

Mime for the development of kinesthetic intelligence

El mimo para el desarrollo de la inteligencia kinestésica

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Abstract

Developing kinesthetic intelligence is essential in early childhood because it ensures that children explore their environment through movement and the handling of objects. This study aims to analyze mime and its relevance for developing kinesthetic intelligence in children between the ages of 4 and 5. The study was conducted using a qualitative approach and the hermeneutic phenomenological method. Semi-structured interviews and an observation sheet were used to collect data. The sample consisted of 30 students and one teacher from the "Ignacio Alvarado" Educational Unit in the Province of Santa Elena, Ecuador. The ATLAS.ti 24 program was used for data analysis, which facilitated the pertinent analysis of each instrument used in this research. The findings indicate that implementing mime as an educational technique contributes significantly to the development of kinesthetic intelligence because it promotes children's active cooperation in educational activities and improves various motor skills essential for their overall development. It is concluded that mime favors the development of kinesthetic intelligence during social and cultural interactions, which is a key element in acquiring motor skills in children in early childhood education.

Keywords:

Early childhood education; Kinesthetic intelligence; Multiple intelligences; Mime; Early childhood; Teaching-learning process

Resumen

Desarrollar la inteligencia kinestésica es imprescindible en la primera infancia debido a que garantiza que los infantes estudien su medio por medio de movimientos y el manejo de objetos. Este trabajo tiene como objetivo analizar al mimo y su relevancia para desarrollar la inteligencia kinestésica en niños de edades comprendidas entre los 4 y 5 años. El estudio se desarrolló utilizando un enfoque cualitativo y el método fenomenológico hermenéutico. Para recolectar información, se emplearon entrevistas semiestructuradas y se utilizó una ficha de observación; la población quedó compuesta por 30 estudiantes y una maestra de la Unidad Educativa "Ignacio Alvarado" de la Provincia de Santa Elena, Ecuador. Para el estudio de datos, se manejó el programa ATLAS.ti 24 que facilitó establecer el análisis pertinente de cada instrumento que se aplicó para esta investigación. Los hallazgos indican que implementar el mimo como técnica educativa contribuye significativamente al perfeccionamiento de la inteligencia kinestésica debido a que promueve la cooperación activa de los niños en las actividades docentes y mejora diversas habilidades motrices esenciales para su desarrollo integral. Se concluye que el mimo favorece el desarrollo de la inteligencia kinestésica durante la interacción social y cultural, lo cual constituye un elemento clave para adquirir habilidades motrices en los niños de la educación inicial.

Palabras clave:

Educación inicial; Inteligencia kinestésica; Intelligencias múltiples; Mimo; Primera infancia; Proceso enseñanza-aprendizaje

INTRODUCTION

The use of the theory of Multiple Intelligences is currently a trend as an alternative to traditional teaching; this theory is based on stereotypical methods and considers learning as a homogeneous objective for all people (Ortega et al., 2017; Arnold and Fonseca, 2004). Educational institutions are oriented toward the development of these intelligences to foster meaningful learning and diverse skills, which contributes to the formation of creative and participatory citizens in societies that increasingly face uncertainty (Hariono et al., 2024; Ghaznavi et al., 2021; Shearer, 2018; Díaz-Posada et al., 2017; Castillo et al., 2016).

Multiple Intelligences represent a challenge for both members of the educational community and society at large. This is due to the need to establish a school that focuses on each individual, comprehensively assessing their abilities and tendencies, and viewing people as a set of skills rather than as having a single way of solving problems. Therefore, educational institutions and, especially, teachers, need to understand their students' abilities and interests; recognize their strengths and weaknesses, and strengthen the latter through their personal interests (Ubago-Jiménez et al., 2018).

One of the multiple intelligences is kinesthetic intelligence, which is essential in early childhood, as it contributes to children's development by allowing them to explore their environment through movement and the manipulation of objects, utilizing their fine and gross motor skills. During this vital educational stage, higher cognitive processes are generated that facilitate future academic and personal achievements. Furthermore, between the ages of 4 and 5, it is necessary to encourage learning through practical activities that strengthen physical movements based on direct experience.

Veljko and Ivanovi (2016) conceive kinesthetic intelligence as demonstrating precise control of body movement, the expression of emotions without words, dance, and delicate coordination between the hands and eyes. The authors of this study subscribe to this definition because it is most closely related to mime and contributes to its development.

By stimulating children's kinesthetic component, their interest in physical activities

increases and difficulties in their motor development decrease, which also reduces coordination and behavioral problems (Tomoliyus and Hariono, 2023; Souza de Carvalho et al., 2023). Therefore, teachers should consider mime as an innovative technique that promotes the active participation of children's bodies in the expression and transmission of emotions and notions in group contexts.

However, difficulties in children's motor development are currently being identified, where their motor behaviors do not always follow the usual patterns of physical actions in the developmental process of their motor responses. In this regard, it is revealed that, during participation in physical activities, children often sit back, are shy, or have difficulty performing motor tasks ranging from general to specific coordination. These limitations negatively impact their physical development and quality of life, requiring teachers to plan classes that strengthen kinesthetic intelligence.

Therefore, the following question guides this research: What contribution does mime have as a teaching tool in the treatment of kinesthetic intelligence in children between 4 and 5 years of age to facilitate the recognition and use of their cognitive abilities? The objective is to analyze mime and its relevance to developing kinesthetic intelligence. The study is pertinent because it focuses on children's needs, especially in the development of motor skills, in accordance with the current demands of the Ecuadorian educational system. In particular, it meets the aspiration of ensuring an adequate structure of the body schema in children, as established by the current Early Childhood Education Curriculum, specifically in the expression and communication axis of sublevel 2.

METHOD

This study was conducted using a qualitative approach. Instruments were applied to a teacher and students in Initial Sublevel 2, which made it possible to understand and analyze the aforementioned problems. A hermeneutic phenomenological design was used to investigate and understand human practices and the meanings that subjects assign to them. It also focused on the interpretation and description of the main characteristics based on lived experiences. This approach generated an

adequate perspective for investigating the ethical, relational, and practical characteristics of daily teaching related to the field of early childhood education connected to mime and kinesthetic intelligence. In addition, the bibliographic method was used to compile scientific literature on both topics.

The inductive method was also used to observe facts and phenomena, while also allowing for the formulation of conclusions based on information corresponding to the study variables, "kinesthetic intelligence" and "mime." The work was based on the collection of information directly from the environment; the variables were not altered, and the research was conducted in the context where the study phenomenon occurred, maintaining direct contact with the children and the teacher who were part of the sample.

The research was descriptive, detailing phenomena as they occurred, without making secondary comments. In this regard, previous studies were investigated and explained to gain theoretical and methodological knowledge from reliable sources that supported the research. The selected population included 30 Early Childhood Education students (Sublevel 2) from the "Ignacio Alvarado" Educational Unit in the province of Santa Elena, Ecuador. The sample was probabilistic and consisted of 12 children between the ages of 4 and 5, along with the group teacher. To facilitate access to participants, the researcher opted for convenience sampling, selecting a limited group of students from the studied population.

The techniques employed described the events related to the categories investigated.

During the research, observation and interviews were used; for the former, an observation form was prepared, while for the latter, a questionnaire was used. The observation form provided information on experiences, activities, and relationships in the educational context. The semi-structured interview followed the approach of Díaz-Bravo et al. (2013), which allowed the interviewer to make appropriate decisions based on the interview's development. The questionnaire was administered to the sample teacher, who responded and spontaneously gave her opinions about mime and kinesthetic intelligence, thus facilitating data collection.

The following indicators were considered for the interpretation of the observation results: use of stage spaces to communicate actions and situations, ability to express gestures and facial expressions, and the ability to use the body as a means of emotional expression. Additionally, the coordination of arm and leg movements was assessed, as well as balance, postural control, gross and fine motor skills, effectiveness of communication during the mime performance, and the level of involvement in bodily activities.

When qualitatively analyzing the results obtained through the aforementioned techniques and instruments, the Atlas.ti program was used, organizing the information using semantic networks and word clouds, which guaranteed the accessibility of the data collected for the research. Based on the content analysis, which included the theoretical framework of the categories (see Table 1); subcategories were established to provide transparent and accurate information on the studied variables.

Table 1. Categories and subcategories

Categories	Subcategories	Descriptives
Mime	Conceptualization	Technique, facial expression, gestural expression, communication, body movement, emotions
	Characteristics	Gestures, characters, language, costumes, makeup
	Benefits	Emotions, creativity, spontaneity, empathy, motor development
	In education	Stimulates learning, socialization, physical skills, creativity, motivation, entertaining
	In early childhood	Expressing emotions, communication skills, movement, body awareness, body expressiveness
Kinesthetic intelligence	Conceptualization	Ability, skill development, coordination, balance, strength, speed, flexibility, body control, problem solving
	Importance	Emotions, Interaction, physical and cognitive skills, body expression, body awareness
	Strategies	Charades, awareness, physical activities, recreation, exploration of new places
	In Early Childhood Education	Relay games, dancing, body development, learning, balance, coordination, fine and gross motor skills

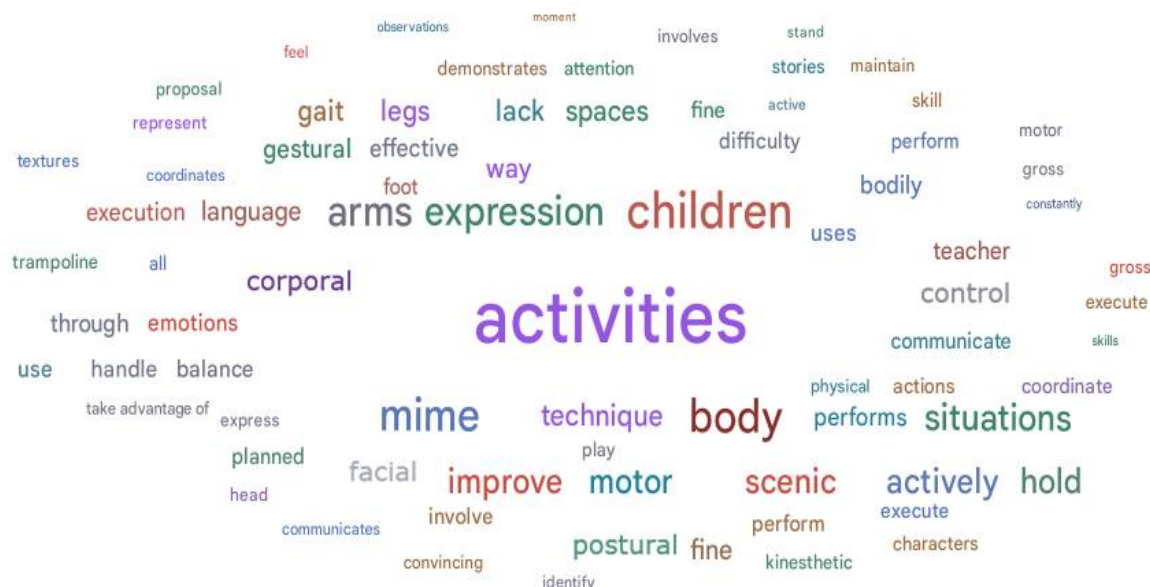
Note: The table shows the correspondence between categories, subcategories and descriptors.

RESULTS

The word cloud (see Figure 1) shows the two variables of this research, focusing on mime and kinesthetic intelligence. To achieve these results, an observation sheet was used, which included 10 indicators to determine the conclusions.

This instrument was administered to the selected sample during their academic sessions, where they were observed in physical activities preplanned by the teacher based on the development of the teaching-learning process.

Figure 1. Word cloud

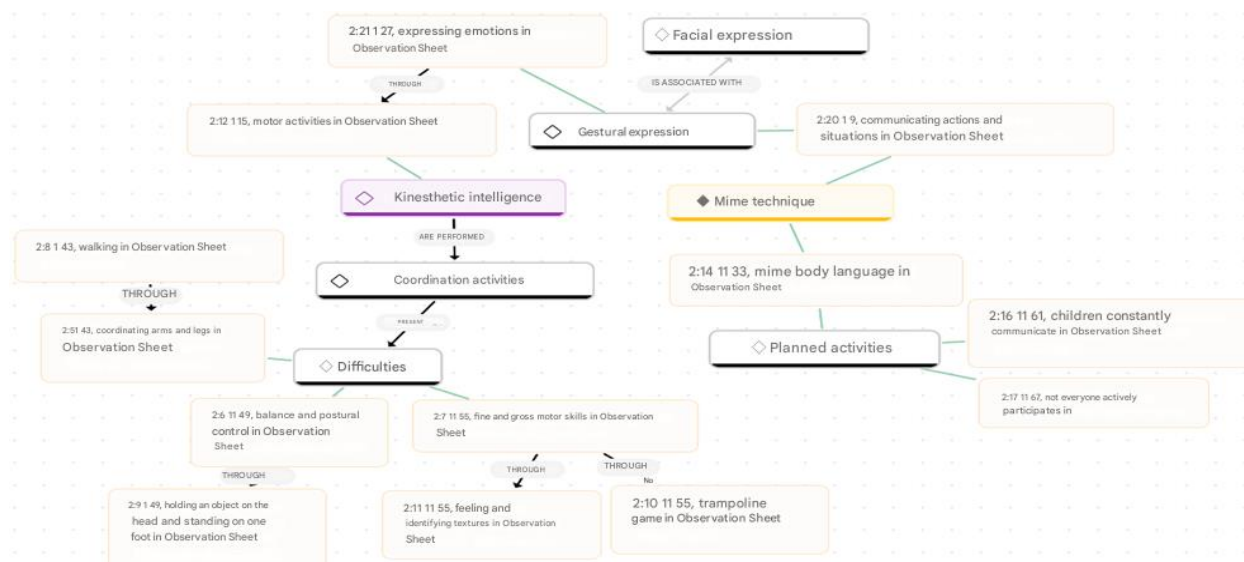


Note: The figure illustrates the relevance of the words in the connection between the study variables.

The observation sheet confirmed that the teacher plays the primary role in guiding the planned actions focused on developing bodily skills in the classroom. Figure 1 identifies the most frequently used terms, which include: activities, children, mime, expression, body, technique, and motor skills. The word "activities" frequently appears in the word cloud, as it refers to mime as a transformative skill that facilitates children's development of motor skills through the use of the body as a means of expression, thus seeking an objective impact on developing kinesthetic intelligence.

The semantic network (Figure 2) interprets the data obtained from the observation sheet. The difficulties the children face when performing coordination actions related to the development of kinesthetic intelligence were identified. It was confirmed that some students have difficulty coordinating their arms and legs, as well as difficulties with balance and postural control, and challenges with fine and gross motor skills when attempting to execute the diverse actions proposed by the teacher.

Figure 2. Semantic network



Note: The figure shows the interpretation of the compiled data.

The word cloud also shows that the codes for the categories and subcategories are clearly visible; they correspond to the most frequently used terms. The explanation of the data emphasizes that kinesthetic intelligence is strengthened through the actions the teacher performs with the children. This stage is considered crucial for the beginning of motor and physical development in children, and mime becomes a technique that enhances kinesthetic intelligence. For this reason, teachers need a clear and precise understanding of the aforementioned categories, as this leads to positive results in developing children's kinesthetic intelligence. Furthermore, the practice of mime contributes to the development of new skills, such as communication, language, and identifying emotions.

emotions and foster interaction among children.

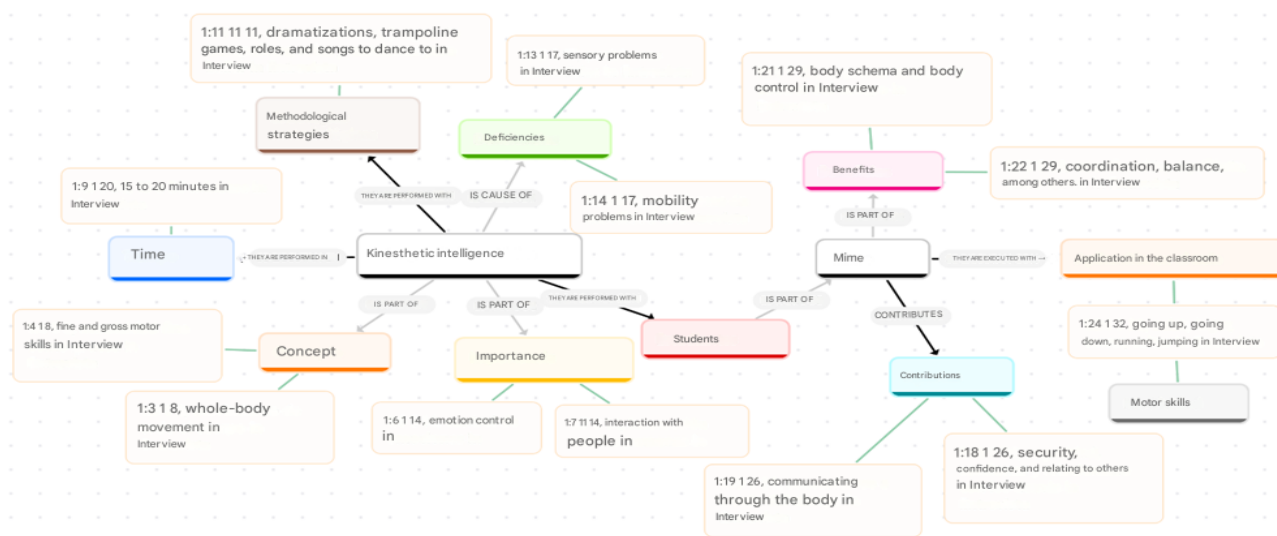
Although many authors agree that mime effectively contributes to the development of kinesthetic intelligence in children in early childhood education, the study reveals that this technique offers several benefits, including improved body control, better coordination and balance, and the development of a solid body image. Furthermore, the teacher mentioned that mime significantly contributes to children's security and confidence, which facilitates their relationships with

those around them, communicating through their bodies.

The researcher considers it pertinent to point out that the methodological strategies employed, resulting from kinesthetic intelligence, strengthen sensory and mobility difficulties. Based on this, she highlights the use of fundamental actions for bodily development, such as dramatizations, songs, and role-playing games.

The interviewee argues that she typically dedicates 10 to 15 minutes to motor activities through exercises that involve climbing, descending, running, and jumping to stimulate children's motor skills. Therefore, the results of the semantic network indicate the importance of reflecting on and using mime techniques as a practical activity in the teaching-learning process to integrate and reinforce children's bodily skills.

Figure 4. Semantic network



Source: Prepared by the authors based on the results of the Ti.24 Atlas

Note: The figure illustrates the semantic network obtained through the interview.

Analysis of the semantic network of categories

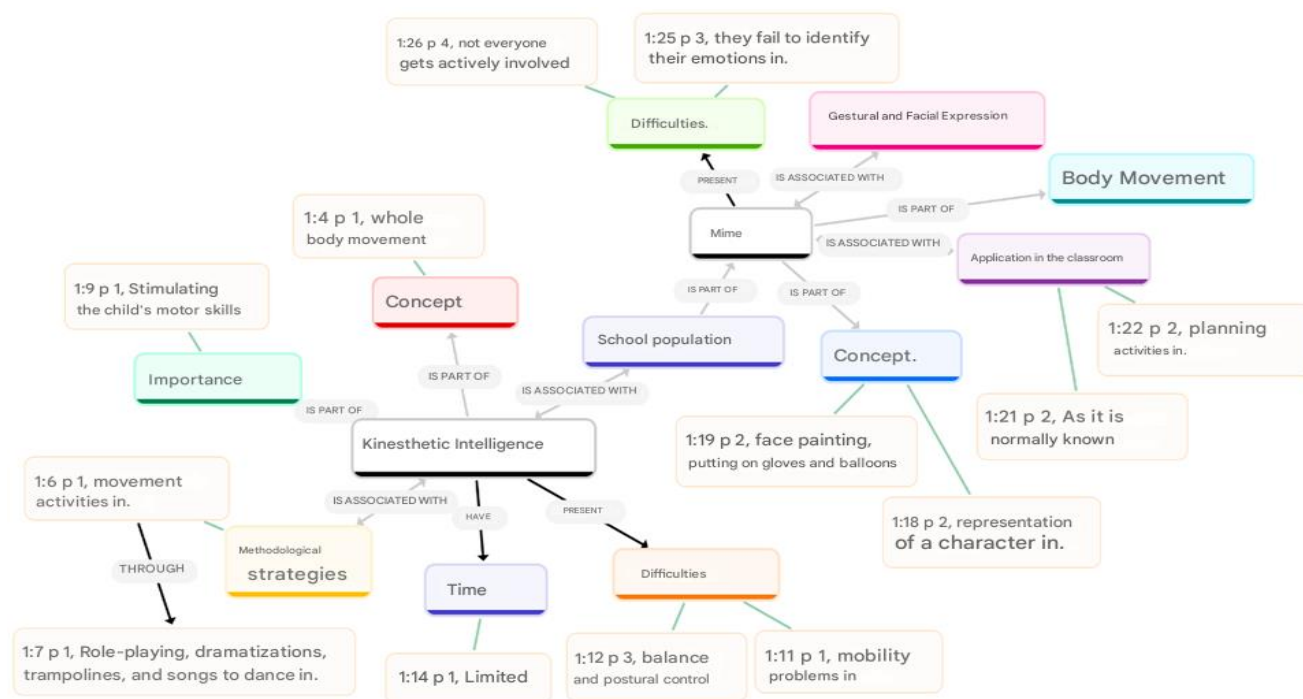
Through this semantic network related to the research variables (see Figure 5), it is established that the two variables are completely interconnected. The school population is associated with them and forms part of both categories, establishing itself as one of the vital actors in the educational sphere. Kinesthetic intelligence focuses on the movement of the entire body and is fundamental in stimulating children's motor skills. Furthermore, the implementation of methodological strategies based on dynamic activities such as role-playing, dramatizations, trampoline games, and songs is highlighted to address the difficulties children experience, including balance, postural control, and mobility difficulties.

Likewise, according to the information gathered, mime is conceived as the personification of a character that involves face painting, gloves, and balloons, which is related to gestures, facial expressions, and body movement. However, early

childhood teachers need to deepen their understanding of this technique in order to develop kinesthetic intelligence.

Consequently, it is observed that, when carrying out certain activities planned by the teacher, children manifest problems such as a lack of emotional identification and insufficient involvement in them. Consequently, teachers must strengthen the pedagogical techniques used daily in classes to ensure adequate development of the kinesthetic area. Thus, mime is reinforced as a practice to develop kinesthetic intelligence. It allows children to face the difficulties mentioned above.

Figure 5. Semantic network of both variables



Note: The figure shows the links between mime and kinesthetic intelligence.

DISCUSSION

Multiple intelligences approach intelligence from a diverse perspective, recognizing its diverse facets and demonstrating that each individual possesses different cognitive potential. In the current educational context, kinesthetic intelligence demands the search for innovative techniques that optimize the use of the body; therefore, Attwood's (2022) research is relevant to this study by detailing how the aforementioned theory can be contextualized in teacher training.

In this sense, the researcher agrees with Mavrelos and Daradoumis (2020), who suggest that the theory of Multiple Intelligences examines ways of applying it in the school environment to improve the quality of work, collaboration, opportunities for choice, and the role of arts. This approach integrates holistic child development, characterized by creative and artistic activities that combine fantasy-based teaching methodologies to develop physical, social, emotional, and cognitive skills in children and adolescents.

The aforementioned leads to consider mime a technique that goes beyond the ordinary, manifesting itself through gestures and body movements without the use of verbal language, addressing typical human dimensions such as the physical, psychological, and social. The aforesaid

implies mime's ability to work with bodily kinesthetics; its performance requires the use of the body, which allows for the perception and understanding of movements and nonverbal communication.

This research reveals that mime is a bodily practice originating in the field of theatrical arts, whose name comes from the Greek term "mimeomai," meaning to imitate. It is recognized that in ancient times, actors used gestures and movements to impersonate different characters in plays, where facial mime, hand gestures, and body movement were key to applying this technique. Likewise, today, mime contributes to the educational field and serves as an alternative that stimulates students' kinesthetic intelligence by effectively facilitating bodily action through the development of physical skills.

To this end, this research also recognizes kinesthetic intelligence as a capacity that involves different processes related to movement and motor coordination, manifesting itself in skills for performing physical movements such as fine and gross coordination, body language, as well as agility and balance. Consequently, mime contributes effectively to kinesthetic intelligence, as children express their ideas and emotions during activities in

which they interact within their objective reality, with an emphasis on the control and movement of their bodies.

Hence the relevance of this research, given its contribution to the comprehensive development of children through programs aimed at improving psychomotor skills, based on the premise that children, given their age, require inspiring and profound spaces to develop their psychomotor skills. The lack of an adequate environment limits interaction and bodily movement. Educational institutions, from this perspective, require open and enriching spaces that allow children to interact socially with their environment through movement.

There is research that focuses on children's motor development, suggesting that when motor behaviors do not conform to normal patterns in physical activities, motor responses during the developmental process are affected. In this regard, Athanassopoulos et al. (2017) point out that movement adaptation provides children with the ability to use their bodies as a tool. This kinesthetic-bodily "knowledge" meets different criteria associated with intelligence. Their research maintains that the hypothesis that dance studies offer significant benefits to students who participate in them has been validated, especially in the areas of musical and physical-kinesthetic intelligence, which is considered a favorable aspect.

The author of this research emphasizes the promotion of kinesthetic intelligence in the educational environment through physical and practical activities. According to Souza de Carvalho et al. (2023), each teacher has a different professional background and, therefore, organizes their classes based on their experience and acquired knowledge. This influences the viability of the activities planned to stimulate motor skills because not all of them have accurate knowledge about this ability or are aware of its relevance in children's motor development. Therefore, the demand for continuous pedagogical learning is recognized, identifying techniques that motivate children to participate in psychomotor activities within the educational environment, among which mime is considered essential.

Nationally, the Ecuadorian Education System is important to the continuous improvement of educational quality in every aspect, both in teaching

and learning. For this reason, the Early Childhood Education curriculum is designed to include body expression and motor skills in one of its areas, promoting the development of motor skills through the stimulation of sensory-perceptive processes that contribute to understanding the body and promote the coordination of movements.

Currently, psychomotor problems persist in children under 5 years of age. These problems are caused by a variety of factors, such as teachers' lack of educational awareness, a lack of extensive space for physical activity, a scarcity of teaching resources, and limited time dedicated to physical activity. In relation to this problem, teachers must adopt specific measures to address the problems children face in their psychomotor development, allowing them to explore the magnitude of stimulating their motor skills from an early age through pedagogical techniques that contribute to their physical well-being.

Thus, at this time, Ecuador, like other nations, faces significant challenges for both educational institutions and teachers and every education professional in the physical development of children. This is assumed to be affected by the effect of virtuality, which causes excessive use of technological devices, which consume a lot of time; therefore, this hinders, in various ways, children's interest in participating in physical activities and in social interaction with their environment. The evolution of technology is giving rise to new scenarios in communication, access to information, and social relationships (Forteza-Martínez and Alonzo-López, 2024).

During the course of the research, it was noted that some children were unable to stand on one leg or hold objects on their heads as instructed by the teacher, but the teacher's intervention with corrective techniques was appreciated. Comparing the study with the theories consulted, it is assumed that mime acts in the representation of everyday situations through body language, using various parts of the body. However, teachers should keep in mind that during the activities that children daily carry out, many of them confuse their emotions using facial expressions and gestures. Although the planned activities encourage communication, not all children actively participate, demonstrating the significance of this research and those that could be

implemented in the future.

Therefore, the frequent implementation of methodological strategies to implement mime as a tool that contributes to the development of kinesthetic intelligence must be systematic; a weekly frequency is suggested to stimulate kinesthetic intelligence. This regularity allows students to adapt and benefit from the advantages offered by kinesthetics. Regarding resources, the teacher must have a large space that fosters a dynamic and interactive learning environment, as well as teaching materials and supplies that support the application of the mime technique and its variations. Likewise, technological resources that facilitate the viewing of videos and listening to songs are also necessary, enhancing the teaching-learning process.

The assessment of kinesthetic intelligence development should be ongoing, allowing teachers to use rubrics that clearly and objectively measure key aspects such as body language, coordination, and balance. Furthermore, through direct observation of students, self-assessments can be conducted and feedback provided to identify children's strengths and weaknesses. It is also important to mention that teachers can create final projects where students put what they have learned into practice through a mime performance, which would allow for the assessment of children's kinesthetic intelligence progress.

In addition to kinesthetic intelligence, it is necessary to take into account the rest of the multiple intelligences because there is a connection between them, so for example in this research it is assumed that it is closely related to Emotional Intelligence, this type of intelligence is a key factor that impacts students social and mental well-being, which helps them understand their environment and make sound decisions in the various conflict situations that daily arise. This shows that this construct must be continuously developed by educational entities (Puertas-Molero et al., 2020).

The findings of this study enhance, extend, and explain the importance of mime as a teaching and pedagogical tool for the development of kinesthetic intelligence, thus expanding the research findings into a methodological construct that interweaves concepts, categories, and relationships to understand and transform educational contexts and

children's lives. However, there is a need for further empirical and theoretical research that analyzes the various features of this relationship in order to establish effective and dynamic educational institutions where new generations can be trained in accordance with the demands of society.

CONCLUSION

According to the analysis, it is determined that kinesthetic intelligence is associated with the theory of multiple intelligences, which allows for the development of cognitive abilities. Its application in different educational contexts ensures that each individual develops different types of intelligence directed toward meaningful learning. In this context, it is linked to the understanding of bodily movement and cognitive development through social and cultural interaction.

From an educational perspective, particularly in early childhood, mime is an essential teaching tool for developing kinesthetic intelligence in children between the ages of 4 and 5. At this stage of life, children are particularly receptive to experiences that allow them to explore their bodies and movement. Through various activities, children not only learn to express themselves physically, but also improve coordination, balance, and motor control.

Likewise, mime significantly fosters children's creativity, as wordless dramatization encourages them to imagine stories, play with emotions, and explore different characters. This symbolic play enriches the imagination and teaches children to think flexibly and discover creative solutions to challenges, strengthening their adaptability and intellect from an early age.

Practicing mime also allows for the development of essential social skills. By working in a group or within a play context, children learn to observe and interpret their peers' emotions, which enhance their empathy. Another important aspect is its positive impact on self-esteem, allowing them to experience success through the ability to communicate ideas and emotions without words, thereby fostering a sense of accomplishment and self-confidence. This confidence fosters the development of a positive self-image and influences their willingness to participate in future activities, both artistic and academic.

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