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MUSICAL-DIDACTIC GAME IN THE STREAM APPROACH: FROM CREATION TO OUTCOME

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Abstract: This paper presents the possibilities and significance of applying musical-didactic games in an integrated approach to early childhood learning. It introduces a specially designed musical-didactic game incorporating elements from various STREAM fields. The objectives of this theoretical research were: a) to highlight the importance of musical-didactic games for child development in terms of acquiring concepts and mastering knowledge from different areas; b) to specify the tasks and roles of educators in organizing planned learning situations using musical-didactic games. The research was conducted using the descriptive method and content analysis. The results confirm that musical-didactic games in an integrated learning approach stimulate curiosity in young children to acquire concepts and master knowledge from various domains. Additionally, the specification of diverse tasks and roles of educators is significant for organizing planned learning situations using such games. The implications of this research point to numerous possibilities for applying musical-didactic games to develop children's potential and enhance pedagogical practice.

Keywords: musical-didactic games, STEAM approach, integrated learning approach, concept acquisition and understanding, early childhood knowledge.

INTRODUCTION

In contemporary preschool education in the Republic of Serbia, as well as in other European countries (Slunjski and Lančić, 2022), the role of a project-based approach and integrated learning through play, planned learning situations, and practical life situations is emphasized, to lay the foundation for the development of key educational competencies in children. In the current

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Preschool Education Program Framework – Years of Ascent (2018), there is no classification of areas from which children acquire fundamental knowledge that contributes to specific aspects of their development: speech development, motor, musical, and artistic abilities, and logical and mathematical thinking. The educator's task is to simultaneously develop these children's abilities, connecting them with the development of communication, mathematical, digital, and social competencies. In this regard, there are no methodological guidelines for selecting and implementing content from these areas in work with children. There is often a question if methodologies still exist as scientific disciplines in preschool age. An affirmative answer is indicated in the basic requirement for applying the project-based approach to learning; an educator must know the content he or she presents to children and how they can learn about them (Pressick-Kilborn, 2022), meaning that they must possess certain methodological knowledge and competencies. This fact raises another question: How can the content of these areas (speech development, introduction to basic mathematical concepts and the environment, music, physical, and art education) be implemented in project activities initiated by children's interests? This question brings us back to the primary role of an educator—to be creative and ready to adapt his or her approach to children's abilities, skills, and interests. The requirements for content integration and creative approaches to teaching, in this sense, are not new to any educator, who can further develop, monitor, direct, and expand a child's idea within a project without time limitations. During the project implementation, in relation to the children's prior knowledge and experiences, as well as the educators' competencies, the content from various areas can spontaneously fit into a specific, jointly selected, and meaningful topic that gradually connects and unites different phenomena and concepts.

The STEM approach is a significant model of integrated learning. It can be successfully implemented in all segments of primary education, but its applicability to preschool age is insufficiently researched. Although it encompasses four areas—science, technology, engineering, and mathematics—the key aspects of the STEM approach are not limited to these disciplines but extend to the development of creative and critical thinking in a broader context (Hobbs & Clark, 2022). STEM involves a set of disciplines whose interconnection, through interdisciplinary and multidisciplinary approaches, leads to understanding content and acquiring integrated knowledge and experiences (Hobbs & Clark, 2022). There is no universal way to implement the STEM model/project/approach or a singular method of teaching; rather, STEM can be defined as a way of learning and a framework for teaching, by providing children with connected, functional knowledge (Hobbs & Clark, 2022). Application of this approach allows learners to transfer concepts and content from one field of application to another, to use ideas and concepts learned in one area to enrich the learning

process in another, and to ensure that acquired knowledge and skills across different areas are firmly interconnected (Hobbs & Clark, 2022). A further step in the development of this model involves incorporating arts and renaming STEM to STEAM; "Art enables students to express ideas, especially at an early age, channel them, and apply them to STEM learning and problem-solving" (Gilbert & Borgerding cited in Hobbs & Clark, 2022: 162). Visual arts, music, dance, and drama, due to their expressive nature, can be integrated into various themes/areas in numerous ways, enhancing and advancing inquiry-based learning (Kuhlthau, Maniotes & Caspari, 2018). Artistic content provides significant and authentic opportunities for learning and teaching precisely because of its aesthetic and expressive dimensions (Quigley & Herro, 2019). Implementing artistic activities should not be limited to adding creative/artistic content as supplementary activities in the final stages of the learning process, such as drawing or listening to music while learning mathematical content. Instead, artistic activities should be integrated into the learning and problem-solving process as an integral part of reflection and integration (Quigley & Herro, 2019). Integrating arts into an integrated approach enables the demonstration (understanding) of content from different domains through artistic forms, linking artistic forms/content with other domains, thereby achieving goals in both domains (Quigley & Herro, 2019).

In the context of acquiring educational competencies for lifelong learning in the 21st century, where significant emphasis is placed on communication in native and foreign languages, and literacy spans across various domains (digital, informational, mathematical, musical, etc.), integrated areas of science, technology, engineering, mathematics, along with arts, are accompanied by language content, giving rise to a new acronym, STREAM. Language learning (native and foreign) can deepen children's interest and motivation, broadening their understanding of content in other disciplines. Knowledge of the English language is no longer viewed merely as additional knowledge gained in private language schools, but as essential for the 21st century and preparing children for future education (Ćirković-Miladinović, 2024). Integrated learning enables a deeper understanding of each discipline individually and the acquisition of basic foundational knowledge, upon which they can independently acquire new information later on (Kuhlthau, Maniotes & Caspari, 2018). Moreover, integrating natural sciences with artistic fields and language allows for shifting the learning process out of the classroom and formal frameworks, connecting it with life experiences through collaboration and interaction with both local and broader communities.

Starting from the common elements of STREAM learning and the current concept of preschool education, which is based on integrating various learning strategies within a project approach, we wanted to highlight the possibility of

applying the STREAM approach not only in direct educational work with children and creating meaningful learning situations, but also in creating content that would be applied in this approach. In other words, by implementing the STREAM approach, we have created a music-didactic game that contains elements from various domains, through which children acquire musical knowledge and knowledge from other artistic fields and natural sciences. The possibilities of applying the music-didactic game, outcomes of integrated learning through play, the impact on children's competency development, and the role of educators in game implementation are presented in the following chapters.

Music-Didactic Games and an Integrated Approach to Early Childhood Learning

In brief, we will explain why we have chosen music-didactic games as a bridge/tool for integrating various contents in the learning process of early childhood education.

The development and learning in early childhood are focused on a project-based approach and creating stimulating learning situations, where play remains a significant component of educational work. Authors Minić and Jovanović emphasize that play is used "as a mediator for influencing children's development in the broadest sense" (Minić and Jovanović, 2018: 283), and its greatest benefits are realized in the spheres of cognitive, emotional, and social development. "The way a child thinks during play is fundamentally the driver of their intellectual development" (Minić and Jovanović, 2018: 283). Acquiring new experiences and emotional engagement in play encourages healthy emotional development in children, while collaboration with others in play develops social feelings and facilitates the process of child socialization. For these and many other reasons, "play must be an integral part of the educational process within institutions where the learning and development of preschool children take place" (Slunjski and Ljubetić, 2014: 129). On the other hand music plays an important role in children's development and lives. Sudzilovski and Ivanović (2013) cite numerous studies across various scientific disciplines regarding the impact of music on cognitive, affective, and psychomotor processes, emphasizing findings on the positive influence of music on physical development, phonological awareness, spatial abilities, and mathematical achievement. In the educational context, music operates within all educational domains and "influences intelligence, emotions, morals, aesthetics, creativity, and socialization" (Sudzilovski and Ivanović, 2013: 558).

As an integral part of holistic child development, their musical development also unfolds, encouraged and supported through the implementation of various musical contents and activities. The opportunities and benefits of

learning through musical (artistic) content have been previously described within the STREAM approach, and in early childhood, in line with their interests, needs, and stages of psychophysical development, musical play holds significant importance.

Two key aspects contribute to affirming this musical activity: emotional response to musical content and movement as a way of expressing musical experience. The role of music in early childhood is particularly significant for the emotional development of children. Early exposure to musical content and favorable environmental influences, such as stimulation and support from parents and educators, contribute to fostering children's musical abilities (Mirković Radoš, 1996). On the other hand, "movement in the psychomotor domain can be used as a tool for learning and developing cognitive skills and abilities" (Tanasković, 2022: 405). "Movement stimulates many mental abilities, integrates information and experiences, and plays a crucial role in memory, speech, emotions, and maintaining attention" (Japundža Milisavljević, Đurić Zdravković, & Gagić, 2016: 331). The combination of these two components, music and movement, in the act of performing musical play, enables children to develop properly and synchronously.

Musical games, according to their purpose, function, and musical and play demands, can be classified into several groups, which authors title differently. Authors Sudzilovski and Ivanović note that the most common classification includes singing games, games with instrumental music, folk dances, and musical dramatizations (Sudzilovski and Ivanović, 2015). Adding to these types of musical games, Đurković-Pantelić (1998) includes creative games in the form of dance improvisations, emphasizing that games can be grouped based on the possibility of free expression, distinguishing between free children's games or spontaneous creation of movement to music and "games performed according to specific rules" (Đurković-Pantelić, 1998: 141). Today, most authors (Sudzilovski and Ivanović, 2015; Jeremić and Stanković, 2019) agree that the most precise classification of games for early childhood has been provided by Višnja Protić. Protić (1983) emphasizes that in working with young children, games should include individual and collective tactile contact games, imitative musical games, role-playing games, line games, circle games, and other musical games diverse in form and content, such as counting games, games with sound objects, and didactic games.

Apart from their common features, each of the mentioned types of games has a pronounced educational role in specific segments of a child's development, aimed at developing certain skills and competencies, or creating musical concepts as a basis for acquiring musical knowledge. Singing games, with their textual (thematic) content, initiate movements and imply the correct textual,

rhythmic, and melodic performance of songs complemented by appropriate movements (Pantelić-Đurković, 1998). Folk dances, characterized by collective performance in various formations, contribute to the development of collective spirit, cooperation, understanding, individual responsibility to synchronize steps with others, and developing a sense of belonging while constructing cultural and national identity. Musical dramatizations encourage integrated learning and creativity by combining different elements and areas (acting, mime, music, movement, costumes, scenography, etc.). Games with instrumental music help children focus on the expressive means of music without the mediation of textual content, thereby encouraging the free expression of musical experience and the manifestation of creativity through coordinating movements with musical elements.

Children acquire specific musical concepts to the extent permitted by their stage of cognitive and musical development through learning musical-didactic games, which have specific goals and rules. Due to the predefined rules compared to the types of games mentioned earlier, they may not initially seem suitable for fostering children's creativity and initiative, which are important aspects of modern concepts of preschool education. However, when we consider the educational function of musical-didactic games and their role in enabling children "to experience and reproduce elementary musical concepts" (Stojanović, 1991: 145), we find potential and opportunities for integrated learning and development of young children in this type of musical game. Besides musical elements/concepts, musical-didactic games can also include elements from other areas. Moreover, the goal of the game does not have to focus solely on acquiring musical concepts (distinguishing sound characteristics, children's instruments, recognizing vocal qualities, performing quietly and loudly), but it can be oriented towards acquiring concepts from other domains (visual arts elements, mathematical concepts). Creating, preparing, and executing these musical-didactic games with elements of integrated learning is a specific task and challenge for educators, which is why their role and competencies will be discussed in the next chapter.

Professional competencies and roles of educators in implementing musical-didactic games

According to the *Regulation on Standards of Competencies for the Profession of Educators and their Professional Development* (2018), the competency of educators is specified through their knowledge, skills, and values in three areas: 1) direct work with children; 2) fostering collaboration and learning communities; and 3) developing professional practice. For our work here, the competency of educators in direct work with children is of particular importance.

The competency of educators in direct work with children implies the mutual dependence and interconnectedness of cognitive, motor, social, emotional development, and speech development (ibid.). These complementarities underscore support for an integrated approach to learning in project-based and other activities involving children and educators. In this context, organizing music-didactic games for children makes sense because these games are tailored to children's interests, capabilities, and needs, while also involving activities that support their holistic development and uphold the principle of wholeness and integrity. In these observations, we can recognize the importance and necessity of developing an integrated approach to the learning of young children, which enables their active participation in activities that stimulate the development of their overall potential. In music-didactic games, the focus is on potentials that can foster physical development (gross and fine motor skills), cognitive development (thinking abilities, memory, connections...), socio-emotional development (mutual assistance, help, and support, recognition, and cultivation of emotions...), as well as speech development (correct pronunciation, enriching vocabulary...).

At early ages, children are ready to experientially learn through various activities, to explore their environment, as well as their potential. Games like music-didactic ones are significant during this period for developing their initiative and cooperation. The initiative of preschool children arises from their curiosity, spontaneity, experiential learning, and receptiveness to influences from their environment. These developmental and learning specificities of children, before they start school, determine their actions toward themselves and other people.

The initiative shown by children in progressively complex play activities determines their social behaviors and relationships within a group. Curiosity and spontaneity encourage them to engage in activities where they explore their sensory world, increasingly expressing the need to communicate with other children, interact with them, adapt to the group, and begin to understand roles and others' perspectives. This social interaction entails cooperation with peers, which is both a need and a stimulus for further preschool development (Kopas-Vukašinović, 2012). As previously emphasized, music and musical activities play a significant role in children's upbringing and represent an integral part of their holistic development. The specificities of learning through musical activities such as music-didactic games stimulate children's initiative and cooperation, thus fulfilling their significant educational function.

While playing, which is a specific way of learning for preschoolers, children experiment, pose, and solve problems in a manner inherent to themselves. Through this process, children's latent experiences are systematized into a system of experiences, and subsequently into a system of knowledge.

Through play, it is possible to transform different patterns of children's behavior and stimulate new models, which contributes to further development of their overall potential (Hohmann & Weikart, 1995; Kopas-Vukašinović, 2006; Kopas-Vukašinović & Jovanović, 2012). In integrated activities, such stimuli are more intensive; for example, in the aforementioned music-didactic game, children are simultaneously encouraged to develop various abilities mentioned earlier, creating conditions for their further complexity as they grow older. Furthermore, by using such games and manipulating various materials, conditions are created for children to better navigate new situations later on, in solving similar problems or tasks.

In terms of established professional competencies, the current preschool program specifies the goals of preschool education directed toward the personal, active, and social well-being of children. These goals clearly define the tasks and roles of educators in working with young children, in terms of planned program outcomes and the mentioned well-being aspects. When it comes to the possibilities of an integrated approach in working with children, these well-being aspects for the child imply that they are fulfilled, content, and happy in terms of developing the mentioned abilities. Their needs and interests are respected, encouraged, and supported, and children are engaged in diverse and creative activities. Through integrated activities, children explore, imagine, expand, and exchange experiences, knowledge, and skills, expressing themselves in various ways that are characteristic to them. They initiate activities and are cooperative, and in doing so, they recognize and enhance their abilities in various aspects of development (cognitive, motor, social, emotional, communication, and creativity). In such situations, children are ready to make decisions, make choices, take responsibility in activities, communicate, negotiate, and collaborate with peers (Foundations of the Preschool Program, 2018). Regarding achieving these mentioned benefits for children, the roles of educators can be defined in the context of planning (a), organizing (b), and (c) evaluating play activities that are appropriate to the age, capabilities, and interests of children. When it comes to music-didactic games, these roles involve:

a) Carefully selecting, understandable, and appropriately timed text, cheerful melodies appealing to children's ears, and effective motivational preparation of children for participating in a game;

b) Encouraging and supporting children in the game, involving the educator as an equal member, observing and monitoring children's behavior during the game;

c) Discussing the game with children (what they know, can do, and want after the game), evaluating the value of the game in terms of children's exhibited behaviors (engagement, curiosity, initiative, and collaboration) and concerning their demonstrated abilities and values (cognitive, motor, emotional, social).

All these roles of educators should be viewed in unity. In music-didactic games, they imply purposeful and comprehensive action by the educator, with the possibility of complicating the game and introducing gradual challenges according to children's capabilities and interests, up to creating new games.

RESEARCH METHODOLOGY

The aim of our theoretical research is to present the significance of music-didactic games in organized integrated learning activities, focusing on the development of children's overall potential.

This goal involves specifying examples of music-didactic games and potential developmental outcomes, as well as presenting the professional competencies of educators for implementing such activities and their roles concerning the program objectives aimed at children's well-being.

The research was conducted using a descriptive method and content analysis procedure.

RESULTS

Description of the Music-Didactic Game "Where is the Sea"

In accordance with the findings of contemporary psychology on children's learning and development, as well as current preschool education programs, educators are expected to listen to and respect children's interests, prior knowledge, and potentials. They are expected to creatively frame various contents and find approaches that will support and accelerate their development (Stanojević & Vukićević, 2020). For the purposes of this theoretical research, a music-didactic game *Where is the Sea?* has been designed. This game integrates elements from different fields, encompassing not only musical elements and movements but also language, natural sciences, mathematics, and visual arts. The authors' idea was to unify elements from various fields into one game and to apply a STREAM approach in creating the text and melody of the music-didactic game. As with other didactic games, a primary goal of the game has been predefined: to foster the understanding of mathematical relations through contents from other areas.

The poetic text of the music-didactic game, in its original Serbian version[1],

[1] When translating the song from Serbian to English, consideration was given to the content and purpose of the music-didactic game. Therefore, the rhymes in the second and fourth lines were omitted; the melody remains the same, with slight rhythmic changes due to the different syllable counts.

possesses the following characteristics: it includes familiar concepts for children, maintains a proper rhythmic organization of verses (with the same number of syllables in the first and third lines, and the same number in the second and fourth lines), and features a correct arrangement of rhymes to aid in easier memorization and motivate children to learn the musical game. The text is suitable for visual illustration, which children observe and follow while learning the lyrics and melody of the game, helping them perceive relationships and logically connect content with movement.

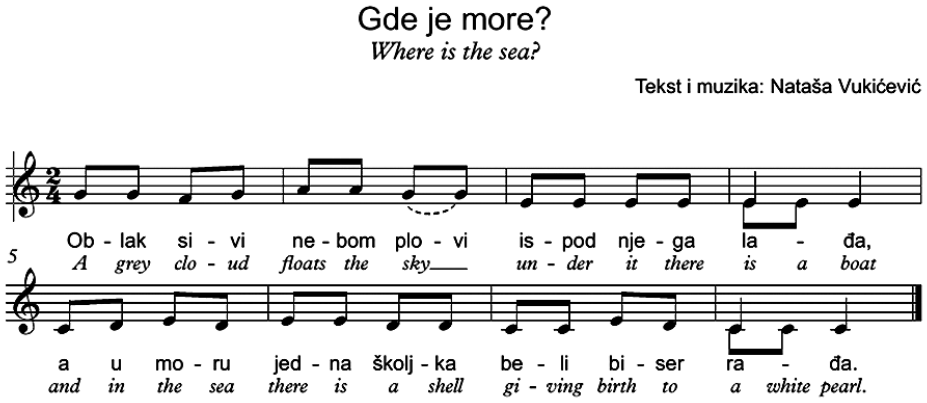

Figure 1. Musical notation (text and music written by Nataša Vukićević)

The melody is adapted to children's abilities and prior knowledge, ranging from C1 to A1, with a simple harmonic structure. Consequently, each melodic motif of every verse starts with lower or higher tones. The melodic line contributes to the aesthetic experience of the text (e.g., repeating the same tone and evoking images of a calm sea). Children simultaneously learn the text and melody through auditory processing, observing the visual illustration. After singing the song, children are tasked with demonstrating and following the content of the song through hand and body movements. This can be a spontaneous improvisation, supplemented with instructions from the educator to show, through movement, the place where the cloud is (above), the boat (in the middle, between the cloud and the shell), the shell and the pearl (below).

In addition to textual content, movement follows the melodic line and helps children demonstrate where certain phenomena and objects mentioned in the song are located (above, below, in something): waving their hand above their head to show the undulating movement of clouds, then making a straight motion at waist height to depict a straight line and calm sea where the boat sails, and finally squatting when singing about the shell and mimicking the opening

of the shell in rhythm with the counting units (four hand movements for four beats). All movements are performed in rhythm, harmoniously, and uniformly, developing in children a sense of even rhythmic pulsation and rhythmic abilities. Learning does not end with the execution of the game but continues with discussion and reflection on the game elements and what they heard, saw, and demonstrated through tasks that define relationships for each concept: where the sea is in relation to the cloud, where the boat is in relation to the shell, and where the shell and pearl are located.

The title of the didactic game is formulated in the form of the question *Where is the sea?* and the answers to the question indicate the tasks and outcomes of the game.

In accordance with the new *Foundations of Preschool Education and Upbringing Program – Year of Ascent* (2018), which emphasizes that one of the important educational competencies is communication in the native and foreign language, the game can be enhanced with a new task of learning specific words in English and their understanding. The learning process also involves the integration of various activities of children (musical, verbal, logical, physical, dance, visual...). After performing the game, children are introduced to three key words in English. These are *cloud*, *boat*, and *shell*. Each of these words is accompanied by a specific movement in the previously performed musical game. Instead of pronouncing or translating the given word, the child should perform the corresponding movement.

Acquired Concepts/Knowledge within Individual STREAM Areas

The novelty of the presented concept of the music-educational game lies in integrated learning and acquisition of knowledge from various fields, specifically applying the STREAM approach in early childhood education. Through playing this music game, children acquire knowledge across several areas, which we list individually in the following text.

Language and speech development. Considering that the text of the music-educational game does not contain unfamiliar words, children do not acquire new terms; instead, their attention is focused on understanding the meaning of the poetic text. Interpreting the verses stimulates children's imagination, prompts a series of questions, and initiates the creation of new ideas. Moreover, discussing a specific segment of the text can lead to acquiring new knowledge from other areas. For example, interpreting the verse "A gray cloud sails through the sky" prompts thoughts about whether clouds really sail, why they are gray, whether clouds move, and whether there are other ways to describe the movement of clouds.

Art. Art elements mentioned in the song, such as gray and white, are just one aspect of the visual arts that children can explore. The visual content of the imagery can have multiple roles in the learning process: they help children determine relationships and also serve as a supportive tool for learning the text and melody of the music game. Additionally, such music-educational games can be a significant motivational vehicle in visual activities, since children can illustrate the song imagery creatively, in their unique way.

Mathematics. Determining the spatial relations between the objects (*above*, *below*, *in*, etc.) is the primary goal of learning with this musical-didactic game. An effective learning approach is supported by an integrated approach applied during the execution of the musical game itself, where mathematical concepts are reinforced through movement, text, visual, and musical elements. In addition to the primary goal mentioned, the *number 1* mentioned in the text can prompt a dialogue aimed at developing children's logical thinking, through tasks such as comparing one shell with one sky and discovering differences based on knowledge from other areas. Learning through reflection on specific phenomena and reaching conclusions through children's shared engagement contributes to functional knowledge and the acquisition of mathematical competencies.

Music Education. Performing a musical game, like other musical reproductive activities, is an important segment in developing children's musical abilities, especially their sense of rhythm and rhythmic pulsation. Music, in conjunction with other components, offers numerous educational benefits as discussed in our theoretical approach to this issue. The musical elements are aligned with mathematical relationships: words like sky and cloud, positioned *above* the sea and ship, are underscored with higher tones, while the concept *below* is emphasized with lower tones relative to preceding pitch heights in the song. The melodic line, characterized by specific features, contributes to the aesthetic experience of the text (repetition of the same tone in the second verse illustrates the image of a calm sea). Besides the alignment of pitch height with mathematical relationships, the type of movement assigned to a specific verse serves to focus attention on the musical experience of undulating and flat melodic lines or the rhythmic experience in the final verse.

Exploring the environment. Insights into phenomena, concepts, and objects such as clouds, sea, seashells, and boats, based on the emotional experience during the game performance, can extend to other related concepts important for understanding the environment and the world that surrounds them: precipitation, weather conditions, water, and air.

Physical education. Uniform and precise execution of movements in the rhythm of the game, as well as possible free dance movements, have multiple

benefits for satisfying children's need for movement, exploring the possibilities of their own bodies, developing children's independence and autonomy in movement, developing children's basic movements, coordination, and improving general movement abilities of children (agility, speed, agility, flexibility...).

The Roles and Tasks of Preschool Teachers in Implementing Integrated Content in Music-Didactic games

The competencies of preschool teachers for conducting music-didactic games, which relate to achieving the personal, professional, and social well-being of children, are outlined in the theoretical approach. Therefore, this chapter will present specific tasks and roles of preschool teachers in preparing and conducting the game *Where is the Sea*, achieving the game's primary goal, and acquiring integrated knowledge. The choice of a didactic game in this case involved creating a text adapted to the possibilities of integrative learning independently and designing a melody in line with the textual content and goal of the game.

Besides the competencies of preschool teachers oriented towards creating a positive learning environment, child development, and well-being, creating a music-didactic game requires specific abilities across different domains. Regarding the two main components, textual and musical, creating a music-didactic game presupposes a certain level of literary, musical, and creative abilities in preschool teachers. Equally important are motivational aspects responsible for generating and operationalizing ideas. In this case, the motivation and desire of educators to facilitate, approach, and enrich the process of integrated learning for children, in the context of exploring different styles and learning situations, are the main drivers for preparing and conducting music-didactic games. It should be emphasized that preparing a music-didactic game, due to its complexity, poses an identical or even more complex demand on preschool teachers compared to implementing the game, its flow, and learning outcomes.

The first step is to create a text that, besides the primary requirement of being short, understandable, with a proper rhythmic organization of verses and the use of rhyme, should also subtly introduce the learning area to which the content and goal of the game belong (learning mathematical concepts/relations). The second step is to compose a melody for the given text; this is not a complex task and does not necessarily require a high level of musical knowledge and abilities from preschool teachers, considering that the melody is predetermined and conditioned by the characteristics of the text. An additional task for the educator may involve adjusting the melody and aligning it with the game's goal, highlighting specific textual moments through music. The final stage of game preparation involves designing movements and visual illustrations of the content. Besides building on previous components, designing

movements can also be entrusted to the children as a form of creative engagement during the game. However, instructions from preschool teachers are permitted during this process, especially if children incorrectly demonstrate relations like above, below, in (something), or do not perform movements precisely in rhythm with the game.

The simplest task for preschool teachers involves the process of learning the game, which follows an established methodological pattern of adopting the text, melody, and choreography. The emphasis is on integrating movements, musical characteristics, and mathematical concepts. The game needs to be rehearsed so that, in addition to learning mathematical concepts, other aspects and abilities can also be developed.

Preschool teachers, in addition to all the roles presented in the theoretical approach and previous interpretations, have the additional role of integrating their knowledge, experiences, and abilities to meaningfully and effectively apply the STREAM approach in various early childhood learning situations.

CONCLUSION

Through theoretical research into the possibilities of applying music-didactic games in the STREAM approach with early childhood education, several conclusions have been drawn.

The implementation of the STREAM approach occurs on multiple levels and requires preschool teachers' readiness and competencies to enhance, expand, and adapt teaching strategies according to the characteristics and stages of children's holistic development at an early age. Integrated learning logically leads to the creation of an integral picture of the surrounding world, through integrative approaches suitable for cognitive, affective, and physical aspects of children's functioning in various learning situations. Considering that children learn through play and that the application of music has numerous benefits across all aspects of personality development, the opportunities of the STREAM approach were demonstrated through the preparation and execution of the music-didactic game *Where is the Sea*, specifically created for this research. The effectiveness of applying music-didactic games in the STREAM approach is conditioned by the choice and characteristics of the game, where its textual and musical content serves the simultaneous acquisition of knowledge from different areas, alongside the competencies of preschool teachers to design (within program frameworks) the game with specific objectives and subsequently implement it with positive outcomes of integrated learning through play.

Considering the age of the children whom the music-didactic game is intended for, the text, melody, and choreography are simple, making it possible to occasionally design such games within various themes/projects.

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