

THE IMPACT OF ACTION SONGS ON GROSS MOTOR SKILL DEVELOPMENT IN PRESCHOOL CHILDREN: A GREEK KINDERGARTEN CASE STUDY

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ABSTRACT

Action songs constitute an efficacious pedagogical methodology for the enhancement of gross motor skills and the refinement of kinaesthetic coordination, concurrently fostering cooperation, socialisation, and children's socio-emotional development. Through the integration of musical and kinaesthetic modalities, these songs contribute to the development of foundational competencies and the establishment of a conducive learning environment. This empirical study, conducted within a private nursery setting, explored the application of action songs in early childhood education and their consequential impact on children's gross motor skill development. Specifically, the research investigated the mechanisms through which action songs influence gross motor skills, analysed the pedagogical strategies employed by educators to integrate these songs into daily curricular activities, and examined their perceptions regarding the relative effectiveness of these songs compared to alternative activities. Furthermore, the study addressed the challenges encountered by educators during the implementation of these activities. Research inquiries centred on integration strategies, perceived efficacy, and implementation obstacles. Data analysis revealed that action songs are both prevalent and effective, yielding substantial benefits in motor development and promoting active engagement. Educators employed diverse strategies, yet encountered limitations such as restricted spatial resources and temporal constraints.

KEYWORDS

Action Songs, Gross Motor Skills, Early Childhood Educators' Perceptions, Early Childhood Music Education, Rhythm, Motor Skills

1. INTRODUCTION

Action songs are musical compositions that integrate or incorporate physical movements or activities by participants. These songs are commonly utilised within educational, pedagogical, and recreational contexts, combining musical and kinaesthetic elements to enhance interaction and audience engagement [1]. Initially, action songs emerged primarily in children's programmes or events, where movements were synchronised with the music to facilitate the acquisition of new concepts or the development of skills such as motor perception, coordinated movement, and social cooperation. Conceptually, they are defined by the interplay between musical elements (rhythm, melody) and the physical movements or gestures executed by participants [2].

Characteristically, action songs are distinguished by specific features that augment their educational and recreational efficacy. Firstly, the accompanying movements are designed to be simple and comprehensible, enabling ease of execution by both children and adults, including those with limited prior experience in music or dance [3]. These movements typically mimic situations or objects depicted in the song, thereby allowing participants to engage in physical and

emotional self-expression. A further defining feature of action songs is repetition, which aids in the memorisation of lyrics and movements, while simultaneously fostering a sense of rhythm and engagement with the song. The reiteration of movements and lyrics facilitates comprehension and enjoyment for both children and adults [4]. Moreover, this characteristic promotes the establishment of a shared rhythmic experience and synchronisation, which is particularly salient for group participation and collaborative activities. It is also noteworthy that action songs frequently incorporate narrative elements, thereby enhancing their interest and accessibility to the audience [6]. Through storytelling, these songs contribute to the development of children's imaginative capacities, while also promoting social development through collaborative engagement [3].

Notably, action songs typically feature a form of audience interaction. Whether through the formation of circles or the encouragement of specific movement sequences, these songs cultivate an environment of cooperation and social participation [4]. The principle of social participation is central to their function, as these songs often serve as a vehicle for integrating individuals with diverse characteristics and abilities, thereby fostering group cohesion and a sense of community [7], [4]. Through interaction and shared rhythm, action songs enhance children's social development and promote collaborative skills, which are particularly crucial in early childhood [8].

In conclusion, action songs possess significant pedagogical merit, as they integrate music, movement, and social interaction to cultivate a range of skills. These songs contribute to the acquisition and enhancement of children's motor, linguistic, emotional, and social competencies, creating an engaging and educational environment [5]. Through interaction with musical and kinaesthetic elements, children develop their physical literacy and concurrently strengthen their emotional intelligence and social cooperation [7].

2. PEDAGOGICAL FUNCTION OF ACTION SONGS

Kinaesthetic development is a primary benefit of action songs. The integration of movement with musical rhythm encourages children to coordinate their physical actions, thereby enhancing body awareness and the capacity for coordinated movement [4]. Through the execution of both simple and complex movements, children develop gross and fine motor skills, while simultaneously improving balance, flexibility, and the ability to engage in rhythmic activities [8]. The synthesis of physical movement with music aids children in developing a deeper understanding of rhythm and the relationship between auditory and kinaesthetic stimuli, thus strengthening their motor development [7].

Furthermore, action songs contribute significantly to the development of children's linguistic competencies, as the repetition of lyrics and their association with specific movements enhance comprehension and speech production. Children acquire and practise new vocabulary and phrases through these songs, while focused attention on pronunciation reinforces their language perception. Specifically, the utilisation of music as a learning modality facilitates the memorisation of vocabulary and the understanding of syntactic structures [1]. The integration of musical and kinaesthetic elements renders the learning process more engaging and effective, thereby enhancing memory and perception.

It is imperative to recognise that the pedagogical function of action songs extends beyond the development of motor and linguistic skills to encompass children's emotional development. Through music and movement, children are afforded opportunities to express and regulate their emotions in a safe and creative manner [9], [1]. Action songs enable children to experience and

articulate emotional states, such as joy or excitement, through physical expression, thereby fostering emotional development [7], [10]. This emotional articulation facilitates children's ability to recognise and comprehend emotions, both their own and those of others [5], [1].

Moreover, action songs provide a valuable avenue for the development of social competencies. Collaborative movements cultivate a sense of teamwork and cooperation [5], [10]. Participation in group activities, such as action songs, enables children to learn to adhere to shared instructions, collaborate effectively, and demonstrate respect for others [1]. Group participation enhances children's communication and interaction skills, which are fundamental to their social development [5], [10]. Through collaborative interaction, children develop empathy and the capacity to understand and respond to the needs of others [5], [1]. This social dimension of action songs fosters children's social intelligence and facilitates the development of healthy peer relationships.

In summary, action songs stimulate children's creativity and imagination. The integration of music and movement with narrative elements, rhythmic patterns, and variations in vocal intonation stimulates imaginative thinking and encourages spontaneous expression [9], [1]. As children adapt to variations in rhythm or music, they develop their imaginative capacities and generate novel ideas and scenarios through play and interaction [7]. Creative thinking and cognitive flexibility are fundamental to children's development, and these attributes are enhanced through action songs, which encourage children to engage in imaginative and divergent thinking [9].

Cognitive flexibility and the receptiveness to novel ideas and approaches are crucial characteristics of cognitive development and are fostered through participation in activities that necessitate spontaneous and creative engagement [7]. Through action songs, children develop their capacity to adapt to change and generate novel ideas through interpersonal interaction, thereby reinforcing their creative expression [10].

Consequently, action songs serve as a valuable pedagogical tool for children's holistic development. Encompassing kinaesthetic and linguistic development, as well as social and emotional empowerment, action songs facilitate a comprehensive and impactful learning experience. By grounding learning in an engaging and interactive approach, action songs cultivate an environment that promotes participation, collaboration, and personal growth.

3. LINKING GROSS MOTOR SKILLS WITH ACTION SONGS

The nexus between gross motor skills and action songs is established through the performance of movements synchronised with the rhythm and lyrical content of the musical composition. When children engage in action songs, they are required to replicate movements such as jumping, running, clapping, or bodily rotation, which necessitate coordination and physical exertion [7]. These movements enhance proprioceptive awareness, equilibrium, agility, and the child's overall physical condition. Gross motor skills, encompassing the execution of large-scale body movements, contribute to the development of fundamental motor competencies, while the integrated performance of movements with music facilitates enhanced regulation and adaptation of the body to rhythmic stimuli [11], [12], [13], [14].

The relationship between gross motor skills and action songs is both direct and significant, as repeated engagement in movement-based songs provides nursery children with opportunities to practise and reinforce their foundational physical abilities. Each movement they execute allows for improved limb coordination, the development of strength and endurance, and the refinement of balance and synchronisation [15]. Consequently, it is imperative for pre-school educators to

incorporate such activities into their daily pedagogical routines, as these contribute substantially to children's motor development [16], [17].

Furthermore, the integration of playful elements and musicality renders the learning process more engaging and enjoyable, thereby promoting active child participation [18]. For instance, a song that prompts children to perform movements such as "jump like goats" or "clap their hands high in the air" can enhance motor proficiency, as it necessitates the coordination of movement with the song's rhythm and lyrics. Over time, this type of activity contributes to the development of gross motor skills, as children practise movements that engage the large muscle groups of the body, thereby improving their physical condition and motor abilities [13].

Action songs present a valuable opportunity for the development of gross motor skills, as they combine musical and kinaesthetic elements in a manner that reinforces children's foundational motor competencies. Through participation in such activities, children not only strengthen their musculature and enhance their physical condition, but also develop their motor coordination, collaborative skills, and spatial awareness. This integrated approach fosters a comprehensive learning environment that promotes developmental progress in terms of motor skills and socialisation [16], [17], [18]. Action songs are demonstrably a valuable and enjoyable educational methodology in preschool education, enhancing the development of gross motor skills, motor coordination, and children's socio-emotional development. Through the reiteration of movements and the synthesis of music with physical activity, children successfully develop foundational motor skills, cultivate collaborative abilities, and refine their perception of their bodies and the surrounding environment. The diverse categories of action songs, encompassing full-body movement songs, dance sequences, and pedagogical elements, facilitate the creation of varied and innovative classroom activities, thereby rendering learning more engaging and efficacious. The practical implementation of action songs, in both educational and social contexts, reinforces the learning process and promotes a holistic approach to children's development [19].

3.1. Methodology

Scientific research is defined as a systematic, organised, and objective process of data collection, analysis, and interpretation, aimed at investigating a research question, resolving a problem, or testing a hypothesis. It is a process grounded in evidence-based methodologies and replicability, ensuring the validity and reliability of the findings [20]. This particular research study was conducted using an action research approach. Action research is a research paradigm that integrates theoretical inquiry with practical application, with the objective of addressing real-world problems and enhancing practice across various domains, including education. Its selection in this study is justified by its capacity to empower practitioners to critically reflect on their own teaching while engaging in cycles of planning, action, observation, and reflection. Particularly in the context of early childhood education, action research allows for interventions—such as the implementation of music-and-movement activities—to be tested and adapted in authentic settings, providing immediate, practical benefits to participants. Furthermore, it encourages collaboration among educators, fostering a culture of continuous professional development and innovation. The flexibility and contextual sensitivity of action research make it ideal for exploring dynamic educational environments, where variables such as children's engagement and developmental responses require nuanced interpretation. Unlike traditional experimental designs, action research values the subjective experiences and insights of practitioners, ensuring that findings are both meaningful and directly applicable to practice. Therefore, in examining the effects of music-based interventions on young children's motor development, action research offers a robust framework for generating situated knowledge that informs both educational theory and day-to-day teaching practice.

3.2. Sample

This case study involved five early childhood educators ($N = 5$) employed at a private nursery school situated in the northern suburbs of Attica, Greece, during January 2025. The participants were selected through purposive sampling, a non-probability method appropriate for qualitative and exploratory research, especially where targeted insight is sought from individuals with relevant expertise. Inclusion criteria included: (a) professional experience in early childhood education; (b) prior engagement with music-and-movement activities; and (c) willingness to integrate action songs into their daily pedagogical practice. The sample encompassed a broad range of teaching experience. Specifically, one educator had over 10 years of experience, one had between 5 and 10 years, two had between 2 and 5 years, and one had less than 2 years (see Figure 1). This distribution ensured a diversity of perspectives, balancing novice enthusiasm with seasoned pedagogical insight. Such diversity was valuable for capturing the nuanced ways in which action songs might influence gross motor development in children across varying instructional styles. All participants were female, consistent with broader demographic patterns in early childhood education in Greece. Prior to data collection, participants received a plain-language statement outlining the purpose and procedures of the study and subsequently provided informed written consent. The research was conducted in strict accordance with ethical guidelines, ensuring voluntary participation, anonymity of responses, and the confidentiality of all data collected. These measures were adopted to enhance the integrity, transparency, and trustworthiness of the study's findings.

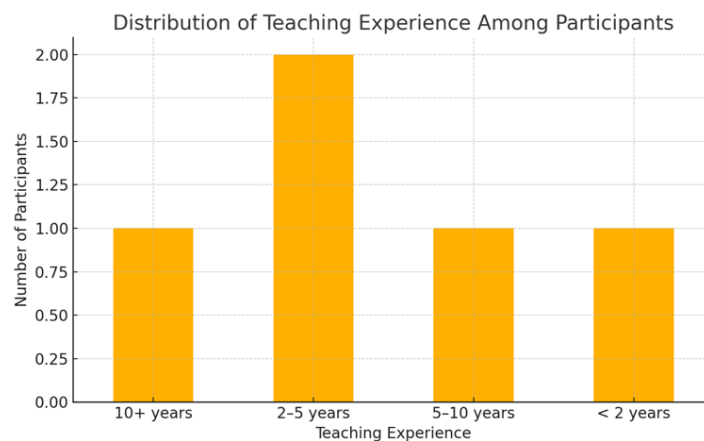


Figure 1. Teaching experience

3.3. Research Instrument – Questionnaire

The principal instrument utilised for data collection in this study was a semi-structured questionnaire designed to elicit both quantitative and qualitative responses from early childhood educators. The questionnaire was developed specifically for the purposes of this research, informed by existing literature on music-and-movement pedagogy and child development. It was divided into three main sections: demographic information, pedagogical practices, and reflections on the implementation of action songs. The demographic section included closed-ended questions on age, years of teaching experience, level of education, and participation in professional development programmes. The pedagogical section contained a combination of Likert-scale items and multiple-choice questions assessing the frequency and context of music-and-movement integration in the classroom. Meanwhile, the reflective section employed open-ended prompts, encouraging participants to share personal insights, perceived benefits, and challenges associated

with using action songs. The questionnaire was administered in printed form during individual, scheduled appointments with each participant in a quiet and private room at the nursery school. This setting was chosen to ensure a comfortable and non-disruptive environment for participants, promoting thoughtful responses. The researcher provided brief verbal instructions and remained available for clarifications, ensuring consistency across all sessions. Completion time ranged from 30 to 45 minutes per participant. All responses were manually transcribed and digitised for analysis. The mixed format of the instrument allowed for triangulation of data by correlating statistical trends with narrative depth, thereby enriching the validity and interpretive scope of the study [21].

3.4. Data Analysis

Data analysis was conducted in two distinct phases, integrating both quantitative and qualitative methodologies to ensure a comprehensive interpretation of the findings. The mixed-methods design facilitated a richer understanding of the impact of action songs on pedagogical practices within the context of early childhood education. In the first phase, data from the closed-ended questions were numerically coded and analysed using descriptive statistics, including frequencies and percentages. This statistical processing focused on identifying trends and patterns related to participants' demographic characteristics, levels of teaching experience, frequency of music-and-movement implementation, and general attitudes toward the use of action songs in the classroom. These quantitative results provided a structured overview of the educational setting and practice-based tendencies among the participant cohort. In the second phase, responses to open-ended questions were examined through thematic analysis using an inductive coding framework. Initially, all responses were transcribed and read repeatedly to ensure familiarity with the data. Key phrases and expressions were then coded for recurring concepts, which were grouped into broader thematic categories. These included: perceived impact of action songs on gross motor development, emotional and behavioural responses of children, perceived pedagogical effectiveness, and challenges encountered during implementation. Themes were refined through iterative review and comparison across participants to ensure internal consistency and analytical depth. The integration of both data types allowed for triangulation, where patterns in statistical trends could be cross-referenced with qualitative insights, thus increasing the reliability and validity of the findings. The combination of numerical precision with narrative richness supported a holistic view of how music-based interventions influence children's development and informed the interpretation of how action songs are understood and applied within nursery school contexts [22], [23].

3.5. Research Findings

3.5.1. Demographic, Educational, and Professional Characteristics of Nursery Educators

The gender distribution of the nursery educators who responded to the questionnaire indicates an exclusive female representation. Although the absence of male participants may limit the diversity of perspectives and approaches captured in the questionnaire, the results can provide valuable insights into the female perspective on the current issue. The age distribution of the participating nursery educators reveals an interesting and diverse demographic profile. Sixty percent (60%) of the participants are under 25 years of age, suggesting that young professionals are particularly active in the field of early childhood education.

The majority of kindergarten teachers [under 25 Years (60%)] indicates a strong influx of young educators into the profession, potentially bringing fresh ideas and innovative educational approaches. A percentage of this group [25-35 Years (20%)] may comprise educators with some experience, who may have already developed their teaching methodologies and contribute to the

professional development of younger colleagues. Over 45 Years (20%), indicates the inclusion of more experienced educators, who can potentially offer valuable guidance and support to their younger counterparts. Notably, none of the five (5) nursery educators who responded to the questionnaire were in the 35-45 age bracket (Figure 2).

The distribution of educational qualifications among the participating nursery educators demonstrates a strong presence of academic training. Eighty percent (80%) of the participants possess higher education qualifications, indicating a high level of training in the field of early childhood education. Furthermore, the significant proportion of postgraduate degree holders suggests that these educators actively seek to enhance their knowledge and acquire specialised expertise. The high participation rate (80%) in professional development programmes signifies a strong commitment among the nursery educators to continuous education and professional growth. This is particularly crucial in the field of early childhood education, where teaching methodologies and children's needs are constantly evolving.

The analysis of the sample data, comprising [N=5] participants, reveals to an exclusive female representation in the respondent pool is a notable finding. While it reflects the historical and ongoing trend of female dominance in early childhood education, it raises important considerations regarding potential biases and limitations. From a sociological perspective, this reinforces the gendered nature of care work, where women are often perceived as naturally suited for nurturing roles [24]. Academically, the absence of male perspectives necessitates a cautious interpretation of the findings. Future research should strive for more gender-balanced samples to ensure a comprehensive understanding of the field. It is crucial to acknowledge that the data obtained is derived from a small sample size of only five educators. While the lack of male participants limits the diversity of perspectives, the data still provides valuable insights into the experiences and perceptions of female nursery educators. Feminist scholarship highlights the importance of understanding women's perspectives in traditionally female-dominated fields [26]. However, it is essential to acknowledge the limitations of the sample, which may affect the generalizability of the results.

Overall, the findings contribute a high proportion of educators under 25 years of age (60%) suggests a significant influx of young professionals into early childhood education. This influx potentially brings fresh perspectives and innovative approaches to the field. This demographic trend may reflect broader societal shifts, such as increased access to higher education for younger generations and a growing recognition of the importance of early childhood education. The presence of educators in the 25-35 and over 45 age brackets indicate a range of experience levels within the respondent group. This diversity can foster mentorship opportunities and the exchange of knowledge between younger and more experienced educators. The absence of educators in the 35-45 age bracket is an anomaly that warrants further investigation. It might be attributable to the small sample size or other factors. Understanding the age distribution is crucial for designing targeted professional development programs that cater to the specific needs of different age groups.

The high percentage of educators with higher education qualifications (80%) demonstrates a strong emphasis on academic training in early childhood education and reflects the growing recognition of the importance of specialized knowledge and skills in this field. The significant proportion of postgraduate degree holders indicates a commitment to advanced learning and specialized expertise and suggests a culture of continuous learning and professional development among nursery educators. The emphasis on educational qualifications contributes to the professionalization of early childhood education, enhancing its credibility and status.

The high participation rate in professional development programs (80%) signifies a strong commitment to continuous education and professional growth and is essential in a field where best practices and children's needs are constantly evolving. Engaging in professional development enables educators to stay abreast of current research, adopt innovative teaching methodologies, and adapt to changing contexts. Educators who engage in continuous learning are better equipped to provide high-quality early childhood education, which can positively impact children's developmental outcomes. The emphasis on educational qualifications and professional development aligns with human capital theory, which posits that investments in education and training enhance productivity and economic outcomes. The high participation rate in professional development reflects the principles of lifelong learning, which emphasize the importance of continuous learning throughout one's career (Figure 3).

The data presented provides valuable insights into the demographic, educational, and professional characteristics of participants. The exclusive female representation, diverse age distribution, high educational qualifications, and strong commitment to professional development are key findings that warrant further investigation and consideration. By understanding these characteristics, we can better support preschool educators in their crucial role of nurturing and educating young children.

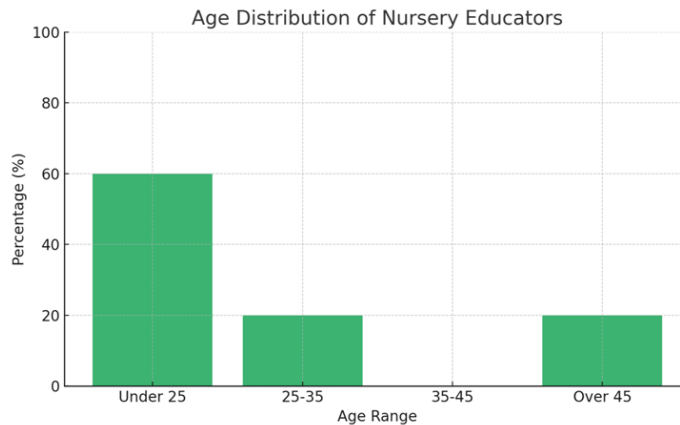


Figure 2. Age Distribution of Pre-school Educators

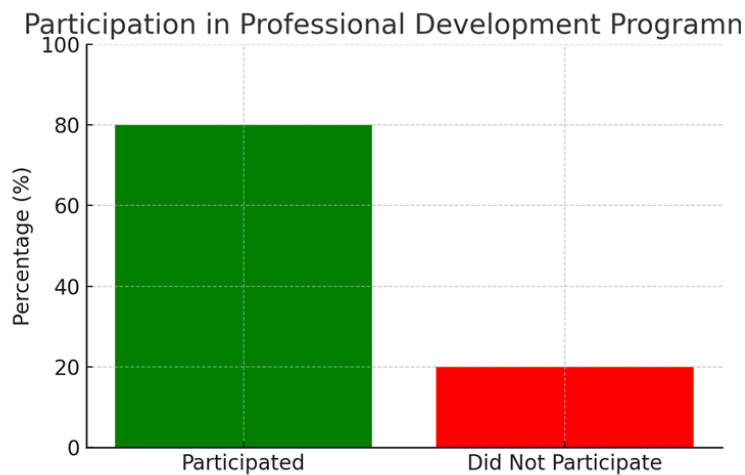


Figure 3. Professional development

3.5.2. Integration of Action Songs in Preschool Education: An Analysis of Implementation and Perceptions

The 60% majority of educators report daily use, suggesting that action songs are a regularly employed pedagogical tool. The perceived enhancements in gross motor skill aspects resulting from action song integration. Rhythm and movement are most frequently observed to improve, followed by balance, coordination and then endurance. The educators' perceptions regarding the effectiveness of action songs compared to other activities. The data presents a mixed view where many consider them more or equally effective. The utilisation of action songs in the classroom is encouraging and suggests that the nursery educators understand the significance of music and movement in children's development. The fact that the majority of educators (60%) integrate action songs on a daily basis indicates a strong commitment to creating an interactive and engaging learning environment. This approach can enhance children's participation and improve their social skills, as well as their motor development. It is observed that action songs are integrated during nearly all time periods of the school routine, but predominantly at the beginning of the day and during playtime. It is observed that the nursery educators' perceptions of action song characteristics vary. Again, it is evident that the nursery educators integrate action songs throughout nearly all aspects of the school routine and various circumstances.

The highest percentage regarding aspects of gross motor skills observed to improve with the integration of action songs is the ability to follow rhythm and movement, followed by a smaller percentage for balance and body support, then hand-foot coordination, and finally, the lowest percentage for endurance, physical activity, and the ability to perform complex movements. The varied opinions on the effectiveness of action songs compared to other activities suggest that the educators recognise the importance of diversity in pedagogical approaches. Music and movement education can offer unique benefits, but it does not replace the need for other forms of physical activity. The near-universal recognition of the positive impact of activities involving songs and movement on children's motor development is encouraging. The majority of educators believe that these activities can significantly contribute to the development of fundamental motor skills. The data (Figure 4) presented reveals key aspects of how action songs are integrated into the daily practices of preschool educators, highlighting their perceived benefits and variations in implementation. As a regularly employed pedagogical tool, the 60% majority reporting daily use signifies that action songs are not merely occasional activities, but a consistent pedagogical strategy. This structured approach to incorporating music and movement into the curriculum aligns with the principle of routine in early childhood education, which provides children with a sense of security and predictability, thereby facilitating learning [26].

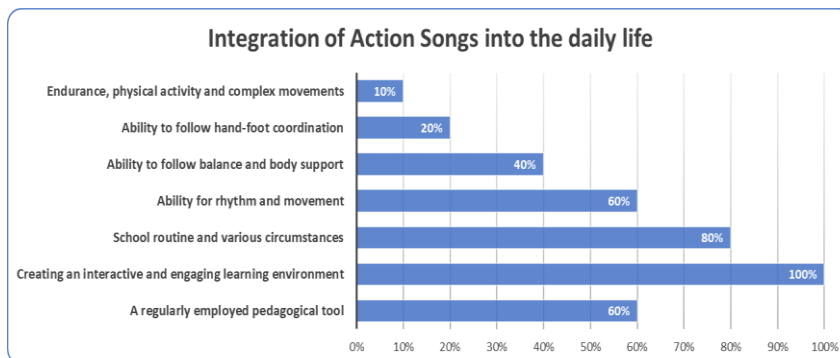


Figure 4. Integration of Action Songs into the daily life

In terms of gross motor skill enhancement, the observed improvements, particularly in rhythm and movement, reinforce the pedagogical value of action songs. This highlights their role in

fostering physical development, a crucial aspect of early childhood. The hierarchical progression of observed improvements (rhythm/movement > balance > coordination > endurance) suggests that action songs may have a differential impact on various motor skills.

Regarding perceived effectiveness and pedagogical significance, the varied opinions on the effectiveness of action songs compared to other activities indicate a nuanced understanding among educators. This suggests that they recognize the importance of a diverse pedagogical toolkit and reinforces the notion that no single method is universally superior; effective teaching requires flexibility and adaptability. The overall utilisation of action songs underscores educators' awareness of the significance of music and movement in children's development. This is consistent with research highlighting the interconnectedness of physical, cognitive, and socio-emotional development in early childhood [27]. The daily integration of action songs demonstrates a strong commitment to creating an interactive and engaging learning environment, essential for fostering children's active participation and motivation.

Considering the implementation and context, the prevalence of action song integration at the beginning of the day and during playtime suggests that educators strategically use these activities to transition between routines and to promote active play. This aligns with the understanding that movement-based activities can energise children and prepare them for learning. The observed variations in educators' perceptions and implementation practices highlight the adaptability of action songs to diverse circumstances, reflecting the importance of contextualising pedagogical approaches to meet the specific needs and interests of children. The progression of gross motor skill development, with rhythm being the most improved, indicates that action songs are demonstrably effective in building this skill, though other skills are also positively influenced, albeit to a lesser extent.

The near-universal recognition of the positive impact of songs and movement on motor development underscores the broad consensus regarding their pedagogical value. This reinforces the importance of incorporating movement-based activities into early childhood curricula. Educators' belief that action songs contribute to the development of fundamental motor skills highlights their role in laying the foundation for children's physical literacy.

The integration of action songs aligns with the theory of embodied cognition, which emphasises the role of physical experiences in cognitive development. Furthermore, the interconnectedness of physical, cognitive, and socio-emotional development, as reflected in the impact of action songs, is consistent with developmental systems theory. Finally, the active construction of knowledge through movement and interaction, a core concept of constructivism, is also exemplified by the integration of action songs.

Ultimately, the integration of action songs into the kindergarten routine reflects educators' commitment to fostering children's holistic development. Their regular use, perceived effectiveness, and adaptability underscore their value as a pedagogical tool. By continuing to explore and refine their implementation practices, educators can maximise the benefits of action songs for children's physical, cognitive, and socio-emotional growth.

3.5.3. Preschool Educators' Perceptions of Action Songs

The widespread recognition of action songs' contribution to gross motor skills signifies a broad acceptance of this methodology within the field. This acceptance likely stems from educators' direct observations of children's physical development during these activities. This aligns with research emphasizing the importance of movement-based learning in early childhood, where physical activity is intrinsically linked to cognitive and socio-emotional development [29]. The

data (Figure 5) suggests an empirical validation of action songs as a tool that fosters gross motor skill development. Educators' recognition implies that they are actively observing and assessing the impact of action songs on children's abilities, such as coordination, balance, and spatial awareness. This highlights the importance of observational assessment in early childhood education, where educators utilise their professional judgment to evaluate the effectiveness of pedagogical approaches

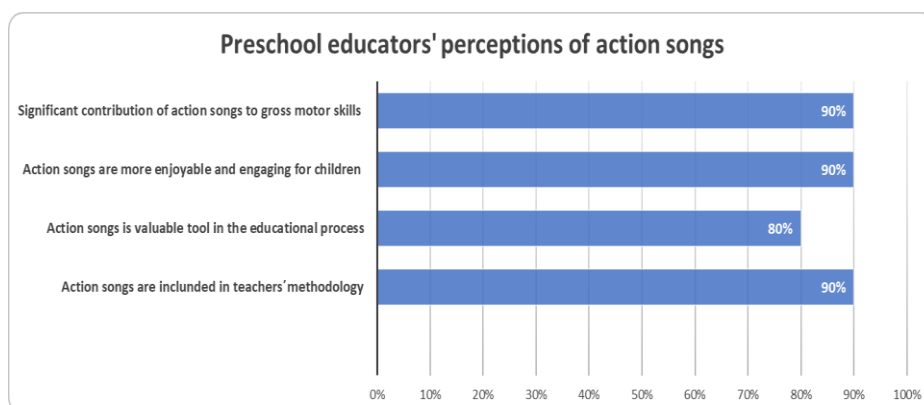


Figure 5. Preschool educators' perceptions of action songs

The universal recognition of action songs' value as a pedagogical method underscores their perceived utility in the educational process. This suggests that educators view action songs as more than mere recreational activities; they consider them integral to achieving specific learning objectives. This can be linked to the theory of embodied cognition, which posits that physical experiences are fundamental to cognitive processes [29]. Action songs, by engaging children's bodies, facilitate learning through physical interaction. This perception likely influences educators' decisions to incorporate action songs into their daily routines and lesson plans. It also implies that educators are aware of the pedagogical principles that underpin the use of action songs, such as the importance of active learning and multi-sensory engagement.

The unanimous recognition of action songs' enjoyment and engagement highlights their motivational potential. This aligns with theories of intrinsic motivation, which suggest that children are more likely to learn and participate when they find activities enjoyable and personally relevant [30]. This is particularly important in early childhood education, as children are still developing the ability to focus their attention. The perceived enjoyment and engagement contribute to the effectiveness of action songs in preschool education. Engaged children are more likely to participate actively, leading to enhanced learning outcomes. This engagement facilitates classroom management and the children's social development. Engaging in enjoyable activities helps children to form bonds with their peers and their educators.

Educators' perceptions reflect a constructivist approach to learning, wherein children actively construct knowledge through their experiences. Action songs provide opportunities for children to learn through movement and interaction. The emphasis on social interaction and engagement aligns with socio-cultural theory, which highlights the role of social context in learning. Action songs facilitate social interaction and collaboration among children. Action songs engage multiple intelligences, such as bodily-kinaesthetic and musical intelligence, which contributes to their effectiveness in diverse learning environments. The perceptions of preschool educators regarding action songs underscore their value as a pedagogical tool in early childhood education. Their recognition of the contributions to gross motor skills, perceived value as a pedagogical

method, and acknowledgment of enjoyment and engagement highlight the potential of action songs to promote children's holistic development. By acknowledging these perceptions, educators can continue to refine their practices and maximise the benefits of action songs in the classroom.

3.5.4. Challenges in Implementing Action Songs in Preschool Educators' Practices

The majority of educators recognise limited space as a challenge for the implementation of action songs, indicating that the physical layout of the classroom can affect teaching. However, the presence of a significant proportion who do not consider space an obstacle suggests that there are ways to overcome these challenges. The majority of educators recognise the need for appropriate equipment to maximise the effectiveness of action songs. The presence of good audio infrastructure and materials can enhance children's participation and engagement in activities. It is observed that 80% of educators frequently encounter problems with children's movement coordination during action song execution, while 20% report not encountering such problems very often. This variation suggests that coordination ability may vary among children and educators. It is observed that 60% of educators consider the time available for action song activities to be moderately adequate, while 40% believe it is somewhat adequate. This variation suggests that educators may face challenges in integrating these activities into the daily schedule. The data (Figure 6) presented highlights several key challenges that preschool educators face when integrating action songs into their pedagogical practices. These challenges can be categorised into logistical (space/equipment), developmental, and temporal domains. Specifically, the prevalence of limited space as a significant obstacle underscores the importance of the physical learning environment. Action songs, by their nature, necessitate movement, and confined spaces can impede children's ability to engage fully. This finding aligns with research on the impact of spatial design on children's physical activity and learning [31]. However, the observation that some educators do not perceive space as a hindrance suggests the potential for adaptive strategies. These might include: (i) classroom reorganisation: strategic rearrangement of furniture to create temporary open areas; (ii) outdoor implementation: utilising outdoor spaces, weather permitting, to provide ample room for movement; (iii) micro-movements: adapting action songs to incorporate smaller, more contained movements.

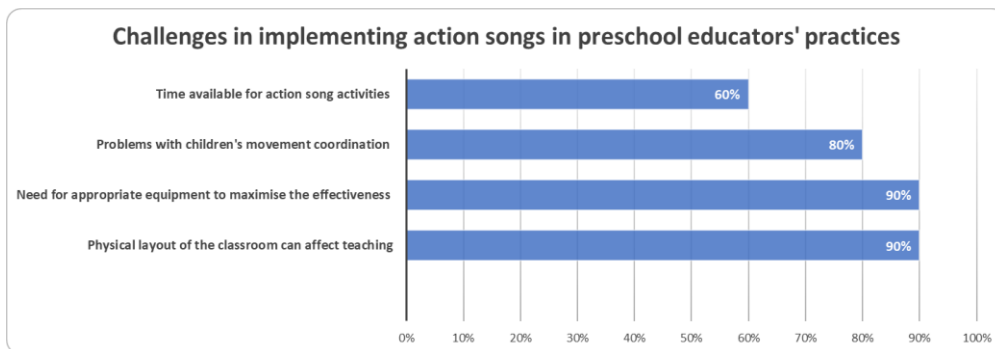


Figure 6. Challenges in implementing action songs in preschool educators' practices

The acknowledged requirement for appropriate equipment, particularly audio infrastructure, highlights the multi-sensory nature of effective early childhood education. Quality audio ensures clear delivery of music and instructions, enhancing engagement and participation. This aligns with the principles of Universal Design for Learning (UDL), which emphasise providing multiple means of representation, action, and engagement [32]. The lack of proper equipment can create a barrier to children's full engagement in the activity.

Developmental challenges centre on movement coordination, based on: (i) variation in coordination: the disparity in educators' experiences with children's movement coordination underscores the developmental variability inherent in early childhood. The 80% reporting frequent coordination challenges suggests that educators must be prepared to differentiate instruction and provide individualised support. (ii) This highlights the importance of: Developmentally Appropriate Practice (DAP): tailoring activities to meet the diverse developmental needs of children [33]; scaffolding: providing graduated assistance to help children gradually improve their coordination skills; observation and assessment: continually monitoring children's progress and adjusting teaching strategies accordingly.

Temporal challenges encompass time constraints and attention. The educators' mixed perceptions regarding time adequacy reflect the ongoing tension between curricular demands and the time required for effective implementation of movement-based activities. This suggests a need for: (i) curricular integration: seamlessly incorporating action songs into existing routines and learning objectives; (ii) time management strategies: optimising daily schedules to allocate sufficient time for movement activities; (iii) attention maintenance: the high proportion reporting minimal attention difficulties indicates the inherent engagement potential of action songs. However, the presence of minor challenges suggests that educators should incorporate diverse action songs and movement patterns to sustain interest. Additionally, action songs should be age-appropriate in length and utilise visual aids to maintain children's attention. In this pedagogical context, Vygotsky's Zone of Proximal Development (ZPD) is relevant. The challenges related to movement coordination highlight the importance of scaffolding children's learning within their ZPD, providing support to bridge the gap between their current and potential abilities [34]. Furthermore, Piaget's theory of cognitive development suggests that the variability in coordination and attention reflects the developmental stages of children in early childhood, particularly the preoperational stage, characterised by developing motor skills and attention spans [35].

The implementation of action songs in preschool education presents a range of challenges, primarily logistical, developmental, and temporal. Addressing these challenges requires a multifaceted approach, encompassing classroom adaptation, professional development, and curricular integration. By acknowledging and addressing these obstacles, educators can more effectively leverage the pedagogical potential of action songs to promote children's holistic development

4. CONCLUSIONS

In the study conducted at a private nursery school in Kifissia, the analysis of results reveals positive findings regarding the utilisation of action songs in early childhood education, underscoring their significance in children's motor development. Educators, possessing a high level of educational attainment, demonstrate the requisite knowledge and skills to implement these activities successfully within the classroom environment. The majority of action song activities are integrated into the daily routine, with numerous educators acknowledging their importance, albeit with a perceived need for increased implementation frequency. The observation that most educators consider action songs to be equally or more effective than other activities for the development of gross motor skills highlights their value in enhancing children's coordination and social interaction.

A significant proportion of educators observe notable improvements in children's motor skills, such as balance and coordination, reinforcing the perception that action songs constitute efficacious tools for the motor development of kindergarten children. Furthermore, the enjoyable and engaging nature of these activities appears to enhance children's attentiveness and

participation, with the activities being particularly popular due to their entertainment dimension. Nevertheless, despite the positive outcomes, challenges persist that impact the implementation of these activities. Limited classroom space and a lack of adequate equipment pose obstacles that may diminish the effectiveness of the activities. Moreover, the perceived need for increased time allocation for action song implementation underscores the necessity for improved organisation of the daily schedule and the potential for integrating these activities on a regular basis. Despite positive observations, ongoing guidance to enhance children's movement coordination proves necessary, highlighting the importance of gradual support in the development of motor skills. In conclusion, action songs demonstrate an effective and engaging methodology for promoting motor development, with the aforementioned challenges providing avenues for further refinement of their implementation within the educational process.

Findings from related research provide substantial support for the hypothesis that action songs can contribute to the enhancement of motor skills in preschool children. Concurrently, music and movement activities, such as action songs, appear to reinforce motor abilities and gross motor skills, promoting the holistic development of pre-school children [12], [15], [16]. [36] study highlights the significant improvement in the motor skills of nursery children who participated in music and movement activities. The research findings emphasise the importance of repetition and practical exercise, thereby reinforcing the connection between music, movement, and motor development. This research underscores that, through participation in music and movement activities, nursery children gain improved control over their bodies, enhancing gross motor skills such as walking, running, and jumping. [37] who examined the impact of a music and movement programme on 180 pre-schoolers, also demonstrates a significant improvement in children's rhythmic ability after a six-week programme. Rhythmic ability is directly linked to motor skills, as the ability to synchronise body movements with the rhythm of music aids in the development of coordination and gross motor skills. The results of this study reinforce the belief that music and movement education is effective in improving the motor skills of nursery children, as it combines music and movement, two critical elements for gross motor skill development. [38] research focuses on the impact of early music and movement education on rhythm perception. Their study demonstrates that early engagement with music and movement activities enhances kindergarten children's musical perception, particularly the understanding of rhythm, which is crucial for the development of motor skills. Rhythm perception not only improves the ability to synchronise body movements with music but also enhances movement coordination, factors that directly contribute to gross motor skill development. [39], [40] case study is also noteworthy, highlighting the importance of integrating dance and movement play into the kindergarten curriculum for the development of children's motor, social, and linguistic skills. The participation of pre-schoolers in activities that combine dance and movement enhances not only gross motor skills but also social and linguistic skills, as children learn to cooperate, express themselves, and develop an emotional connection with their peers through movement.

Research concerning the impact of action songs on the gross motor skills of nursery children underscores the value of this pedagogical method in early childhood education. Educators, possessing a high level of professional training, recognise the benefits of these activities and integrate them into their daily instruction, thereby enhancing the development of motor competencies such as coordination, balance, and social interaction. Action songs are particularly engaging for children, as they incorporate elements of entertainment within the learning process, rendering physical exercises more enjoyable compared to alternative methodologies. However, the research identified several impediments, including limited classroom space, a lack of appropriate equipment, and constrained time allocations for the implementation of these activities, which affect their frequency and quality. Notwithstanding these challenges, the majority of educators observe a positive impact on children's motor development, with 80% reporting significant improvements in their children's motor skills. The unanimous consensus

among educators (100%) that action songs are more enjoyable and engaging for children highlights the value of this methodology, as these activities contribute not only to motor development but also to the maintenance of children's attention.

For the more effective integration of these activities into early childhood education, specific strategies are proposed. Firstly, the enhancement of infrastructure and equipment is critical. Specifically, the creation of more spacious classrooms and the provision of necessary educational materials will reinforce the efficacy of action song activities. Secondly, the professional development of educators through seminars and specialised training programmes will facilitate the systematic and effective implementation of action songs in the classroom. Educators should be encouraged to participate in initiatives that provide them with tools and methodologies to fully exploit the potential of these activities. Notably, the revision of the curriculum to incorporate more time for these activities will enable a more frequent and comprehensive utilisation of action songs in daily education. Finally, it is essential to establish a learning environment that fosters ongoing support and guidance for the development of children's motor skills, thereby ensuring the refinement of coordination and the enhancement of social interaction among preschool children.

Exploring how action songs may be adapted in different cultural contexts could add a unique and valuable dimension to this field of research. Music and movement are inherently shaped by cultural norms, values, and traditions, making them ideal tools for fostering both local identity and intercultural understanding. Investigating how action songs are used and adapted in diverse early years settings—such as those in multilingual or multicultural classrooms—could reveal the extent to which these activities support inclusive pedagogy. Cultural adaptations may include changes in language, rhythm, thematic content, or movement patterns that reflect the lived experiences of children from different backgrounds. Such explorations could also illuminate how traditional folk songs or region-specific music-based games align with developmental goals. Additionally, this line of inquiry could inform international curricula and teacher training programmes, encouraging culturally responsive approaches that validate and celebrate diversity. Understanding how action songs function across contexts would not only contribute to global early childhood education practices but also ensure that interventions remain relevant and engaging for all learners, regardless of their cultural heritage.

The aforementioned findings support the hypothesis that action songs can have a positive impact on the development of gross motor skills in preschool children. Their integration into the educational programme enhances children's motor skills, promoting a holistic development that combines music, movement, and social interaction. A significant area for further research would be the investigation of how action songs influence other facets of children's development, such as emotional expression and social interaction. Recognising the value of these activities at a social and emotional level could provide more comprehensive strategies for supporting children. Furthermore, exploring the impact of action songs in diverse cultural and social settings could offer insightful findings regarding the adaptability of the method across various cultural traditions and practices.

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