientists identified 16 specific Habits of Mind that promote productive actions via whole-brain functioning.

Costa & Kallick's classification integrates key components of other conceptualizations, providing a highly credible and applicable structure for interpreting and implementing habitual thought patterns to benefit the individual. Their approach also centers strategic activities and mental habits to energize the brain and transform it into an active thinking tool.

Before reviewing the various definitions of Habits of Mind, it is useful to distinguish these cognitive routines from behavioral habits. As Abu Al-Maati (as cited in Samah Al-Jaafari, 2010) notes, "We must consider the term mental habit as one integrated and coherent entity, without fragmenting it into two components (the habit and the mind). Because human action is governed by intention, awareness, activation and thought. When mind and consciousness disengage from

an act, it becomes a rote behavioral habit lacking renewal and potential for correction or evolution" (p. 26).

According to Alexander (2007), as people invariably confront problems in different life domains, developing creative problem-solving abilities via Habits of Mindis essential, particularly starting in childhood. An individual's success hinges considerably on their creativity in tackling challenges.

Similarly, Alfaro (2004), defines Habits of Mind as "intelligent behaviors, whether positive or negative, that motivate the utilization of thoughtful practice" (p. 33).

Hoseman (as cited in Costa & Kallick, 2000) uses an analogy to illustrate that practicing and reinforcing strategic thinking habits enables innovating solutions to all types of problems, likening these mental patterns to a rope: "The more strands that are tightly interwoven, the more difficult it becomes to cut through the rope" (p. 44). This demonstrates the continuous, evolutionary process of knowledge application, experience, values and tendencies to yield productive outcomes.

Arthur Costa (2001) further captures the motivational element of Habits of Mind that propel individuals to respond intelligently to situations: "Having a "habit of mind" means tendencies toward behaving intelligently when confronted with problems. When humans wrestle with tough questions, complex challenges, ambivalent choices, or conflicting priorities, effective behaviors depend on drawing forth certain patterns of intellectual behavior" (p. 23). Thus, Habits of Mind represent skills requiring life-long nurturing through consistent training to manifest rational, thoughtful actions as needed. They are innate human capacities activated through regular reinforcement.

Boyes & Watts (2009) underscore how developing Habits of Mind assists learners in navigating both academic and broader ethical, moral and spiritual dilemmas throughout life by promoting active, curious and empowered mindsets over passive, inert orientations.

While many frameworks categorize Habits of Mind, including Marzano (1993), Paul et al. (2000), Daniels (1994), this analysis utilizes Costa & Kallick's (2000) conceptual model identifying 16 key habits:

- Persisting
- Thinking and communicating with clarity and precision
- Managing impulsivity
- Gathering data through all senses
- Listening with understanding and empathy
- Creating, imagining, innovating
- Thinking flexibly

- Responding with wonderment and awe
- Thinking about thinking (metacognition)
- Taking responsible risks
- Striving for accuracy
- Finding humor
- Questioning and posing problems
- Thinking interdependently
- Applying past knowledge to new situations
- Remaining open to continuous learning

2.1 Habits of Mind Subject of Study Based on Costa and Kallick (2008):

Several key Habits of Mind provide the framework for analysis, drawn from Costa and Kallick's (2008) model:

Several key Habits of Mind provide the framework for analysis, drawn from Costa and Kallick's (2008) seminal model:

Persistence refers to the determination to complete tasks and fulfill responsibilities even when difficult, along with the capacity to persevere through challenges. As an arduous, ongoing process requiring tremendous effort, persistence enables individuals to reach heights, gain wider perspectives, and derive a sense of strength and control. Teaching persistence involves imparting strategies for addressing obstacles adaptively rather than rigidly finding single solutions. Persistence thus denotes continuing to attempt new approaches when problems arise without disengaging prematurely due to frustration or boredom.

Questioning and Posing Problems is a hallmark of human cognition and problem-solving orientation. By asking insightful questions to uncover unknown information based on existing knowledge, effective questioners broaden and fill gaps in understanding. Skillful questioning facilitates gathering necessary data to resolve uncertainties.

Gathering Data Through All Senses involves concurrently analyzing visible, audible, tactile, tasted and scented input to construct meaningful mental representations. Learners with this habit approach their surroundings as an open cognitive field, without filtering any perceptual data, so they can determine which sensory channels offer optimal information for given mental processes.

Hence, nurturing sensory capabilities and integrating multi-sensory data contributes to transforming perceptions into symbolic knowledge structures.

The value of this habit appears embodied by an individual attentively smelling a rose, utilizing their full sensory repertoire.

As Faten Ibrahim et al. (2011, p. 10) elucidate: "God gave us diverse senses to

learn abundantly from them, moving abstract concepts into tangible realities we perceive through our sensory faculties and minds. Senses provide an educational conduit helping us effectively apply learning. Because senses enable foundational knowledge, guide knowledge construction, and strengthen memory, learning activities should maximally stimulate the senses

3. Review of Educational Curricula Adopting Habits of Mind

Several instructional frameworks and national curricula have embraced habits of mind principles:

3.1 Project 2061 - Science for All Americans –

Derived from the American Association for the Advancement of Science (AAAS), founded in 1848, Project 2061 outlines science, mathematics and technology learning recommendations from kindergarten through high school required for scientific literacy.

Within the multifaceted definition of scientific literacy, Habits of Mind constitutes one key dimension encompassing thought patterns vital for science. Project 2061 specifies several productive habits, including: perseverance, curiosity, integrity, fairness, openness to new concepts, informed skepticism, imagination, numeracy, estimation, observation, communication and critical analysis (AAAS, 1995).

3.2 British National Curriculum:

The British National Curriculum endorses Habits of Mind, prioritizing: curiosity, respect for evidence, tolerance, perseverance, mental openness, environmental awareness, and cooperation.

3.3. New Jersey curriculum

This state curriculum delineates six overarching Habits of Mind goals for students: employing critical thinking, decision-making, problem-solving; demonstrating self-management; acquiring career planning aptitude; seeking health knowledge and skills for wellbeing and disease prevention; learning about substances' detrimental impacts; and cultivating personal and collective health (Qatami & Amour, 2005; Al-Harthy, 2002).

4. The importance of developing habits of mind:

Muhammad Bakr Nofal (2010, p. 65) indicates that mental habits call for commitment to developing a number of cognitive strategies that he called mental habits. Focusing on its development and turning it into a repetitive behavior and a

consistent approach in the life of the learner. From this point of view came the call of modern education to be mental habits such as the habits of eating, drinking and sleeping.

As indicated by Laila Hussam El-Din (2008: 2) that the importance of habits of the mind is due to the fact that it helps to develop mental skills and learn any experience that learners need in the future, and then it leads to a better understanding of the world around them, and helps to organize the learning process efficiently with the situations of daily life in the light of choosing the appropriate procedure for the educational situation that the learner is going through, and encouraging the learners to have the will to use mental abilities and skills in all educational and life activities so that the learner's thinking becomes a habit that does not get tired of practicing it, and acquiring the ability To mix critical and creative thinking skills and self-regulation to reach the best performance.

Click and Zmuda (2017) confirm that the need to improve and develop Habits of Mind helps guide students' capabilities and expand their scope in order to enhance the ability to deal with difficult problems to solve, as when the learner faces a state of uncertainty in any issue, he must take into account the thinking processes their own, such as using Habits of Mind such as thinking flexibly and asking questions and other mental habits that help them in that. It is also suitable for all components of the curricula, and it can be translated into behavioral goals and actions easily. It can also be applied at all age levels, as well as it can be observed, named and modeled (Iman Al-Lukmani 201218).

One of the most important educational goals referred to in the Education Directive Law 04/2008 is the development of the learner's thinking and openness to the outside world. This is why the designed educational curricula that are offered in schools seek to develop the learner's thinking by relying on modern strategies and teaching methods that move away from memorization and indoctrination, but rather invite to the realization of the mind, research and discovery. In this regard, Abu Salem (2019) indicates that it is necessary for education and its curricula to keep pace with the rapid scientific development by developing its curricula to allow the employment of the mental processes of learners so that they become more able to face life problems.

Both Al-Maqed (2017) and Al-Khafaf (2017) indicate that habits of the mind can be developed through activities or training programs or by integrating them into the curricula by developing units of study in light of them. This is because of its importance in developing the mental skills of the learner, as the owners of the trend that aims to teach thinking through the school curricula concluded that the

habits of the mind contribute to this and help the learner to develop creative thinking and thus reach the best performance

5. The Teacher's Role in Developing Habits of Mind and Associated Strategies:

Qatami and Thabet (2005) outline steps for fostering student Habits of Mind:

- Establishing educational outcomes with explicit target skills and behaviors
- Choosing lesson content that prompts questions and ideas
- Determining cognitive processes/skills for students to exercise
- Clarifying Habits of Mind to develop for achieving goals
- Evaluating actions and statements indicating target habits
- Defining practical applications and asking questions to enable students to demonstrate Habits of Mind through tangible products

5.1. Strategies for developing habits of mind:

Qatami and Costa and Kallick have proposed strategies to instill Habits of Mind, since direct repetitive practice is often insufficient. Instead, constructive experiences allow students to implicitly strengthen Habits of Mind. Potential techniques include:

1. Using stories showcasing models of reputable figures demonstrating productive Habits of Mind through their lives, which convey values and ideas more impact fully (Bloomer, 2022). For instance, the Prophet Muhammad's biography contains many thinking-centered examples, as Islam emphasizes reason, with the word "reason" mentioned 50 times in the Quran. His inaugural command to "read" epitomized exercising Habits of Mind.
2. Aligning with students' personal attitudes and goals boosts motivation compared to imposed aims (Amour, 2005).
3. Posing intriguing problems and puzzles supplies intrinsic motivation to attempt solving them.

6. The importance of integrating habits of mind into educational curricula:

Habits of Mind have attracted considerable scholarly attention, as evidenced by research on optimal thinking patterns and applications in education (Wolfe & Brandt, 1999; Lowery, 1998; Laurie et al., 1998). Numerous studies (Al-Mabadn, 2022) advocate helping students develop productive Habits of Mind and setting

associated learning goals. Various frameworks have also emerged for applying Habits of Mind theory to intentionally cultivate students' cognition.

Carefully considering what, how and why students learn facilitates meaningful, perceptive and culturally relevant education. To fulfill learning objectives, Habits of Mind integration within curriculum outputs is critical. As Kallick and Costa (2009) discuss, instructional decisions around curriculum, teaching and assessment address four interrelated learning dimensions: activities, content, processes and Habits of Mind.

Costa's interpretations (part 2, 2003) underscore the integral link between Habits of Mind and skilled thinking, highlighted by Abu Riyash (2017, p21): "Habits provide the fuel for strategic thought. Competencies like problem-solving, decision-making, assumption analysis and evaluating source credibility rely on capacities to manage impulses, empathize, research, persevere and apply other habitual cognitive patterns that enable practicing sophisticated thinking"

Numerous scholarly investigations provide compelling evidence for the profound educational benefits of Habits of Mind in empowering learners. These findings lend support to the formal and systematic integration of constructive thinking dispositions throughout instructional design and implementation processes.

4. CONCLUSION

Educational systems seek to equip learners with strategies enhancing thinking abilities to navigate a rapidly evolving technological landscape. Thus, integrating supportive pedagogies like Habits of Mind into academic content holds immense value for realizing curriculum objectives that align with societal demands. Considerable research demonstrates how purposefully cultivating habitual cognitive patterns fosters students' academic performance, critical thought, and motivational outlooks.

Given the heightened susceptibility of young children to developmental influences, actively fostering positive Habits of Mind in early childhood is especially impactful for building life-long competencies. As foundational life stages, early schooling presents optimal readiness for absorptive learning across domains.

Based on these conclusions, the following recommendations are proposed:

Prioritizing preschool as an essential stage for establishing constructive mental habits to facilitate growth and learning.

Incorporating activities reinforcing Habits of Mind into school curricula.

Encouraging teachers to engineer classroom climates nurturing student cognition and positive academic mindsets.

Training instructors in contemporary learning strategies centered on Habits of Mind to strengthen children's thinking capacities.

Ensuring academic content stimulates and enriches student thought processes.

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