

Review Article

Impact of Musical Rhymes on Students Learning in Kindergarten

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Abstract

Educators have recognized that musical rhymes stimulate children's kindergarten cognitive, social, emotional, motor and behavioral skills. In recent years, public schools in the US have seen a decline in musical rhymes in the class and focus is on developing academic skills. This conceptual article synthesizes existing literature and perspectives on using musical nursery rhymes in early childhood education. It provides an overview of the topic, exploring historical, cultural and educational aspects while pondering on rhymes' importance by discussing their significance on language and cognitive development to assist interdisciplinary learning. It further highlights the role of the teacher in incorporating musical nursery rhymes into daily routines. Finally, it explores how training and professional development can improve teachers' integration of musical/nursery rhymes into daily classroom routines. This article bridges the gap between traditional and contemporary educational practices by emphasizing the multifaceted benefits of musical rhymes and advocating for their revitalization in educational settings.

Keywords

Nursery Rhymes, Musical Nursery Rhymes, Poems, Cognitive and Language Development, Interdisciplinary Learning, Teacher Training

1. Introduction

Musical nursery rhymes have a long history in early childhood education. Brief rhythmic poems like "Jack and Jill, "Humpty Dumpty," or "Little Miss Muffet" are frequently a supply of shared pride among teachers and students in early years classroom settings. Gauthier and Lejeune stress that learning through musical rhymes is crucial in the whole learning process [15]. Orlova, argues that musical rhymes are elemental compositions with the intent that the lyrics are sung or recited to create proportional feelings or emotions about a particular thing [30]. Musical rhymes and songs assist in retaining the concepts taught through them and facilitate students learn skills [1]. Even if young learners have insufficient or incomplete knowledge of

musical nursery rhymes, they enjoy the rhythm and sound of the words [11, 46]. In fact, musical and linguistic skills trigger cognitive development during students lively social interaction while learning the nursery rhyme [15]. Thus, a student experiences an entirely distinctive learning context once nursery rhymes embed in the classroom activities, which further infuse and improve early musical and literacy skills among learners [15, 21, 25].

Kenney found that the kindergarten teachers in the US have come under increased pressure to implement educational programs and the curriculums that foster the precise teaching of particular skills, directing them to neglect many activities

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like musical rhymes [22]. Likewise, Sullivan also reiterates that academic reforms and the accountability on testing movement have pushed public school syllabi to convert progressively to compact and absorb ‘academic’ areas [40]. Miller and Almon record that kindergarten students nowadays consume their maximum time learning numeracy and literacy skills, neglecting exploration through play, body movement through exercises, imagination development through storytime [28]. Moreover, several kindergartens have adapted new state standard curriculums that are highly prescriptive and linked to standardized tests.

Despite their numerous benefits, research shows that nursery rhymes can inadvertently reinforce harmful stereotypes and biases. Many traditional rhymes reflect outdated social norms and can include racial slurs, caricatures and colonialist perspectives [7, 44]. These elements can reinforce negative stereotypes and marginalize children from diverse backgrounds. For example,

Eenie Meenie Miney Mo
 Eenie meenie miney mo,
 Catch a tiger by the toe.
 If he hollers, let him go,
 Eenie meenie miney mo.

Originally, the rhyme featured a racist insult aimed at Black people. While the objectionable wording has been deleted from newer versions, it demonstrates how traditional rhymes may reinforce negative preconceptions and prejudice. Furthermore, the emphasis on European themes and characters in many nursery rhymes might foster a sense of isolation and lead to a Eurocentric perspective. They should be carefully analyzed for biases and harmful preconceptions. Educators must analyze the background of the rhymes and their possible influence on students from maximum aspects [37, 44]. Promoting inclusive alternatives and fostering open dialogue about the content of nursery rhymes is essential for creating equitable and respectful learning environments.

Table 1. Comparison of nursery rhymes, musical nursery rhymes and poems.

Feature	Nursery Rhymes	Musical Nursery Rhymes	Poems
Purpose	To entertain and teach young children	To entertain and teach young children, with a strong emphasis on music	To express thoughts, feelings, and ideas through language
Structure	Short, simple verses with a repeating rhyme scheme	Short, simple verses with a repeating rhyme scheme and a strong musical element	Can vary widely in length, structure and rhyme scheme
Language	Simple, repetitive language	Simple, repetitive language with musical elements	Can use complex language and imagery
Musicality	May include simple melodies or rhythms	Strong emphasis on music, with clear melodies and rhythms	May incorporate musical elements, but not always
Themes	Often focus on everyday activities, animals, or nature	Often focus on everyday activities, animals or nature, but may also include educational themes	Can explore a wide range of themes and subjects

This paper explores the importance of nursery rhymes, musical nursery rhymes or poems (see Table 1) emphasizing on ways they are applied for nurturing a fun and lively environment for gaining knowledge, encouraging learning opportunities that are interdisciplinary and empowering practitioners to be meticulous and innovative. Nursery rhymes, musical nursery rhymes and poems are used interchangeably throughout this paper, as defined in Table 1.

The following section in this paper addresses the impact of musical rhymes on students learning in a kindergarten classroom and kindergarten teachers’ responsibilities in three different strands: cognition and language improvement, interdisciplinary learning and teacher’s role in kindergarten.

2. Literature Review

A vast body of literature present in this section will em-

phasize the importance and impact of musical rhymes in kindergarten. Teachers today have recognized the impact of nursery rhymes in the classrooms for stimulating students’ social, emotional, cognitive, musical and interdisciplinary learning [27].

2.1. Cognition and Language Improvement

Musical nursery rhymes introduce young learners to a rich and engaging way for fostering cognitive and language development. According to the Early Development Instrument (EDI), language and cognitive development are an advanced neurological process that comprises of age-appropriate reading consciousness, writing, mathematical skills, cognition about differences and similarities, plus the capability of recalling and reciting chunks of information through retention [12]. Learners often adopt explicit language learning techniques, such as incorporating musical nursery rhymes [5].

Young learners find nursery rhymes captivating due to their playful language, repetitive structures that results in laying a strong foundation for future learning.

2.1.1. Language Skills

Musical nursery rhymes offer numerous benefits, one of which is enhancing language skills proficiency. They introduce young learners to a rich and diverse vocabulary. The playful and imaginative language used in these rhymes often includes new and interesting words that expand a child's lexicon leading to explicit language learning. Thornbury refers explicit language-learning mechanism as 'slow-release grammar,' signifying that the grammatical categories and verbal (lexical) patterns that are unanalyzed developed by young learners through poetry may be meaningful illustrative examples when pedagogical grammar rules are introduced in school [42]. As children repeatedly hear and engage with these words, they gradually incorporate them into their own speech. For example, in the classic rhyme

Hickory dickory dock,
The mouse ran up the clock.
The clock struck one,
The mouse ran down,
Hickory dickory dock.

Learners might learn unfamiliar words like "hickory," "dickory," or "dock" but find it simpler to recall, reproduce these phrases and words due to its rhythmic pattern, simple vocabulary and repetitive structure. Frequent exposure and interaction with the rhyme makes them understand and use the language elements, enhancing their vocabulary, pronunciation and overall language skills.

Many authors emphasized using nursery rhymes to teach English to young learners. For instance, Kenney stresses that musical rhymes contain all parts of the language that develop reading and speaking skills [22]. Kenney also supports the view that children involved in practicing vowel and consonant, numbers, parts of speech through melodic flow of rhymes begin to imitate the sounds eventually recognizing them [22]. This approach of teaching through musical nursery rhymes allows children to learn the language naturally, picking up grammar and functional phrases as part of their linguistic knowledge [10, 33, 34]. These language elements can then be used by children to generalize about the language [34, 36].

Research suggests that nursery rhymes can significantly enhance early literacy development, particularly in terms of reading fluency. Turkish researchers Tekşan and Yılmaz-Alkan determined the power of rhymes on elementary school students' fluency in reading. They conducted a quasi-experimental study on 44 fourth graders for 15 weeks [41]. Using the procedure, the researcher observed notable differences among the control and the experimental group. Reading accuracy and reading grades improvement were more in the experimental group that offered two activities related to nursery rhymes for 15 weeks whereas the control group did their regular education without nursery rhymes. Although the

experimental study conducted was not on kindergarten students, the results show that rhymes enhance children's fluency, pronunciation and intonation in reading. In a similar kind of qualitative study, conducted in the Czech Republic that included 28 kindergarten, 866 respondents; Grofčíková and Máčajová concluded that awareness of rhymes in child's early years proved significant for the subsequent reading acquisition [17].

Phonological awareness is an important aspect for developing reading and writing. It is a skill that recognizes and manipulates sounds in spoken language. Nursery rhymes play a vital role in developing phonological awareness [5, 18, 38]. The rhythmic patterns, rhymes and alliterations found in nursery rhymes help children to become attuned to the sounds of language [13, 18, 34]. These rhythmic patterns engage children which leads them to understand that words are made up of smaller sound units, that is a major concept for phonological knowledge.

Nursery rhymes is a good way of improving pronunciation [5]. Repetition in rhymes supports children to rehearse correct pronunciation of sounds and words [34]. Proper intonations and stress patterns are also developed through the melodic characteristics of various nursery rhymes [5, 34]. Thus, young learners can improve their speech and articulate better by listening and imitating the rhymes.

Therefore, musical nursery rhymes offer a valuable tool for early language and literacy development. Their repetitive nature, coupled with engaging melodies and playful language, facilitate vocabulary expansion, phonological awareness and pronunciation skills. By incorporating nursery rhymes into early education, educators can create a rich and stimulating language environment that supports children's natural language acquisition and lays a strong foundation for future academic success.

2.1.2. Cognitive Abilities

Nursery rhymes structured format including rhyme, rhythm and alliteration aligns with children's cognitive preferences for pattern recognition and function as a mnemonic [5]. Bland also notes that in addition to rhymes, alliteration, singsong rhythms meticulous personifications strongly appeal to primary-aged children and satisfy their "cognitive need for patterns" [5]. The characters and familiar rhythms become lifetime melodies and friends.

Linguist Jean Aitchison posits that language is inherently repetitive [2]. Children's natural affinity for patterns, coupled with the repetitive structures of language, makes nursery rhymes a valuable learning tool. Repetition in nursery rhymes enhances memory, automaticity, and language acquisition [9, 20, 14]. Their playful nature fosters a love of language and provides opportunities for engaging classroom activities [5].

Nursery rhymes require focused attention as children listen, follow rhythms and anticipate content, enhancing concentration [20]. While seemingly simple, they often involve problem-solving, such as deciphering meanings or completing

missing words, fostering critical thinking [41]. As children mature, they analyze rhyme content, questioning characters and themes, further developing critical thinking. Rajan and Saadat's study demonstrated that nursery rhyme exposure significantly enhanced kindergarteners' English vocabulary [35]. Compared to a control group, children exposed to nursery rhymes exhibited improved vocabulary scores through assessments like word-picture matching and cross-word puzzles. This engaging approach fostered vocabulary acquisition, memorization, comprehension and reduced language anxiety.

Henceforth, musical nursery rhymes supercharge young minds by stimulating skills like listening, organizing thoughts, memorizing, speaking, moving to the rhythm, spotting patterns, and quickly learning letters and numbers.

2.2. Interdisciplinary Learning

Integrating multidisciplinary knowledge through a central topic or theme of focus is characterized as interdisciplinary learning [19]. Strong dialect, images, sound, along liveliness are essential in kindergarten poems and are ideal for studying and creating meaningful interdisciplinary learning opportunities [27]. For example, the following poem can be sung in "Twinkle, Twinkle, Little Star" tune.

The Water Cycle

Water, water, up so high,
Floating in the cloudy sky.
Raindrops falling, pitter-pat,
Watering the world, like that!
See it flow, a river wide,
Ocean calling, ocean tide.
Sunbeams shining, warm and bright,
Water rising, out of sight.

Listed above nursery rhyme is a great example of multi-disciplinary nursery rhyme which can effectively be used for combining science concept (i.e., water cycle) through, melody and movement. Since the tune provides an appealing melody and is familiar to most of the learners, it is easy for them to remember and repeat. The integration of physical movement like stretching the arms up to represent the sky or water vapors and down for river flowing movements enhances learners motor skills and learning experience. Such actions make the learning process enjoyable and helps learners visualize the water cycle. This way just on musical nursery rhyme that has combined science, music and movement can promote a holistic development and stimulate learners physical, sensory and cognitive skills.

Musical nursery rhymes establish the potential for encouraging a creative and playful learning among young learners as it gives them a chance to create, perform, respond and connect to the environment. This experience underscored the significance of incorporating rhymes into early years education to encourage interdisciplinary learning and support teachers in developing innovative pedagogical approaches.

Kenney also supported that nursery rhymes foster the child's overall development (including social, emotional, physical and cognitive growth) and embed them to profound musical learning to explore speech, sequence, intonation and dynamics well as standard forms [22].

Musical nursery rhymes in kindergarten include physical movement; children perform physical actions in poems like

If you're happy and you know it, clap your hands (clap clap)

If you're happy and you know it, clap your hands (clap clap)

If you're happy and you know it, then your face will surely show it

If you're happy and you know it, clap your hands (clap clap)

The above classic children's poem encourages participation and physical movement. It's simple, repetitive structure makes it easy for young children to learn and enjoy. The poem promotes happiness and expression through clapping, while also developing a sense of rhythm and timing.

Musical nursery rhymes that involve physical movement develop large and small muscles plus increase proficiency [22]. Mullen identifies that gross and fine motor actions through nursery rhymes can effectively help children develop physical health [29]. Wolfe and Stambaugh unsystematically videotaped 21 regularly scheduled Sesame Street one-hour programs for their descriptive study that categorized and quantified the different types of musical rhymes that could develop social, motor and academic skills [45]. The results revealed that in 759 program sections examined, 71 percent of the social, emotional and academic concepts were produced through music whereas, 29 percent had non-music segments. Similarly, in one hours' program, five segments taught academic skills whereas three social skills. While examining the songs for teaching operations and concepts, it was notable that the majority of songs had original compositions with repetition to some extent in words and melody both and words delivered through melody clearly articulated hence easily understood. Since every program had newly composed music, emphasis was laid on using some familiar melodies to nest important operations and concepts to promote efficient learning. Several songs in the program limited the word repetition when the motive was to express a particular notion or term. However, if the intention was to reinforce and remember the sequence of verbal information or multiple words, then repetition was essential. This research provides effective music methods for educators to enhance their interdisciplinary teaching techniques through musical rhymes to make learning fun for the learners. Not only the preschoolers benefit from Sesame Street, but many kindergartens and elementary schoolers across the globe enjoyed and learnt concepts through music compositions.

With nursery rhymes rich language, tone, imagery and fun, they are suitable for music study and transdisciplinary learning. Barrett and Veblen highlight the importance of a com-

prehensive music curriculum that engages children in various music experiences, fostering their interests and roles in music [3]. They recommend an interdisciplinary method to teach music, encompassing diverse forms of music-making, styles and genres to provide eloquent music skills for learners. Barrett further elaborates that a syllabus positioned on meaning allows teachers and learners to reflect on music's value, uses various teaching approaches to endorse analysis and suggests multiple ways for discovering diverse music in community and school settings [4].

The meaningfulness of a music experience can be attributed to several factors, including the music's characteristics (e.g., dynamics, tempo, rhythm, melody and harmony), its particular association and the background of creation [3, 16, 39]. Nursery rhymes, with their linguistic and musical qualities and playful interactions have delighted children for centuries, providing memorable learning opportunities. For example

Pat-a-cake, Pat-a-cake, Baker's man
Pat-a-cake, pat-a-cake, baker's man,
Bake me a cake as fast as you can;
Pat it, and prick it, and mark it with a "B,"
And put it in the oven for baby and me.

The rhyme demonstrates committal to memory, sequencing, rhythm, language, motor skills, eye contact, touch, tempo, dynamics, rhythm, pitch, beat, fluency and pattern. This nursery rhyme if incorporated in classroom activities showcase proficiencies in language arts, physical education, music and social and emotional skills, highlighting the potential of nursery rhymes as an ideal "organizing center" for interdisciplinary study [23]. Analyzing a nursery rhyme can establish the flow of language and identify poetic and literary devices, such as alliteration, assonance, imagery, metaphor, onomatopoeia, personification, repetition, stanza, rhyme scheme and simile. Understanding these linguistic elements is fundamental for identifying music concepts to study, such as meter, rhythm, phrasing, form and cadence. Musical rhymes offer an efficient means for learners to search natural links between language arts and music. Additional language arts ideas that can be studied include cause and effect, character, context clues, fluency, homophones, main idea, parts of speech, predictions, speaking, listening, vocabulary, fluency, phonemic awareness, homophones, parts of speech, sequencing, storytelling, theme and tone.

2.3. Social and Emotional Skills

Research also establishes the positive effects of musical rhymes in developing learners' social competence. EDI defines 'social competence' as the curiosity of the world, keenness about different practices, understanding about acceptable behavior, aptitude to regulate behavior, adequate regard of elders' authority, working beside others, ensuing instructions, and the skill of engaging with other children [12]. Nursery rhymes like

Red light, red light, what do you say?

Stop and wait, don't run away!
Cars and trucks must all be still,
Wait for green, up on the hill.
Patient drivers, let us be,
Safe and sound, happy and free.

Help children develop joint attention, follow the rules, interact with peers and learn cooperation [29]. In the same vein, Creighton found that young children feel more secure and can self-regulate and understand emotions if adults react quickly and sensitively to their needs [8]. Hence, musical rhymes in a kindergarten encourage bonding and positive feelings which help enhance the social, emotional, physical wellbeing of learners.

Given the significance of cognitive, language and interdisciplinary skills development, it is crucial to highlight the teacher's role in carefully selecting poems that are free from discrimination, bias and stereotypes. Subsequent sections will elaborate on the teacher's responsibilities in this regard.

2.4. Role of Teachers in Kindergarten

Teachers' role in incorporating music and rhymes in day-to-day activities is integral in making the classroom environment lively and fun. A teacher's aptitude to appeal and assure student's responsiveness is in itself a critical learning process [40] when the intent is to creatively introduce new content to the young learner. Their expertise in creating engaging and nurturing learning environments is crucial in maximizing the benefits of these rhymes.

Teachers can curate a diverse collection of nursery rhymes, considering age-appropriateness, cultural relevance and linguistic richness [5, 34]. They can introduce rhymes with enthusiasm, using expressive voices and gestures to captivate young minds.

Teachers can also encourage active participation by incorporating interactive elements like clapping, dancing and role-playing into nursery rhyme activities [29]. This creates opportunities for young learners to experiment and explore with rhythm and language.

By designing activities with nursery rhymes that encourages memory development, problem-solving and critical thinking, learning can be more meaningful. For example,

Jack and Gill went up the hill
To fetch a pail of water;
Jack fell down and broke his crown
And Gill came tumbling after.

The above simple poem if sung with music and rhythm can assist teachers initiate a problem-solving question like asking, "Why did Jack and Jill fall down the hill?" This may prompt learners to think deeper which may lead them to analyze the lines and consider possible factors like the weight of the water pail or slope of the hill and the characters' actions. To further promote creativity, teachers can ask learners to devise alternative solutions and let them come up with their ideas. Furthermore, integrating dramatic play or art can also augment

the learning experience. Students could be asked to illustrate their imagined answers or act out unusual scenarios, further extending their thoughts to the problem and possible solutions. This way, teachers can encourage learners to think critically and solve problems by changing a simple nursery rhyme into a multidimensional learning experience.

Nursery rhymes can be a great source of introducing diverse cultural heritage which could foster a sense of appreciation and belonging for different linguistic and musical traditions. This may assist teachers observe children's engagement with the rhymes to assess their language and cognitive development but also expand their horizons about acceptability to diversity. This may further teachers' knowledge in designing lessons with differentiated instruction for meeting individual learners needs and in offering added support as required.

A growing body of research points out that teachers need the training to select the proper rhymes for their lessons in kindergarten classrooms [1, 26, 40]. Peterson and Lewis surveyed 180 kindergarten teachers in the US on literacy and language. The results found that 85 percent of teachers reported giving concepts through familiar nursery rhymes [32]. Hence, nursery rhymes are an extensively applied activity in kindergartens. Nevertheless, Layton and Upton argued that categorical training on phonology for the teachers in the kindergarten is not part of nursery rhyme routines [24]. Since teachers lacked training, they valued these activities for providing group participation rather than develop phonological awareness among learners.

Only a few studies have directly addressed teachers' training areas on using poems in kindergarten classrooms. Tibi argued that pre-service teaching programs did not prepare either coached educator to employ teaching through rhymes in the classroom [43]. Thus, this certainly explains why teachers hesitate to use nursery rhymes while teaching in the classrooms.

The next section will focus on the need for more research due to the rapid change in educational dynamics and generation to generation student demands.

3. Implications

Musical rhymes in the kindergarten ignite all areas of child development and skills that include social-emotional, motor, intellectual, language and overall literacy. In addition, it helps the body and the mind work together. Not a single study has established on adverse effects of music and rhymes in kindergarten. However, a more significant number of research have discussed its power on the overall involvement of students' learning and achievement. Nevertheless, statistical evidence [6] shows that learning through music and rhymes in American kindergarten classrooms needs to be substantially improved [31]. Thus, teachers' training and professional development need more attention to engaging students through music and rhymes.

Finally, many types of research still need to be done as the dynamics of education change with time. For example, baby boomers' learning cannot be compared to the millennials (between 1981- 1996); and the millennials to generation z (born 1996-2010) and Gen Alpha (2010s-2020s). Nevertheless, to gain more knowledge, continuous research is required in this area and keeping in consideration the best practices of the previous research findings.

4. Conclusion

Musical nursery rhymes, with their rich historical roots and inherent musicality, serve as powerful tools in early childhood education. They not only captivate young learners with their rhythmic charm but also are important in improving cognitive, language and social-emotional development. Despite their proven benefits, the increasing focus on academic skills in U.S. public schools has declined the use of nursery rhymes, overshadowing their potential to create a well-rounded educational experience.

This conceptual article has underscored the significance of musical nursery rhymes in fostering a range of developmental skills in the light of research. Young learners' position in language and cognitive development is well-documented through rhymes improving memory, phonological awareness and vocabulary. Likewise, the interdisciplinary nature of poems bids openings for combining varied subjects, endorsing a rounded learning approach that merges academic concepts, music and movement.

Teacher empowerment through training and professional development cannot be overstated. Educators must be prepared with the understanding and abilities to efficiently integrate nursery rhymes into their regular practices and act cautiously while selecting rhymes to avoid stereotypes and biases. This also comprises choosing culturally relevant rhymes, using them to foster critical thinking and problem-solving and ensuring they are free from biases and stereotypes. As educational paradigms continue to evolve, it is essential for teachers to embrace innovative methods that integrate the rich cultural and educational value of nursery rhymes, thereby enriching the learning environment for young children.

Ultimately, nursery rhymes hold the potential to transform early childhood education by bridging the gap between tradition and contemporary educational practices. By revitalizing their use in the classroom, educators can provide a more engaging, inclusive, and effective learning experience that supports the overall development of young learners.

Abbreviations

EDI Early Development Instrument

Author Contributions

Farheen Mahmood is the sole author. The author read and approved the final manuscript.

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