

Neurodiversity in Music Education: A Literature Review of Research on Autistic, ADHD, and Other Neurodivergent Learners

Neurodiversidade na Educação Musical: Uma Revisão da Literatura sobre Pesquisas com Alunos Autistas, com TDAH e Outros Neurodivergentes



Francisco Veniel-Martí

Florida Universit ria, Valencia, Espa a

fveniel@florida-uni.es

Abstract: This study presents an integrative review of literature on the participation and lived experiences of neurodivergent students, including autistic learners, students with ADHD, and others with diverse neurological profiles, in secondary school music education. It aims to synthesize current research to identify recurring patterns, barriers, and inclusive practices that promote meaningful engagement, while assessing the extent to which neurodiversity-affirming perspectives are incorporated into scholarship. The review employs a literature-based methodology suited to emerging multidisciplinary fields. Searches in Web of Science, ERIC, and Google Scholar used broad keyword combinations related to autism, ADHD, neurodiversity, and inclusive music education. Empirical studies, conceptual papers, dissertations, and case studies were included and analyzed through thematic coding. Four central themes emerged. First, sensory, social, and environmental characteristics of music classrooms and ensemble settings strongly shape students' well-being and participation. Second, sustained engagement depends on structure, predictability, flexibility, and opportunities for autonomy. Third, teachers often report limited preparation for working with neurodivergent learners, resulting in inconsistent instructional practices.

Fourth, the literature identifies inclusive strategies aligned with neurodiversity principles, such as sensory-aware adjustments, multimodal communication, flexible instruction, and relational support, that show consistently positive effects. Overall, the findings suggest that effective support for neurodivergent students relies less on specialized interventions than on the intentional design of learning environments and responsive pedagogical approaches. A neurodiversity-affirming perspective invites educators to recognize neurological differences as natural variations, foreground students' strengths, remove unnecessary barriers, and offer multiple avenues for expression and agency. As school music programs serve increasingly diverse learners, these insights can guide the development of more equitable and genuinely accessible music-learning environments.

Keywords: neurodiversity. inclusion. Autism. ADHD. music education

Resumo: Este estudo apresenta uma revisão integrativa da literatura sobre a participação e as experiências vividas de estudantes neurodivergentes, incluindo alunos autistas, estudantes com TDAH e outros com perfis neurológicos diversos, no ensino de música no nível secundário. O objetivo é sintetizar as pesquisas existentes para identificar padrões recorrentes, barreiras e práticas inclusivas que favorecem o engajamento significativo, além de avaliar em que medida perspectivas afirmativas da neurodiversidade estão refletidas na produção acadêmica atual. A revisão adota uma metodologia baseada em literatura, adequada a campos emergentes e multidisciplinares. As buscas foram realizadas nas bases Web of Science, ERIC e Google Scholar, utilizando combinações amplas de termos relacionados ao autismo, TDAH, neurodiversidade e educação musical inclusiva. Estudos empíricos, artigos conceituais, dissertações e estudos de caso foram incluídos e analisados por meio de codificação temática. Quatro temas centrais emergiram. Primeiro, características sensoriais, sociais e ambientais das salas de música e dos conjuntos influenciam fortemente o bem-estar

e a participação dos estudantes. Segundo o engajamento sustentado depende de estrutura, previsibilidade, flexibilidade e oportunidades de autonomia. Terceiro, muitos professores relatam preparação limitada para trabalhar com alunos neurodivergentes, resultando em práticas pedagógicas desiguais. Quarto, a literatura identifica estratégias inclusivas alinhadas aos princípios da neurodiversidade, como ajustes sensoriais, comunicação multimodal, instrução flexível e apoio relacional, que apresentam efeitos consistentemente positivos. De modo geral, os achados indicam que o apoio eficaz a estudantes neurodivergentes depende menos de intervenções especializadas e mais do desenho intencional dos ambientes de aprendizagem e de abordagens pedagógicas responsivas. Uma perspectiva afirmativa da neurodiversidade convida educadores a reconhecer diferenças neurológicas como variações naturais, valorizar as forças dos alunos, remover barreiras desnecessárias e criar múltiplas vias de expressão e agência. À medida que os programas escolares de música atendem a populações cada vez mais diversas, esses insights podem orientar a construção de ambientes de aprendizagem musical mais equitativos e verdadeiramente acessíveis.

Palavras-chave: neurodiversidade. inclusão. Autismo. TDAH. educação musical

Submitted on: January 19, 2026.

Accepted on: February 10, 2026

Published on: March 2026.

1. Introduction

Music classrooms and ensembles increasingly include neurodivergent learners, including autistic students, students with ADHD, and others whose cognitive and sensory profiles differ from typical expectations (Weikl et al., 2022). As school systems expand inclusive education initiatives, music educators are often responsible for supporting diverse learning needs but may not receive adequate preparation to do so (Haley, 2023). Because musical settings involve unique sensory, social, and performance demands, understanding how neurodivergent students experience school music is essential for creating welcoming and effective learning environments (Mayer-Benarous et al., 2021). In addition to research focused on students themselves, emerging scholarship has emphasized the importance of considering neurodivergent educators' perspectives within the broader landscape of neurodiversity in music education. Hopkins (2025), for example, documented how secondary ensemble teachers with ADHD drew on their lived experience to interpret student needs, design flexible instruction, and challenge deficit-based assumptions. Although focused on educators rather than students, this work underscores the value of neurodiversity-informed perspectives for understanding how inclusive practices develop in school music settings.

The concept of neurodiversity views neurological differences, such as autism, ADHD, dyslexia, and others, as natural variations in human development rather than deficits to be corrected. This perspective emphasizes strengths, identity, and the lived experiences of neurodivergent individuals (Moya-Pérez et al., 2024). In music education, adopting a neurodiversity-informed approach can shift the focus from managing "problem behaviors" to understanding sensory needs, communication

differences, and student strengths (Korošec, 2024). Such a perspective aligns with contemporary educational movements that prioritize belonging, student voice, and inclusive classroom practices.

This literature review aimed to synthesize research on autistic, ADHD, and other neurodivergent learners in school music contexts, including general music, performance-based ensembles, and specialized support classrooms. Specifically, the review aims to (a) describe how neurodivergent students' participation and experiences in school music have been characterized in existing scholarship, (b) identify instructional strategies, environmental adaptations, and relational practices that support or hinder their inclusion, and (c) examine the extent to which a neurodiversity-informed perspective is present in this literature and what gaps remain for future research.

Despite growing interest in inclusive and neurodiversity-affirming pedagogies, music educators continue to report uncertainty about how to support neurodivergent learners in practical, day-to-day settings such as general music classes, rehearsals, and performance-based ensembles. Existing studies vary widely in their disciplinary origins, methodological approaches, and conceptual language, making it difficult for teachers to identify clear, transferable guidance. A focused synthesis of this scholarship can help bridge the divide between research and practice by organizing what is currently known, identifying consistent themes across studies, and highlighting areas that require further investigation. To address this purpose, the following research questions guided the review:

RQ1. What themes and patterns emerge across existing research on neurodivergent students' experiences in music education settings?

RQ2. What implications do these findings have for inclusive, strengths-based, and neurodiversity-informed music teaching practices?

2. Method

In this section, we present the methodological procedures that informed the current review. First, we explain the design employed while providing a brief rationale and contextual definition. Second, the data collection process is described, offering key details on the search process and inclusion criteria. Finally, we report the thematic approach used to address the data analysis.

2.1 Design

This study employed an integrative literature review design, which allows for the inclusion of empirical studies, systematic reviews, and conceptual scholarship to provide a comprehensive understanding of a developing area of practice. Defined by Witthmore & Knafl (2005), this type of literature review aims to synthesize knowledge from multiple research methodologies to provide a more comprehensive understanding of a particular phenomenon. An integrative design was selected because research related to neurodivergent learners in music education spans multiple disciplines, including music education, special education, psychology, and music therapy. This approach enables the synthesis of diverse methodologies and perspectives while maintaining a practical focus aligned with the needs of music educators.

2.2 Data Collection

To locate relevant literature, searches were conducted in Web of Science, ERIC, and Google Scholar using a small set of broad, concept-focused keywords. Because this was a literature review rather than a systematic review, the search process was intentionally simple and flexible. Keyword combinations included "autism AND music education," "ADHD AND music education," "neurodiversity AND music," "inclusive music education," "special education AND music," and "disabilities

AND music education.” These terms were selected to capture research involving autistic, ADHD, and other neurodivergent learners within school music settings.

After reviewing the results of these searches, additional relevant sources were identified through targeted backward searching of the reference lists of key articles. Studies were included if they discussed neurodivergent learners in relation to general music classrooms, performance-based ensembles, or other school-based music experiences. Clinical-only studies or those unrelated to school music contexts were excluded. This flexible, relevance-based approach ensured that the final set of sources reflected the interdisciplinary and emerging nature of scholarship in this area.

2.3 Data Analysis

The selected literature was analyzed using a thematic approach consistent with review methodology. Thematic analysis is a systematic process for identifying, organizing, and interpreting recurring themes in qualitative and mixed-methods evidence (Witthmore & Knafl, 2005). After reading each study, key ideas related to neurodivergent students’ experiences, participation, challenges, strengths, and instructional supports in school music were extracted. These ideas were then grouped into broader themes that captured recurring patterns across studies, despite methodological differences. This process allowed for the synthesis of diverse forms of evidence while maintaining a focus on practical implications for music educators.

The analytic process followed several iterative steps. First, each article was read in full, and relevant segments were highlighted. Second, descriptive initial codes were assigned to recurring ideas (e.g., sensory overload, need for predictability, peer interaction challenges, student strengths in music-making, teacher adaptation strategies, participation barriers). Third,

related codes were compared across studies and clustered into broader conceptual categories. Finally, these categories were refined and synthesized into four overarching themes that captured patterns across the literature and structured the presentation of results.

3. Findings

Four types of studies were distinguished after the analysis, resulting in four themes that structure the presentation of the findings: (1) sensory, social, and environmental experiences of neurodivergent learners; (2) participation, engagement, and barriers in school music contexts; (3) teacher knowledge, confidence, and classroom practices; and (4) inclusive and neurodiversity-aligned strategies in school music.

Theme 1: Sensory, Social, and Environmental Experiences of Neurodivergent Learners

Across the reviewed literature, neurodivergent students' experiences in school music were shaped by the sensory and social characteristics of music classrooms and ensembles. Music settings are often described as environments with intense auditory, visual, and spatial stimuli such as loud dynamics, overlapping instrumental timbres, bright lighting, and crowded rehearsal spaces. Several studies reported that autistic and ADHD learners frequently experienced these sensory conditions as overwhelming, leading to withdrawal, anxiety, or reduced participation (Brown et al., 2022; Hourigan, 2009). At the same time, some students were described as thriving in musical activities when the sensory environment matched their preferences or when they were provided with ways to regulate stimulation (Chou, 2024).

Social expectations also played a significant role in shaping neurodivergent students' experiences. Ensemble participation often requires reading subtle social cues, coordinating with peers, following rapid verbal instructions, and sustaining joint attention to the expectations of a conductor, all of which can be challenging for students with communication or attention differences (Brown et al., 2022; Hourigan, 2009). However, research also highlights that when teachers and peers recognized students' strengths, provided alternative communication pathways, or offered flexible participation options, neurodivergent learners reported a stronger sense of belonging and expressed enjoyment in musical collaboration (Brown et al., 2022).

Environmental structure emerged as a consistent factor across studies. Predictable routines, visual supports, and clear expectations were associated with increased comfort, engagement, and persistence for neurodivergent learners (Melago, 2014; Chou, 2024). Conversely, sudden changes, competitive performance pressures, or ambiguous rehearsal procedures were frequently linked to heightened stress or disengagement (Weigl et al., 2022; Brown et al., 2022). Teachers who implemented sensory accommodations, such as adjusting volume levels, allowing noise-reducing headphones, previewing transitions, or offering quiet spaces for breaks, reported improved student regulation and participation (Brown et al., 2022; Hourigan, 2009).

Overall, the literature portrays school music environments as both risky and full of opportunities for neurodivergent learners. Without attention to sensory and social design, music classrooms may unintentionally discourage participation; yet with thoughtful adaptation, they can become contexts in which neurodivergent students experience regulation, agency, and meaningful connection through music.

Theme 2: Participation, Engagement, and Barriers in School Music Contexts

Across the literature, neurodivergent students' participation in school music settings was characterized by a mix of meaningful engagement, intermittent challenges, and structural barriers. Several studies described music as a context where autistic and ADHD learners demonstrated strong musical interest, creativity, or commitment when activities aligned with their strengths or when instruction allowed for flexibility and autonomy (Chou, 2024). Students often expressed enjoyment in improvisation, composition, or individual music-making tasks that allowed them to regulate sensory input or work at their own pace (Hopkins, 2025). In these cases, music participation supported emotional expression, peer connection, and self-confidence.

However, participation was not consistently sustained across all aspects of school music. Multiple studies reported that neurodivergent learners experienced difficulty maintaining engagement during activities that demanded prolonged attention, rapid transitions, or simultaneous processing of verbal, visual, and auditory cues (Melago, 2014; Weikl et al., 2022). For students with ADHD, ensemble rehearsals, requiring sustained focus on a conductor, precise timing, and inhibition of impulsive responses, were frequently cited as challenging (Melago, 2014). Similarly, autistic learners sometimes withdrew or became less responsive when activities became unpredictable or socially complex, such as during group improvisations without a clear structure or noisy rehearsal segments (Brown et al., 2022).

Barriers to participation often stemmed from classroom structures rather than from students themselves. Studies noted that rigid rehearsal routines, inflexible performance expectations, or competitive ensemble cultures could inadvertently marginalize neurodivergent students (Brown et al., 2022; Hourigan, 2009). In some cases, students were excluded from performances, assigned limited roles, or discouraged from

participating fully due to assumptions about their behavior, attention, or sensory needs (Sze, 2004). Conversely, when teachers adopted differentiated approaches, such as offering alternative parts, adjusting pacing, or providing choices in mode of participation, students demonstrated higher levels of engagement and continuity in their musical involvement (Brown et al., 2022; Chou, 2024).

Taken together, the literature suggests that participation and engagement are highly context-dependent. Neurodivergent students tend to participate more fully when learning environments allow for predictability, sensory regulation, autonomy, and relational support. Conversely, barriers arise when classroom structures are inflexible, socially demanding, or insufficiently supportive of diverse neurological profiles. These patterns highlight the importance of designing school music experiences that are responsive to individual strengths and needs rather than relying on traditional ensemble norms.

Theme 3: Teacher Knowledge, Confidence, and Classroom Practices

A consistent thread across the literature is that music educators often feel underprepared to support neurodivergent learners in school settings. Many teachers reported receiving minimal preservice training related to autism, ADHD, or inclusive pedagogy, leaving them uncertain about how to interpret students' behaviors or implement appropriate supports (Brown et al., 2022; Hourigan, 2009). Several studies noted that teachers frequently relied on intuition, trial-and-error approaches, or strategies borrowed from colleagues in general or special education rather than on music-specific guidance (Brown et al., 2022; Melago, 2014). This lack of preparation contributed to variability in how neurodivergent learners were included, supported, or, at times, inadvertently marginalized in music classrooms.

Teachers' beliefs and assumptions also influenced their instructional decisions. Recent scholarship has also highlighted the value of incorporating neurodivergent educators' lived experience into conversations about inclusive music teaching. Hopkins (2025) found that secondary ensemble teachers with ADHD developed deep intrapersonal knowledge of attentional variability, sensory needs, and executive-function challenges, insight that directly informed their instructional decision-making. Their lived experience fostered highly empathic and flexible pedagogical approaches, enabling them to anticipate student difficulties, reduce punitive responses, and design supports rooted in understanding rather than correction. Hopkins' findings suggest that neurodivergent educators possess situated expertise that can enrich neurodiversity-affirming practice and broaden the field's understanding of how inclusive strategies emerge in everyday teaching. Some educators framed autistic or ADHD students' behaviors through a deficit lens, viewing differences in communication, attention, or sensory processing as disruptions to rehearsal flow, which in turn shaped lowered expectations or limited participation opportunities (Sze, 2004; Hourigan, 2009). In contrast, studies that examined classrooms where teachers adopted a strengths-based or neurodiversity-aligned mindset found more adaptive, responsive, and creative instructional practices. For example, teachers who recognized students' musical interests or unique learning profiles were more likely to provide flexible roles, adjust expectations, or incorporate student voice into classroom routines (Chou, 2024).

Classroom practices varied widely, but several effective strategies appeared across studies. These included using visual supports, breaking tasks into smaller steps, previewing transitions, simplifying verbal directions, and offering alternative ways to participate (Brown et al., 2022; Melago, 2014). Teachers also reported that predictability, such as maintaining consistent rehearsal structures, helped neurodivergent learners remain

engaged, while relational practices such as checking in privately, offering emotional reassurance, or acknowledging sensory needs supported trust and belonging (Brown et al., 2022). Notably, teachers who actively collaborated with special educators or families reported greater confidence in designing supports and interpreting student behaviors (Hourigan, 2009).

Despite these strengths, the literature suggests that music educators' confidence remains uneven, shaped by gaps in professional preparation, limited access to resources, and inconsistent school-wide support for inclusive practices. Many teachers expressed a desire for more training specifically tailored to the sensory, social, and cognitive characteristics of neurodivergent learners in musical environments (Brown et al., 2022). Collectively, these findings indicate that teacher readiness, both in knowledge and in mindset, is a central factor in shaping students' experiences and opportunities in school music.

Theme 4: Inclusive and Neurodiversity-aligned Strategies in Music School

Across the literature, a range of instructional and environmental strategies were identified as supportive for neurodivergent learners in school music contexts. Many of these practices reflected principles aligned with neurodiversity-affirming and strengths-based approaches, even when not explicitly framed as such—one of the most frequently discussed strategies involved adapting the sensory environment. Teachers who adjusted volume levels, offered noise-reducing headphones, created quieter practice spaces, or allowed students to take sensory breaks reported improvements in students' emotional regulation and sustained participation

(Brown et al., 2022; Hourigan, 2009). Predictable routines, visual schedules, and clear signals for transitions were also consistently linked to reduced anxiety and increased readiness for engagement, particularly for autistic learners (Chou, 2024; Sze, 2004).

Instructional flexibility emerged as another key theme. Studies described how breaking complex tasks into smaller steps, simplifying verbal instructions, and modeling expectations step-by-step helped students with attention or executive-function differences navigate ensemble and classroom demands (Melago, 2014; Weikl et al., 2022). Providing choices, for example, selecting an instrument, choosing a part, or opting out of certain high-sensory moments, has been shown to enhance autonomy and reduce stress (Lamberti, 2024). In some cases, teachers used multimodal communication (verbal, visual, gestural) to ensure clarity and minimize misunderstandings, an approach particularly supportive for students with communication differences (Brown et al., 2022; Melago, 2014).

Relational and social strategies were also highlighted as important. Teachers who built trusting relationships, offered reassurance, and framed interactions around understanding rather than correction helped neurodivergent students feel more comfortable participating in group activities (Brown et al., 2022). Peer-mediated supports were reported to facilitate communication and mutual engagement, especially when peers were guided to be patient, flexible, and collaborative (Brown et al., 2022). In addition, giving students opportunities to express preferences, reflect on sensory needs, or propose adaptations cultivated a sense of agency, aligning with neurodiversity-informed emphasis on self-advocacy and student voice. Finally, several studies emphasized the importance of teacher collaboration with special educators, occupational therapists, or families. Such partnerships helped music teachers better interpret behaviors, identify triggers, and design tailored supports for individual learners (Hourigan, 2009; Brown et al.,

2022). This collaborative approach not only enhanced students' experiences but also increased teachers' confidence in their ability to create inclusive musical environments.

Overall, the literature portrays inclusive and neurodiversity-aligned strategies as practical, manageable, and often highly effective. Rather than requiring major structural changes, many successful adaptations involved small but meaningful shifts in communication, classroom design, and relational practice. These strategies demonstrate that with planning and flexibility, music educators can create environments where neurodivergent learners participate fully and expressively.

4. Discussion

The findings of this review highlight several practical considerations for music educators seeking to create more inclusive and neurodiversity-affirming learning environments. First, the sensory characteristics of music classrooms and ensembles require intentional attention. Simple adjustments, such as previewing loud or complex sections, offering noise-reducing headphones, providing quieter workspaces, or allowing brief sensory breaks, can reduce stress and make participation more sustainable for autistic and ADHD learners. Anticipating sensory needs and integrating predictable routines, visual cues, and clear rehearsal structures can further support students who benefit from consistency and gradual transitions.

Second, instructional flexibility emerged as a key factor in promoting equitable participation. Breaking tasks into manageable steps, using multimodal communication, simplifying directions, and offering choices in modes of engagement can support students with attention, communication, or executive-function differences. These approaches also align with Universal Design for Learning (UDL) principles, an instructional framework based on the learning sciences that promotes inclusive curriculum design through three core strategies: offering

multiple means of representation, action, and expression, and engagement (Hall & Meyer, 2012). As such, they benefit diverse learners beyond those who identify as neurodivergent. Providing alternative roles or modified parts within ensembles allows students to participate meaningfully without being constrained by traditional performance expectations.

Third, cultivating a relational approach to teaching is essential. Building trusting, respectful relationships with neurodivergent students, attending to their communication styles, offering reassurance, and validating their perspectives supports emotional safety and engagement. Teachers can further enhance inclusion by fostering peer understanding and collaboration, creating structures that support students' mutual support, and emphasizing cooperative rather than competitive ensemble dynamics.

Fourth, teachers benefit from actively seeking collaboration with special educators, occupational therapists, school psychologists, and families. These partnerships can provide insight into individual students' sensory profiles, communication preferences, and learning needs, enabling music educators to design more personalized and effective supports. Such collaboration can also increase teacher confidence and reduce the sense of working in isolation when addressing diverse learner needs.

Finally, a neurodiversity-affirming mindset can shift how music educators interpret behavior, plan instruction, and structure their classrooms. Recognizing differences in sensory processing, attention, social communication, and executive functioning as natural human variation, rather than deficits, encourages teachers to focus on strengths, reduce unnecessary barriers, and honor diverse musical expressions. When educators adopt this perspective, students are more likely to experience a sense of belonging, agency, and joy in school music.

Collectively, these implications underscore that meaningful inclusion does not require lowering expectations or fundamentally altering the goals of music instruction. Rather, it involves designing classroom environments, teaching practices, and relational approaches that are responsive to the neurological diversity present within today's schools. Hopkins' (2025) findings underscore the potential benefits of incorporating neurodivergent teachers' perspectives into music teacher preparation. Because these educators draw on lived experience to interpret behavior, design supports, and communicate empathically with students, their insights can complement theoretical training and strengthen preservice teachers' understanding of neurodivergence. Providing opportunities for preservice teachers to learn from neurodivergent colleagues, through fieldwork, collaborative discussions, or instructional resources, may enhance the profession's capacity to adopt neurodiversity-affirming, strengths-oriented approaches in school music settings.

Several limitations of this review should be acknowledged. First, as a literature review, the search strategy was intentionally broad and flexible rather than exhaustive. Although ERIC and backward searching yielded a relevant body of literature, some studies may not have been captured, particularly those published outside of education-focused databases or in journals not indexed in ERIC. The review, therefore, reflects a representative, but not comprehensive, sample of available scholarship.

Second, the existing literature is uneven in scope. Research related to autistic learners in school music is more prevalent than research focused on ADHD or other forms of neurodivergence, such as dyslexia, dyspraxia, or Tourette syndrome. As a result, the themes reported here may be more reflective of the experiences of autistic students than of the

full range of neurodivergent learners. Future studies should address this imbalance by examining how diverse neurological profiles intersect with participation, engagement, and identity in music classrooms and ensembles.

Third, methodological diversity within the literature, including case studies, practitioner reports, dissertations, and a small number of empirical classroom studies makes it difficult to draw firm conclusions about effectiveness or causality. Many studies rely on teacher perspectives, small sample sizes, or qualitative descriptions. While these approaches offer rich insights, there is a need for more classroom-based observational work, longitudinal designs, and studies that incorporate student voice, particularly from autistic and ADHD learners themselves.

Finally, although this review foregrounds a neurodiversity-informed lens, relatively few of the included studies explicitly employed this framework. Most research still uses medicalized or deficit-based terminology, which may limit the field's understanding of strengths, identity, and agency among neurodivergent students. Future scholarship should more intentionally integrate neurodiversity and disability studies perspectives to represent the lived experiences of neurodivergent youth better and to challenge assumptions embedded in traditional music education structures.

Together, these limitations point to the need for continued research that is both empirically rigorous and grounded in affirming, student-centered understandings of neurological diversity.

5. Conclusions

This literature review synthesized research on autistic, ADHD, and other neurodivergent learners in music education, highlighting how sensory, social, instructional, and relational factors shape their experiences in school music settings. Across the literature, neurodivergent students were shown to engage

meaningfully with music when environments supported their sensory needs, instruction was flexible and multimodal, and teachers fostered a sense of belonging through understanding and relational care. At the same time, participation was often hindered by rigid ensemble norms, unpredictable sensory demands, and limited teacher preparation in inclusive or neurodiversity-affirming practices.

The four themes identified in this review – sensory and environmental experiences, patterns of participation and barriers, teacher knowledge and classroom practices, and inclusive strategies – underscore that effective support for neurodivergent learners does not depend solely on specialized interventions. It emerges from thoughtful classroom design, responsive teaching strategies, and a shift toward viewing neurological differences as natural forms of human variability. Approaching music education through this lens encourages educators to center student strengths, reduce unnecessary barriers, and create multiple pathways for expression, engagement, and agency.

As school music programs continue to welcome increasingly diverse learners, the insights from this review can help educators and researchers work toward more equitable and affirming musical environments. By integrating sensory-aware practices, flexible pedagogy, collaborative problem-solving, and a commitment to valuing neurodivergent identities, music educators can ensure that all students have the opportunity to participate fully and meaningfully in musical learning.

References

ABRAMO, J. M. Teaching students with disabilities. **Music Educators Journal**, v. 99, n. 1, p. 39–45, 2012. DOI: <https://doi.org/10.1177/0027432112448824>.

ABRAMO, J. M.; PIERCE, A. E. An ethnographic case study of music learning at a school for the blind. **Bulletin of the Council for Research in Music Education**, n. 195, p. 9–24, 2013. DOI: <https://doi.org/10.5406/bulcoursmusedu.195.0009>.

AMERICAN PSYCHIATRIC ASSOCIATION. **Diagnostic and statistical manual of mental disorders**. 5. ed., texto rev. Washington, DC: APA, 2022. DOI: <https://doi.org/10.1176/appi.books.9780890425787>.

BARRETT, J. R. Case study design in music education. In: CONWAY, C. (ed.). **The Oxford handbook of qualitative research in American music education**. New York: Oxford University Press, 2020. p. 113–132. Publicação original de 2014.

BÖLTE, S.; LAWSON, W. B.; MARSCHIK, P. B.; GIRDLER, S. Reconciling the seemingly irreconcilable: The WHO's ICF system integrates biological and psychosocial determinants of autism and ADHD. **BioEssays**, v. 43, n. 9, art. 2000254, 2021. DOI: <https://doi.org/10.1002/bies.202000254>.

BROWN, L. S.; DRAPER, E. A.; JELLISON, J. A. Inside inclusive elementary music classrooms: Teachers and their students with autism spectrum disorder. **Update: Applications of Research in Music Education**, v. 41, n. 3, p. 48–56, 2022. DOI: <https://doi.org/10.1177/87551233221096858>.

BROCK, B. L. The workplace experiences of educators with disabilities: Insights for school leaders. **Educational Considerations**, v. 34, n. 2, p. 9–14, 2007. DOI: <https://doi.org/10.4148/0146-9282.1205>.

CHOU, H. **Creating a more inclusive music learning environment for children with autism**. 2024. Tese (Doutorado em Música) – University of Washington. Disponível em: <https://hdl.handle.net/1773/52843>.

CHURCHILL, W. N. Deaf and hard-of-hearing musicians: Crafting a narrative strategy. **Research Studies in Music Education**, v. 37, n. 1, p. 21–36, 2015. DOI: <https://doi.org/10.1177/1321103X15589777>.

DANIELSON, M. L. et al. ADHD prevalence among U.S. children and adolescents in 2022: Diagnosis, severity, co-occurring disorders, and treatment. **Journal of Clinical Child & Adolescent Psychology**, v. 53, n. 3, p. 343–360, 2024. DOI: <https://doi.org/10.1080/15374416.2024.2335625>.

DARROW, A. A. Ableism and social justice. In: BENEDICT, C. et al. (eds.). **The Oxford handbook of social justice in music education**. New York: Oxford University Press, 2015. p. 204–220.

EPSTEIN, J. N.; LOREN, R. E. Changes in the definition of ADHD in DSM-5. **Neuropsychiatry**, v. 3, n. 5, p. 455–458, 2013. DOI: <https://doi.org/10.2217/npv.13.59>.

FERRI, B. A.; KEEFE, C. H.; GREGG, N. Teachers with learning disabilities. **Journal of Learning Disabilities**, v. 34, n. 1, p. 22–32, 2001. DOI: <https://doi.org/10.1177/002221940103400103>.

GABEL, S. L. "I wash my face with dirty water." **Journal of Teacher Education**, v. 52, n. 1, p. 31–47, 2001. DOI: <https://doi.org/10.1177/0022487101052001004>.

GREENE, R. W. et al. Are students with ADHD more stressful to teach? **Journal of Emotional and Behavioral Disorders**, v. 10, n. 2, p. 79–89, 2002. DOI: <https://doi.org/10.1177/10634266020100020201>.

GRIMSBY, R. "Anything is better than nothing!" **Journal of Music Teacher Education**, v. 29, n. 3, p. 77–90, 2020. DOI: <https://doi.org/10.1177/1057083719893116>.

HALEY, P. A. **A holistic approach for neurodivergent learners in the high school choral classroom**. 2023. Tese (Doutorado) – University of South Carolina. Disponível em: <https://scholarcommons.sc.edu/etd/7305>.

HALL, T.; MEYER, A. Universal design for learning: theory and practice. **Wakefield: CAST, 2012**.

HANSEN, B. **Experiences of three students with ADHD in the middle school band ensemble**. 2012. Tese (Doutorado) – Boston University.

HOBEN, J.; HESSON, J. Invisible lives. **New Horizons in Adult Education & Human Resources Development**, v. 33, n. 1, p. 37–50, 2021. DOI: <https://doi.org/10.1002/nha3.20304>.

HOPKINS, E. J. Perspectives and expertise of secondary ensemble music educators with ADHD. **Journal of Music Teacher Education**, v. 34, n. 3, p. 50–64, 2025. DOI: <https://doi.org/10.1177/10570837241269966>.

HOURIGAN, R. Preparing music teachers to teach students with special needs. **Update**, v. 26, n. 1, p. 5–14, 2007. DOI: <https://doi.org/10.1177/87551233070260010102>.

HOURIGAN, R. M. Preservice music teachers' perceptions of fieldwork experiences in a special needs classroom. **Journal of Research in Music Education**, v. 57, n. 2, p. 152–168, 2009. DOI: <https://doi.org/10.1177/0022429409335880>.

HOURIGAN, R. M.; HAMMEL, A. M. Music teacher preparation for children with exceptionalities. In: CONWAY, C. et al. (eds.). **Oxford Handbook of Preservice Music Teacher Education**. New York: Oxford University Press, 2019.

JELLISON, J. A.; DRAPER, E. A. Music research in inclusive settings. **Journal of Research in Music Education**, v. 62, n. 4, p. 325–331, 2015. DOI: <https://doi.org/10.1177/0022429414554808>.

JELLISON, J. A.; TAYLOR, D. M. Attitudes toward inclusion. **Bulletin of the Council for Research in Music Education**, n. 172, p. 9–23, 2007.

JONES, S. K. Teaching students with disabilities. **Update**, v. 34, n. 1, p. 13–23, 2015. DOI: <https://doi.org/10.1177/8755123314548039>.

KOROŠEC, K. **The roles of music in the well-being of autistic adults**. 2024. Tese (Doutorado) – Karolinska Institutet.

LAES, T. Beyond participation. **Bulletin of the Council for Research in Music Education**, n. 210–211, p. 137–151, 2017. DOI: <https://doi.org/10.5406/bulcoursmusedu.210-211.0137>.

MAYER-BENAROUS, H.; BENAROUS, X.; VONTHRON, F.; COHEN, D. Music therapy for children with autism spectrum disorder. **Frontiers in Psychiatry**, v. 12, art. 643234, 2021. DOI: <https://doi.org/10.3389/fpsy.2021.643234>.

MELAGO, K. A. Strategies for successfully teaching students with ADD or ADHD in instrumental lessons. **Music Educators Journal**, v. 101, n. 2, p. 37–43, 2014. DOI: <https://doi.org/10.1177/0027432114547764>.

METZGER, A. N.; HAMILTON, L. T. The stigma of ADHD. **Sociological Perspectives**, v. 64, n. 2, p. 258–279, 2021. DOI: <https://doi.org/10.1177/0731121420937739>.

MOYA-PÉREZ, M.; HERNÁNDEZ-FLÓREZ, N.; LARA POSADA, E. Neurodiversity and inclusive education. **Salud, Ciencia y Tecnología**, v. 4, art. 1371, 2024. DOI: <https://doi.org/10.56294/saludcyt2024.1371>.

MUELLER, A. et al. Stigma in ADHD. **ADHD Attention Deficit and Hyperactivity Disorders**, v. 4, n. 3, p. 101–114, 2012.

NELSON, R. H. A critique of the neurodiversity view. **Journal of Applied Philosophy**, v. 38, p. 335–347, 2021. DOI: <https://doi.org/10.1111/japp.12470>.

OHAN, J. L. et al. Teachers' perceptions of children with and without ADHD. **Journal of School Psychology**, v. 49, n. 1, p. 81–105, 2011.

PARKER, E. C.; DRAVES, T. J. A narrative of two preservice teachers with visual impairment. **Journal of Research in Music Education**, v. 64, n. 4, p. 385–404, 2017.

PARKER, E. C.; DRAVES, T. J. Tensions for music teachers with visual impairments. **Arts Education Policy Review**, v. 119, n. 1, p. 42–52, 2018.

PATTON, M. Q. **Qualitative research and evaluation methods**. 4. ed. Thousand Oaks: Sage, 2015.

RENTENBACH, B.; PRISLOVSKY, L.; GABRIEL, R. Valuing differences. **Phi Delta Kappan**, v. 98, n. 8, p. 59–63, 2017.

ROSQVIST, H. B.; CHOWN, N.; STENNING, A. **Neurodiversity studies: A new critical paradigm**. New York: Routledge, 2020.

SALDAÑA, J. **The coding manual for qualitative researchers**. 4. ed. Thousand Oaks: Sage, 2021.

SALVADOR, K. Who isn't a special learner? **Journal of Music Teacher Education**, v. 20, n. 1, p. 27–38, 2010.

SHAKESPEARE, T. The social model of disability. In: **DAVIS, L.** (ed.). **The disability studies reader**. 3. ed. New York: Routledge, 2010. p. 266–273.

SHERMAN, J. et al. Impact of teacher factors on children with ADHD. **Educational Research**, v. 50, n. 4, p. 347–360, 2008.

SZE, S. **Educational benefits of music in an inclusive classroom**. 2004. ERIC Document No. ED490348. Disponible em: <https://files.eric.ed.gov/fulltext/ED490348.pdf>.

TOYE, M. K.; WILSON, C.; WARDLE, G. A. Education professionals' attitudes toward ADHD inclusion. **Journal of Research in Special Educational Needs**, v. 19, p. 184–196, 2019.

VALLE, J. W. et al. The disability closet. **Equity & Excellence in Education**, v. 37, n. 1, p. 4–17, 2004.

WALKER, N. Throw away the master's tools. In: BASCOM, J. (ed.). **Loud hands: Autistic people, speaking**. Washington, DC: Autistic Press, 2012. p. 225–237.

WEIKL, M.; KÖLBL, C.; STENZEL, C.; MUTH, A. Learning musical instruments for adolescents with ADHD. **Journal of European Psychology Students**, v. 13, n. 1, p. 1–15, 2022. DOI: <https://doi.org/10.5334/jeps.591>.

WILDE, E. M. **Music, education, and ADHD: An exploratory multiple case study**. 2019. Tese (Doutorado) – University College London.

WHITTEMORE, R.; KNAFL, K. The integrative review: updated methodology. **Journal of Advanced Nursing**, v. 52, n. 5, p. 546–553, 2005. DOI: <https://doi.org/10.1111/j.1365-2648.2005.03621.x>

YIN, R. K. **Case study research**. 6. ed. Thousand Oaks: Sage, 2018.

Publisher

Federal University of Goiás. School of Music and Performing Arts. Graduate Program in Music. Publication in the Portal of Periodicals UFG.

The ideas expressed in this article are the responsibility of their authors and do not necessarily represent the opinion of the editors or the university.