



Therapeutical influence of music in an inclusive classroom: Discovery center in Abuja, Nigeria

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Article History

Received: 09.04.2025
Accepted: 02.05.2025
Published: 15.06.2025

Abstract: This study reviews literature and practical evidence from the Discovery Centre in Abuja, Nigeria, to explore the therapeutic effects of music in inclusive classrooms. It focuses on how music supports the learning and integration of students with disabilities such as autism, ADHD, and learning disabilities. Highlighting music's role as a cognitive and emotional tool, the research reports significant improvements in speech development, motor coordination, attention, cognitive function, emotional regulation, and social interaction during music-based sessions. Strategies like multisensory engagement and instrument-based activities benefitted learners across various ability levels. The findings advocate for integrating music into both special and general education to promote inclusive education in Nigeria and similar contexts.

Keywords: Music therapy, disabilities, discovery centre, biopsychosocial.

Cite this article:

Ogunleye, B. A., (2025). Therapeutical influence of music in an inclusive classroom: Discovery center in Abuja, Nigeria. *ISAR Journal of Arts, Humanities and Social Sciences*, 3(6), 35-40.

Introduction

Music has always held a special place in our hearts, and its remarkable power as a healing tool is something that continues to inspire us. It's incredible how music can uplift our spirits, help us manage stress, and cultivate a sense of inner tranquillity. The practice of music therapy has emerged as a beacon of hope for many individuals grappling with cognitive and biopsychosocial challenges. Through this therapeutic approach, many have found pathways to overcome their struggles and enrich their lives. In fact, music therapy has been shown to significantly enhance the quality of life for people living with various disabilities.

According to the Individuals with Disabilities Education Act (IDEA), schools are required to provide essential services and resources to ensure that students with disabilities receive a "free and appropriate" public education. The updates made to IDEA in 2004 emphasized the importance of incorporating related services into each student's Individualized Education Program (IEP). Following the enactment of the No Child Left Behind Act (NCLB) in 2002, the U.S. Department of Education began focusing on evidence-based research to fortify educational interventions and boost academic achievement. As a result, both general and special education teachers play a crucial role in supporting students with disabilities in their classrooms.

The purpose of this study is to delve into the wealth of literature about the effects of music on students with disabilities. In many

inclusive classrooms, music has proven to be a powerful ally for both educators and students. It not only facilitates the inclusion of students with disabilities but also transforms previously daunting tasks into achievable goals. Over the past decade, research into the relationship between music and children with disabilities has expanded significantly. While previous studies have often concentrated on the connections between music and healthcare, music therapy, foundational learning through music, and its benefits for emotional and behavioural disorders, there remains a need to explore specific categories of disabilities in greater depth. Highlighted areas include autism, cognitive delays, attention deficit hyperactivity disorder (ADHD), learning disabilities, and physical or other health impairments.

This review aims to build on earlier research by providing a holistic perspective on the effects of music therapy for children with disabilities. Together, we can uncover the transformative potential that music holds in enriching lives and fostering growth within our educational systems.

Methodology

This study examines the therapeutic impact of music within an inclusive classroom at the Royal Family Academy Discovery Centre in Abuja, Nigeria, with a specific focus on students with disabilities. By reviewing literature and incorporating firsthand observations, the research highlights music's capacity to enhance learning, communication, emotional regulation, and social integration among students with autism spectrum disorder (ASD),



cognitive delays, attention-deficit/hyperactivity disorder (ADHD), learning disabilities (LD), physical and health impairments (POHI), and speech and language impairments. Grounded in both global and local perspectives, this study builds on the meta-analysis by Geretsegger et al. (2014), which found that music therapy significantly improves social interaction in children with Autism Spectrum Disorder (ASD), and Katagiri's (2009) findings that structured music activities enhance emotional comprehension in autistic children.

At the Discovery Centre, twenty-three students with disabilities participated in a music-integrated learning environment, where structured and inclusive music sessions led to measurable improvements in language acquisition, motor coordination, cognitive development, attention span, and emotional expression. Observations revealed that autistic pupils showed notable progress in verbal interaction, mimicking sounds, and rhythmic engagement. Specific interventions included using music to support speech development, regulate hyperactivity, and enhance cognitive processing through the use of mnemonic devices and multisensory strategies. Additionally, musical activities were tailored to accommodate the orthopaedic and emotional needs of students, enabling them to participate meaningfully in both academic and social settings.

Effects of music therapy

Music classes from kindergarten through sixth grade provide an incredibly inclusive environment where students with disabilities can thrive alongside their peers. By integrating music into different subject areas, we can create a lively and engaging learning atmosphere that truly motivates all children. According to Collett (1992), a well-structured music-integrated curriculum greatly benefits both bilingual and special education students, offering them invaluable hands-on experiences that pave the way for building reasoning, critical thinking, problem-solving, analytical, evaluative, and creative skills, as supported by Houchens (1983).

A wealth of research has explored the positive effects of music therapy on children with cognitive disabilities. For instance, Stratum (n.d.) highlights the use of music to enhance social and language abilities in students with autism. This innovative approach demonstrates how, through singing songs carefully aligned with rhythm, stress, flow, and inflection, autistic children can gradually enhance their expressive communication, thereby reducing their dependence on musical cues. Stratum also emphasizes music's crucial role in promoting cognitive, learning, perceptual, motor, social, and emotional development.

Another illuminating study by Stambough (1996) highlighted the experiences of 37 participants with varying degrees of Williams Syndrome at a music camp. Her research highlights the effectiveness of tailored strategies and techniques, combined with patience, in meeting the diverse needs of these students.

Moreover, there are established methods to support the inclusion of students with emotional or behavioral disorders in mainstream music classrooms. King and Schwabenlender (1994) identified various supportive strategies that promote emotional well-being for children from all backgrounds. Encouraging self-expression among children not only empowers them but also fosters a sense of belonging, as noted by Dixon and Chalmers (1990). Together, these insights reveal the transformative power of music in education!

Implications

Music therapy has been recognized as a valuable approach for children with autism spectrum disorder (ASD) and other disabilities. Special education teachers have utilized music to influence mood and assess emotional challenges. It provides a means for individuals to express their emotions. Music is considered an essential part of every child's life, as they enjoy listening, singing, and humming. Moreover, music can effectively enhance coping skills in stressful situations.

The writer suggested that music should be incorporated not only in music classes but also in regular education classrooms. She found that combining literature with musical elements helped bring books to life and that music-infused classrooms encouraged children to engage and participate in activities (Giles, Cogan, & Cox, 1991).

However, very few studies have offered a comprehensive perspective on specific disability categories, such as autism (Staum, n.d.; & Stambough, 1996), mental retardation (MR) or cognitive delays, attention deficit disorders (ADHD), learning disabilities (LD), and physical and other health impairments (POHI). Below is a list of practical, relevant, and evidence-based strategies that teachers can use to support students with various disabilities through music

Main contributions

1. Speech and Language Impairments

Music is more than a leisure activity. It is more than verbal counselling. It is a sophisticated cognitive, linguistic, social and psychological treatment. Music provides a form of compensation for those with language impairments as well as a means of facilitating language development.

1. Find a piece of music enjoyable to the student.
2. Encourage student to participate in the musical activities.
3. Have student verbally identify an instrument by name before he or she can play it.
4. Learn words and articulate particular phonemes through singing songs.
5. Create non-judgmental and nonverbal activities to help make student feels comfortable.
6. Create activities where any vocal sound is accepted as a creative part of the improvised music.
7. Incorporated vocal sounds that are spontaneously emitted and that are elicited from the music making.

It was recorded during each music session at the centre, pupils tend to open up and make more sound, mimic, repeat gesture and try to sing. Learning of new words was intensified through music and the improvement on the pupil's language and speech impairment was rated high at the end of each academic sessions

2. Orthopaedics and Health Impairments

Music affects heart beat, pulse rate, and skin responses (Hodges, 1980).

1. Place an instrument at a strategically placed distance to increase hands or arms movement.

2. Swing a mallet to strike a drum to help increase the range of motion.
3. Have student hold a musical instrument may help the development of fine motor coordination.
4. Vary the intensity of clapping, jumping, stamping, pounding, swinging, and snapping, etc. according to the severity of the disability.
5. Use slow and gentle music to increase flexibility and to decrease hyper tense muscular contractions.

The health care provider during each music session keeps record of the pupil’s health which shows that there is always an improvement in their reactions to sound, and gives the high recommendation for inclusion of some instrument with resounding pitch at the end of 2023-2024 academic session. Some of the pupils are attached to some of the sound produced by the clapping cymbal. Though the music teacher muted the cymbals to soften the sound for others in the inclusive classroom.

Ratio at which their academic performances are measured

The Royal Family Academy Discovery Centre under Family Ministry International Wuye, Abuja. The centre have twenty-three pupils with disabilities and to measure their academic performance, the researcher considered the following;

1. Cognitive Disabilities

Research in neurological functioning supports the association between music and cognitive development. Music organizes sounds and silences in a flow of time. It creates expectations and are then satisfied. It raises a question and solves it.

- a. Use mnemonic devices for remembering sequences (the alphabet song).
- b. Use categorical structures to differentiate (animal farm, colour, etc.).
- c. Connect sound with a concept (a cow makes a “moo” sound).

All the pupils went through the cognitive training to identify their need in assimilating letters and numbers. Through this process the inability to differentiate by name or picture were intensified with music. The research shows the categories of pupils with cognitive learning among the pupils are minimal through the use of music therapy.

2. Attention Deficit /Hyperactive Disorders and Learning Disabilities

Music focuses on accuracy and attention. Learning how to play an instrument can improve attention, concentration, impulse control,

social functioning, self-esteem, self-expression, motivation and memory.

- a. Connect a particular vocal sound with a particular body movement.
- b. Provide more than one neural pathway by using multi-sensory channels.
- c. Use visual, auditory and kinesthetics (striking a drum, clapping hands).
- d. Use the inherent structure in songs to reinforce a sense of internal order.
- e. Use rhythm, steady pulse, and basic beat of music as a model to help student to experience order, sequence, and a sense of consistency.

Systematic Structure of Music Therapy used for Pupils with Attention Deficit/hyperactive disorder.

1. Assessment Phase: - The Objective is to understand each pupil’s attention challenges, behavioral patterns, and cognitive processing style.

Activities: - Conduct baseline attention assessments through music teacher’s observation, clinical evaluation, attention span rating scales by the special educators and care givers.

Gather information from teachers, caregivers, and specialists. Identify sensory sensitivities and music preferences.

2. Goal Setting: - The objective is to define clear, measurable therapeutic goals.

The Sample Goals are meant to improve sustained attention during task-based activities, increase impulse control and reduce disruptive behavior. Also, to enhance memory and sequencing skills through rhythmic structures. It can also foster on-task behavior in a group setting.

3. Structured Music Intervention Planning: - The objective is to design individualized or small group sessions based on goals.

Key Elements:

- a. Duration: 20–30 minutes per session, 2 times per week.
- b. Consistency: Use predictable formats and routines for each session.
- c. Pacing: Begin with high-energy, attention-grabbing activities, and gradually transition to calming, focused tasks.
4. Core Techniques and Activities:

Technique	Description	Purpose
Rhythmic Entrainment	Use steady beats, clapping, or drumming to match pupil’s internal rhythm.	Improves attention span and internalizes timing and order.
Call-and-Response Songs	Engage pupils in interactive singing patterns.	Builds auditory memory and impulse control.
Movement-to-Music	Connect sound with body movement (e.g., jumping to drum beats).	Enhances attention through multi-sensory integration.
Musical Games (e.g., freeze dance, echo songs)	Combine attention cues with fun tasks.	Develops listening skills and on-the-spot attention redirection.
Song-Based Instruction	Use lyrics to reinforce classroom content.	Supports memory retention and attention through repetition.

5. Environmental Structuring: - Provision of a low-distraction space for sessions was considered while using visual schedules or musical cues to signal transitions. There was an incorporate headphones and soft sound instruments for pupils who are sensitive to sound.

6. Monitoring and Feedback: - In order to Track the pupil’s progress, the researcher uses:

- a. Behavior logs
- b. Attention rating scales (before and after sessions)
- c. Teacher/student feedback
- d. Adjust music selection and activity difficulty based on progress.

7. Reinforcement and Generalization: - Link music therapy outcomes with classroom behaviors (use of music cues for transitions). Reinforce progress with praise and small rewards. Encourage carryover by involving teachers in simple music-based routines.

Using music therapy systematically for pupils with attention deficit/hyperactive involves careful assessment, goal setting, structured interventions, and monitoring. Music’s rhythm, structure, and multi-sensory appeal help children with ADHD stay engaged, regulate behavior, and improve learning outcomes especially when implemented consistently and with individualized attention.

Eight pupils went through the attention deficit/hyperactive disorders and learning training to identify their need in communication and participation. Through this process, the inability to interact with others were intensified with music. The research shows the categories of pupils with attention deficit/hyperactive disorder and learning among the pupils are minimal through the use of music therapy

3. Gifted and Talented

Music focuses on deeper psychological process and allows creative expression. Challenge gifted students to adapt their existing abilities in ways that enable them to produce music. All the pupils went thought the process of identifying their potentials in music. The research shows that the categories of gifted and talented students are higher than the mainstream classroom.

4. Emotional and Behavioural Disorders

Music creates physiological responses, which are associated with emotional reactions. Music explains the tension release sequence associated with emotional arousal (Abeles, 1980). The speed and intensity of the musical beat creates the different feelings in each type of song. The opportunity to play an instrument can be used as a reinforcer for on task behaviour.

- a. Use small group music therapy to facilitate socialization and interpersonal interactions.
- b. Encourage student to play different instruments in the songs.
- c. Allow student to express individually while participating as a group.
- d Use the common musical beat to unite group cohesion and concrete group dynamic.
- e. Use music activities that require a member to imitate the body movement or rhythmic pattern of another member.
- f. Teach student to take turn when there is only one instrument available to share within a group.
- g. Use sharing space while playing musical instrument to control impulse.

5. Autism

Autism is a complex developmental condition that affects socialization and communication and causes repetitive and stereotyped behavior. These impairments are also often associated with narrow interests that may lead to special abilities. Autism is a spectrum disorder that affects individuals to a varying degree. Experts estimate that autism occurs in 1.1 percent of the population and affects four times as many males as females.

Autism was first reported in 1943 by Leo Kanner. In his classic paper, Kanner presented eleven case studies of children with autism and repeatedly mentioned musical abilities and musical interest in six of the children. Since then, researchers have systematically studied the musical processing abilities of individuals with autism, and have shown that while their language may be deficient, these individuals may process music in similar ways to typically developing individuals. Four of the pupils at the centre were dragonized autistic and this research shows an improvement in their communication skill and interaction to sound at a moderate paste.

Below is the table showing the ratio at which the academic performance was measured between September 2022 to July 2023.

No of pupils	Disability/Challenges	Low	Moderately low	High	Moderately high
3	Cognitive disability		✓		
2	Attention deficit			✓	
3	Hyperactive disorder				✓
3	Learning disability		✓		
5	Gift/Talent			✓	
3	Emotional and behavioural disorder			✓	
4	Autism			✓	

This table presents a comprehensive overview of the pupils' performances after the last academic session in July 2024. During the period from September 2023 to July 2024, the center accommodated a total of twenty-three (23) pupils with disabilities.

Among these, pupils with cognitive disabilities exhibited a moderately low level of academic achievement, struggling to engage with the curriculum entirely. In contrast, those with attention deficits were categorized as experiencing significant challenges in maintaining focus during lessons. Despite their tendency to be easily distracted, these pupils demonstrated exceptional cognitive potential, which often went untapped due to their concentration difficulties.

Pupils diagnosed with hyperactive disorders, on the other hand, showcased remarkable mental agility. Their brains appeared to have a capacity for rapid information absorption, which positively influenced their academic performance, placing them in a moderately high tier.

Students with learning disabilities faced a different set of challenges; they learned at a notably slower pace and could only grasp concepts incrementally. Their learning process required patience and understanding, as pushing them beyond their natural limits only impeded their progress.

Gifted and talented pupils stood out for their exceptional abilities, particularly in vocational studies. Their innate talents not only enriched their educational experience but also contributed significantly to their overall academic advancement.

Interestingly, pupils with emotional and behavioral disorders demonstrated a commendable level of academic performance. This group was characterized by their remarkable focus and dedication, often fixating on tasks until they achieved a high level of proficiency and perfection.

Finally, students with Autism spectrum disorder were notable for their strong listening skills, which played a key role in their academic success. This unique ability enabled them to absorb information more effectively, enhancing their learning outcomes.

Improvement

This paper recorded that music therapy at the Discovery Center had a positive impact on pupils' cognitive development. Their music teacher, the special education service provider, and the health professionals collaborate to utilize music to address the physical, emotional, cognitive, behavioral, and social functional needs of the pupils at the center.

At the center, the environment is typically set up to facilitate music therapy and music-based interventions, which help develop communication and sensorimotor skills. This also promotes the learner's readiness for learning, skill acquisition, and attention. Through the use of music, learners increase their motivation to participate in other aspects of the educational environment. Music therapy serves as an integral component in helping the children attain the educational goals identified by their Individualized Education Program (IEP) team.

This research found that the effectiveness of music therapy for children with Autism Spectrum Disorder (ASD) was rapid, with an improvement rate of 38% in the first music therapy session, particularly among children with high temperaments. A Cochrane review found that non-verbal music therapy interventions were

superior to placebo therapy or standard care in several areas, including social interaction, verbal communicative skills, initiating behavior, reciprocity, social adaptation, joy, and quality of relationships. The quality of evidence recorded varied across the pupils but ranged from moderate to low due to growth and help received from various homes and relatives.

Another clinical evaluation of the neurobehavioral outcomes of music therapy interventions found at the Centre in Abuja is the use of music-based interventions involving improvisational approaches through song and rhythm targeting their social communication skills. Although music therapy has been associated with improved social skills, self-expression, and cognitive development in children with Autism Spectrum Disorder (ASD), the effectiveness of music at the center has proven to be an answer to the most challenging aspects of educators' and caregivers' roles.

At the end of each academic session, the center recorded an improvement in its functional brain connectivity, which resulted in promotion to the next class. The music therapy intervention for the pupils increases the way their brains function at school. The children's improvement was measured during examinations to ascertain the level of their understanding within the period. The benefits of music therapy are wide-ranging and specific to each person's needs. The positive impacts on the children at the discovery centre include:

- a. Improved communication skills.
- b. Social development.
- c. Self-expression.
- d. Emotional support.
- e. Cognitive development.

Summary / Conclusion

In summary, music therapy serves as a vital resource for enhancing the well-being and development of children with disabilities. Research indicates that while individual outcomes can differ significantly, the evidence consistently shows that music therapy has a positive influence on various dimensions of their lives, including emotional regulation, social skills, and cognitive development.

Currently, the school does not have a dedicated music therapist, but it effectively leverages the expertise of music teachers, healthcare providers, special educators, and caregivers by holding weekly music sessions. These sessions are designed to be engaging and interactive, allowing children to explore different musical instruments, participate in rhythm exercises, and enjoy group singing activities. Since the introduction of these music interventions, parents have enthusiastically reported significant improvements in their children's communication abilities and social engagement, noting how their kids are more willing to interact with both peers and adults.

Moreover, this increase in social and academic performance has markedly enhanced the centre's reputation among facilities that cater to exceptional pupils in Abuja. The school is now recognized for its innovative approaches and commitment to inclusive education.

Children at the school benefit from structured activities that encourage collaboration and interaction, whether it is through

group projects in the classroom or structured playtime during recess. To maximize these benefits, the school needs to consult with a credentialed music therapist who can devise personalized interventions tailored to each pupil's unique needs and objectives. Additionally, organizing a concert that features performances by the children would not only showcase their progress but also provide an enjoyable and supportive environment for families, allowing them to celebrate their children's achievements without any feelings of embarrassment or stigma. This concert could serve as a powerful community event, fostering a sense of pride and connection among families and staff alike.

References

1. Abeles, H. (1980). Responses to Music. In D. A. Hodges (ed.). *Handbook for Music Psychology* (pp. 105-140). Dubuque, IA: National Association for Music Therapy.
2. Chaquico, C. (1995). Music can aid the healing process. *Billboard*, 107 (14), 6
3. Dixon, G. T., & Chalmers, F. G. (1990). The expressive arts in education. *Childhood Education*, 67, 12-17.
4. Friedrich, E. V. C., Sivanathan, A., Lim, T., Suttie, N., Louchart, S., Pillen, S., & Pineda, J. A. (2015). An Effective Neurofeedback Intervention to Improve Social Interactions in Children with Autism Spectrum Disorder. *Journal of Autism and Developmental Disorders*. <https://doi.org/10.1007/s10803-015-2523-5>
5. Gfeller, K. (1989). Behavior disorders: Strategies for the music teacher. *Music Educators Journal*, 75(8), 27-30.
6. Giles, M. M., Cogan, D., & Cox, C. (1991). A music and art program to promote emotional health in elementary school children. *Journal of Music Therapy*, 28, 135-148.
7. Hodges, D. (1980). Neurophysiology and musical behavior. In D.A. Hodges (Ed.), *Handbook of Music Psychology* (pp. 195-224). Dubuque, IA: National Association for Music Therapy.
8. Houchens, C. J. (1983). A personal adjustment curriculum for secondary behaviorally disordered students. Paper presented at the Minnesota Conference on Programming for the Development needs of Adolescents with Behavioral Disorders. Minneapolis, MN.
9. IDEA (1997). The Individuals with Disabilities Act Amendments of 1997. Retrieved March 9, 2004 from Web site: <http://www.ideapractices.org>.
10. King, R. P., & Schwabenlender, S. A. (1994). Supportive therapies for EBD and at-risk students: Rich, varied, and underused. *Preventing School Failure*, 38(2), 13-18.
11. Music Therapy and Special Education Services Brief Update of Published. https://www.musictherapy.org/assets/1/7/Music_Therapy_and_Special_Education_Research_Update_6-21.pdf.
12. Music Therapy for Autism - Psych Central. <https://psychcentral.com/autism/music-therapy-for-autism>.
13. Music therapy and autism - National Autistic Society. <https://www.autism.org.uk/advice-and-guidance/professional-practice/music-therapy>.
14. Music Therapy in Autism Spectrum Disorder: a Systematic Review. <https://link.springer.com/article/10.1007/s40489-021-00246-x>.
15. Moyer, J. (1990). Whose creation is it, anyway? *Childhood Education*, 66, 130-131.
16. Outcomes, Benefits and Drawbacks of Music ... - Harmony Music Therapy. <https://harmonymusictherapy.com/outcomes-benefits-and-drawbacks-of-music-therapy-special-needs-children/>.
17. Pelliteri, J. (2000). The consultant's corner: Music therapy in the special education setting. *Journal of Educational & Psychological Consultation*, 11 (3/4), 379-392.
18. Pratt, R. R. (1991). Music education and medicine. *Music Educators Journal*, 77(5), 31-37.
19. Rodocy, R., & Boyle, J. D. (1988). *Psychological foundations of musical behavior* (2nd ed.). Springfield, IL: Charles Thomas.
20. Sanna Yu, M.S.Ed. York Region District School Board, Ontario, Canada L4G 3H2. inspiredbymusic@yahoo.com
21. Shennum, W. A. (1987). Expressive activity therapy in residential treatment: Effects on children's behavior in the treatment milieu. *Children & Youth Care Quarterly*, 16, 81-90.
22. Sidorenko, V. N. (2000). Clinical application of medical resonance therapy music in high-risk pregnancies. *Integrative Physiological & Behavioural science*, 35(3), 199-207
23. Stambough, L. (1996). Special learners with special abilities. *Music Educators Journal*, 83(3), 19-24.
24. Staum, M. J. (n.d.). Music therapy and language for the autistic child. Retrieved December 12, 2003, from Willamette University, Salem, Oregon Web site: <http://www.autism.org/music.html>
25. Susan Sze, Ph.D. Niagara University, New York U.S.A. 14109. ssze@niagara.edu
26. Weinberger, N. M. (2000). Music and the brain: A broad perspective. *Music Educators Journal*, 87(2), 8-9.
27. undefined. <https://doi.org/10.1002/14651858.CD004381.pub3>.
28. undefined. <https://www.dovepress.com/social-outcomes-in-children-with-autism-spectrum-disorder-a-review-of-peer-reviewed-fulltext-article-PROM>