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Formulating Comprehensive Gifted Identification by Integrating Music Items into the Malaysian Gifted Screening Test

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Abstract
This study aims to develop and validate music-based items for integration into the Malaysian Gifted Screening Test, ensuring a more inclusive identification of gifted children. Using a quantitative design, six experts reviewed the items, followed by validation from 20 professionals, including counselors, ministry officers, and music and arts educators. Findings indicated strong agreement on the items' appropriateness, with minor revisions suggested for clarity and practicality. The study contributes to gifted education by addressing the limitations of academic-centric assessments, promoting music as a valid domain for giftedness, and supporting a more holistic identification framework in national education systems.

Keywords: gifted identification; musical aptitude; music education; educational assessment

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1.0 Introduction

The identification of gifted students has traditionally emphasized academic performance and cognitive abilities, which may not fully capture the diverse strengths of all learners, especially those with musical talent. In Malaysia, the current approach to gifted screening tends to prioritize measurable academic indicators, which can make it more challenging to recognize students with strengths in areas such as creativity, emotional expression, and artistic abilities. Research has shown that gifted students often face emotional challenges related to their unique development, including stress, anxiety, and difficulties in social adjustment (Md Jais & Azu Farhana, 2020). These issues may remain unaddressed when the identification process overlooks areas beyond academics. Music, however, offers an effective domain not only to support the emotional well-being of gifted students but also to reveal characteristics often associated with giftedness, such as high levels of motivation, self-reflection, and emotional awareness (Maba & Sakar, 2025; Md Jais & Azu Farhana, 2020).

Additionally, music education has been linked to the development of cognitive and socio-emotional skills, making it a valuable component in understanding a student's overall potential. According to López-Íñiguez and McPherson (2023), integrating caring and holistic approaches, including musical engagement, can contribute significantly to nurturing the talents of gifted learners. Guided by Gagné's Differentiated Model of Giftedness and Talent, which recognizes various catalysts in talent development, this study aims to broaden the criteria for gifted identification. The main objective is to develop and evaluate music-based screening items that include emotional,

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creative, and motivational dimensions. This effort aims to provide a more balanced and inclusive framework for identifying gifted students in Malaysia, ensuring that a broader range of talents is recognized and nurtured.

2.0 Literature Review

The identification of gifted students has long relied on traditional academic assessments, yet recent studies highlight the importance of adopting more inclusive, multidimensional models that encompass creativity, emotional sensitivity, and artistic talent. Gagné's Differentiated Model of Giftedness and Talent (DMGT), for example, distinguishes between natural abilities (giftedness) and systematically developed skills (talent), allowing for a broader scope of gifted traits across multiple domains including music, visual arts, and physical ability (Jung, 2022). Within this framework, interdisciplinary approaches are gaining traction, especially in early identification efforts. Djordjević (2023) emphasized the value of visual art as a diagnostic domain in preschool-aged children, while Kalinina et al. (2021) developed a "Bio-Art" methodology that uses children's art-making behaviours and products to infer cognitive processing and neurological maturity. These studies align with broader pedagogical calls for the integration of artistic expression in identifying and nurturing talent, especially when considering the diverse ways in which children manifest their abilities. Additionally, the STEAM (Science, Technology, Engineering, Arts, Mathematics) framework has proven effective in enriching the learning experiences of gifted students, blending technological engagement with music and arts to foster motivation and self-confidence (Özer & Demirbatır, 2023).

Despite these innovative strategies, challenges persist in ensuring equity and inclusivity in gifted identification practices. Long et al. (2023) points to ongoing disparities in identification rates among students from different racial, ethnic, and socioeconomic backgrounds. Even with universal screening and alternative assessment strategies, underrepresentation remains a concern, suggesting systemic biases in how giftedness is defined and measured. Jeong and Ryan (2021) further problematize the traditional performance-based assessment models in music education, linking them to the rise of perfectionism and anxiety among children. These critiques highlight the need to shift from narrow academic criteria toward holistic assessments that account for emotional, social, and creative traits, areas where music can play a central role. Peters et al. (2020) support this by advocating for the integration of non-academic domains into gifted screening tools, which would enable the recognition of latent potential in students who might otherwise be overlooked. Therefore, these studies advocate for a paradigm shift toward inclusive, arts-integrated methodologies that more accurately reflect the complexity of giftedness in the 21st century.

Abramo and Natale-Abramo (2020) argue that traditional gifted and talented (G&T) programs often overlook students whose creative expression and task commitment may not conform to classroom norms, emphasizing that musical giftedness can manifest through non-linear learning patterns, strong musical memory, and improvisational creativity. Similarly, Dorhout (1982) emphasizes the importance of using multifaceted identification methods beyond mere performance ability, especially for children whose musical potential may be masked by delayed psychomotor development. These perspectives resonate with findings by Noor Sham, Ismail, and Yap (2022), who assert that music education in Malaysia is undervalued despite its potential in developing critical thinking, emotional depth, and social engagement. In another study, Li and Yoong (2022) demonstrate that piano education significantly enhances cognitive functions and quality of life in elderly populations, supporting the broader cognitive benefits of musical training across all age groups. Together, these studies advocate for a comprehensive approach to identifying musically gifted individuals, one that goes beyond technical skill and considers emotional expressiveness, cognitive engagement, and contextual inclusivity as essential components.

3.0 Methodology

The present study employed a quantitative research design using a survey method to assess the suitability of newly developed music-based items intended for the Malaysian Gifted Screening Test. The initial phase involved six expert respondents comprising individuals with roles such as counselors, Ministry of Education officers, music teachers, and arts educators. These participants were selected using purposive sampling due to their experience and expertise in gifted education. They were asked to evaluate each music item based on criteria such as relevance to the cognitive and musical development of 10-year-old gifted children, clarity of instructions, alignment with musical intelligence and creativity, and feasibility of administration. The instrument used was a structured questionnaire with Likert-scale items ranging from "Strongly Not Suitable" to "Strongly Suitable", as well as open-ended sections for qualitative suggestions. This first round of feedback was crucial in identifying specific areas for improvement in the item design and structure. Following the revisions made based on feedback from the six expert respondents, the refined music-based items were then presented to a larger panel of 20 professionals for further validation. These panelists, who also included counselors, ministry officers, music teachers, and arts educators, were involved in a formal review session where they examined the updated items to determine their validity as part of a gifted screening assessment. The review focused on the content alignment with gifted characteristics, appropriateness of musical complexity, cultural relevance, and practicality within a national testing context. Data from the initial expert survey were analyzed using descriptive statistics to identify patterns in the evaluations, while comments were reviewed qualitatively to inform the refinement process. The second round involving the 20 panelists served as a validation step to confirm the credibility and usability of the revised items before their integration into the gifted identification framework.

4.0 Findings

The results from the six expert panelists who reviewed the music-based gifted screening items are summarized in Table 1. Each item was rated on a 5-point Likert scale, with higher values indicating greater agreement with the item's appropriateness for identifying gifted characteristics in ten-year-old children.

Table 1: Summary of Expert Ratings

Item	Mean	Standard Deviation
Format Suitability	4.67	0.52
Reflects Musical Intelligence	4.50	0.55
Ease of Administration	4.50	0.84
Content Relevance	4.50	0.55
Tests Musical Creativity	4.50	0.55
Validity for Gifted Identification	4.50	0.84
Instruction Clarity	4.30	0.52
Time Feasibility	4.30	0.82
Item Suitability for Age	4.17	0.98
Cognitive Difficulty Appropriateness	4.17	0.75

The analysis of the responses from six expert panellists revealed generally positive evaluations regarding the suitability of the music-based items for identifying gifted children. Most of the items received high mean scores, indicating agreement among the experts on their relevance and appropriateness. The item assessing the suitability of the format for identifying gifted children received the highest mean score (M = 4.67, SD = 0.52), followed closely by the items reflecting musical intelligence (M = 4.50, SD = 0.55) and ease of administration (M = 4.50, SD = 0.84). These results suggest that the format and content of the items are well-aligned with the objectives of assessing musical giftedness and are practical for use in educational settings. The high scores also imply that the items were perceived to effectively capture key aspects of musical intelligence, such as creativity and memory, which are crucial traits in gifted education.

Other items also demonstrated strong agreement among the experts. The items evaluating age appropriateness (M = 4.17, SD = 0.98) and cognitive difficulty (M = 4.17, SD = 0.75) showed consistent ratings, suggesting that the items were perceived as suitable for ten-year-old gifted learners and well-matched to their cognitive and musical capacities. The relatively low standard deviations across most items indicate a strong level of consensus among the experts.

These findings provided a solid foundation for the researcher to proceed with revising and refining the items before presenting them for validation to a larger panel of 20 professionals. Feedback from the 20 professionals including counselors, Ministry of Education officers, music teachers, and arts educators indicated strong agreement on the overall appropriateness of the revised music-based items for use in the gifted screening test. The panel expressed clear support for integrating musical elements into the identification process, recognizing the importance of capturing musical intelligence as part of a more holistic gifted profile. However, several technical and practical concerns were raised. Specifically, some panelists noted the potential challenges associated with administering aural-based questions, particularly the risks of audio malfunctions or compatibility issues in computer-based testing formats. There was also a shared recommendation to shorten and simplify several items to ensure they can be completed within the limited time allocated for the test. One item involving music theory was highlighted as needing revision to enhance clarity and reduce ambiguity. Overall, the findings demonstrate that the music-based items received strong support from expert reviewers and professionals across all evaluated aspects, establishing a sound foundation for their further refinement and validation.

5.0 Discussion

The results of this study indicate a high level of agreement among experts regarding the appropriateness and relevance of the developed music-based items for identifying gifted children. The mean ratings from the initial six expert panelists and the additional feedback from 20 validation panelists collectively support the integration of these items into the Malaysian Gifted Screening Test. The items were perceived as effective in reflecting musical intelligence, creativity, and cognitive engagement. High scores on criteria such as "format suitability" and "reflection of musical intelligence" emphasize that experts recognize music as a meaningful and measurable domain in identifying giftedness. This aligns with Jung's (2022) argument that talent can emerge across various domains, including the physical and artistic, and that such domains require their own valid identification methods. This finding directly supports the objectives of the study, which aimed to design, evaluate, and validate music-based items as part of a more inclusive screening approach. The expert consensus affirms that these items are developmentally appropriate for ten-year-old students and are capable of assessing traits linked to giftedness such as memory, creativity, and musical sensitivity. The inclusion of a wide range of professional perspectives including counselors, music teachers, arts educators, and Ministry officers strengthens the reliability of the validation process. Their feedback reflects real-world considerations in gifted education settings, reinforcing the objective to create a feasible and scalable assessment instrument that can be used at the national level.

These findings are consistent with Gagné's (2009) Differentiated Model of Giftedness and Talent (DMGT), which defines giftedness as the possession of natural abilities that can be transformed into talent through systematic development. Music-based items allow for the identification of these innate abilities before they are cultivated into advanced performance. Similarly, Renzulli's (1978, 1988) Three-

Ring Model, which includes above-average ability, creativity, and task commitment, highlights the importance of non-academic indicators such as musical creativity and motivation traits that the developed items successfully capture. The musical tasks, particularly those involving aural recognition and improvisation, resonate with this framework by evaluating the child's response to open-ended, creative, and auditory stimuli, which are often overlooked in traditional cognitive assessments. The study also addresses a critical gap in the Malaysian gifted education system: the dominance of academic and cognitive measures in student identification. As highlighted by Long et al. (2023), current practices have contributed to inequities, with underrepresentation of students from diverse backgrounds who may excel in domains other than language and mathematics. By expanding the identification framework to include music, this research responds to the systemic limitations pointed out by Worrell and Dixson (2020) and Peters (2022), who advocate for the use of broader and more inclusive criteria. Feedback from the expert panel pointed out the need to adjust technical elements, such as ensuring audio compatibility and simplifying language, which demonstrates the practical potential of the music items for large-scale administration.

One novel contribution of this research lies in its structured development and validation of music-based screening tools tailored for the Malaysian context. While studies in other regions, such as Djordjević (2023) and Kalinina et al. (2024), have explored the use of visual arts or interdisciplinary methods for identifying giftedness, the integration of music items into a formal national screening mechanism is relatively unprecedented in Malaysia. The use of feedback loops first from six item reviewers and later from 20 validators represents a rigorous and reflective approach to item refinement. This method not only supports content validity but also aligns with best practices in test development, ensuring that the final product is both psychometrically sound and culturally relevant. Several practical concerns raised by the panelists also add depth to the study's impact. The risk of technical issues with aural-based questions and the recommendation to shorten or simplify complex items reflect the realities of test administration in varied school environments. These are not merely technicalities but central to ensuring that the test remains accessible and fair to all students, including those in rural or under-resourced schools. This awareness mirrors the argument by López-Íñiguez and McPherson (2023) that effective identification strategies must consider the environment and emotional needs of gifted learners, especially when arts-based methods are employed.

The findings suggest significant implications for the reform of Malaysia's gifted education system. By incorporating music into the screening process, this study not only advocates for multiple intelligences but also offers a model for inclusive talent identification. This addresses criticisms by scholars such as Peters et al. (2020), Delgado et al. (2025), and Johnsen (2024), who have emphasized the need for tools that can identify latent talents often missed in standardized academic testing. The validated music items, particularly those that assess creativity and emotional expression, provide a means to recognize gifted traits in students who might otherwise be excluded due to narrow test criteria. Therefore, this study contributes a timely and culturally grounded innovation to the field of gifted education. It challenges the status quo by validating alternative pathways to identification, emphasizing musical creativity and intelligence as legitimate indicators of giftedness. The findings support the feasibility and value of integrating music into national screening frameworks, reinforcing theoretical models and responding to long-standing issues of underrepresentation and narrow testing. As such, this research sets a foundation for future studies and policy reforms aimed at more equitable and comprehensive identification of gifted children across Malaysia and potentially other educational contexts with similar challenges.

6.0 Conclusion& Recommendations

This study introduced and validated a set of music-based screening items designed to enhance the identification of gifted children in Malaysia. Through a multi-phase process involving expert review and professional validation, the findings clearly show that these items are appropriate, relevant, and capable of assessing musical intelligence, creativity, and cognitive ability in a way that complements traditional academic assessments. The overwhelmingly positive feedback from professionals signals that the Malaysian education system is ready for a broader and more inclusive gifted identification approach. Grounded in theoretical models such as Gagné's Differentiated Model of Giftedness and Talent and Renzulli's Three-Ring Model, this research affirms that giftedness extends beyond IQ and academic achievement, and that musical aptitude, when carefully assessed, can reveal profound talent in children who might otherwise go unrecognized. However, the study is limited by its reliance on expert judgement from a relatively small, purposively selected sample, suggesting the need for future validation with larger and more diverse student populations to establish empirical evidence of predictive validity. This initiative moves beyond testing; it reflects understanding of human potential and a commitment to a more holistic and just education system.

Based on the outcomes of this research, it is recommended that the Ministry of Education incorporate music-based items into national-level gifted screening protocols, beginning with pilot programs in diverse school settings. Particular attention should be given to ensuring reliable audio playback for aural items and adjusting test lengths to accommodate classroom time constraints. Teacher training and support materials should also be developed to ensure consistent administration and interpretation of the test. Furthermore, this study opens new avenues for future research to track the development and achievements of musically gifted children identified through this approach. The adoption of these items represents not just a procedural update, but a visionary step toward a gifted education system that values creativity, emotional depth, and artistic intelligence as much as it values academic excellence. This innovation invites educators and policymakers alike to reimagine what it means to be gifted in the 21st century.

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Paper Contribution to Related Field of Study

This study contributes significantly to the fields of music education, gifted education, and educational assessment by introducing a validated framework for identifying musical giftedness within the context of a national gifted screening test. By developing and refining music-based test items that assess creativity, aural skills, and musical cognition, the research addresses a crucial gap in the current identification processes that tend to prioritize academic performance over artistic intelligence.

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