

Exploring Non-Optional Teachers Needs on Mnemonics Teaching Module in Samarahan, Sarawak

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Abstract

Teaching basic musical notation is problematic for non-optional teachers due to a lack of formal music education experience, a lack of confidence, and restricted pedagogy aids. This study explores participants' instructional demands for building a mnemonic teaching module in Samarahan, Sarawak. Thirty teachers completed a 28-item questionnaire based on Rossett's Training Needs Assessment Model. Findings suggest high needs in Optimal Performances and Solutions, and moderate in Actual Performances, Feelings, and Causes and Barriers. These results reveal gaps in teaching materials and in teacher self-confidence, providing a foundation for designing a teaching module to address teacher challenges.

Keywords: Need analysis; Mnemonics; Music notation; Non-optional Teachers;

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1.0 Introduction

Basic musical notation is a fundamental component of the primary music education curriculum in Malaysia, according to the Kurikulum Standard Sekolah Rendah (KSSR), or the National Standard Primary School Curriculum, as translated by the Kementerian Pendidikan Malaysia (2016). According to the KSSR in music education, students are required to interpret, read, and perform musical ideas. As one of the earliest concepts in music education, basic musical notation forms the foundation of musical understanding and supports the development of long-term musicianship (Demirel, 2022). However, mastery of basic musical notation remains a challenge for many primary school students (Villarta & Capili, 2024), and innovative teaching methods are needed to meet the curriculum standards for students' music learning (Kai Ti & Wong, 2024). Challenges faced by students become more pronounced in contexts where non-optional teachers are assigned to teach music classes. Moreover, non-optional teachers assigned to teach music classes without formal training in the subject are responsible for delivering the prescribed curriculum. Hallam et al. (2017) stated that traditional approaches in current teaching materials are often not beginner-friendly for non-optional music teachers, leading to teaching anxiety and decreasing student learning experience.

According to Higbee (2001), mnemonics encompass a variety of techniques designed to help students recall information more effectively. Yates (2013) stated that the principle of mnemonics dates back to ancient Greece, where structured memory strategies were engineered more than a thousand years ago. In today's educational context, the use of mnemonics has expanded significantly, with Condeman (2020) stating that educators across disciplines employ mnemonic aids to help students retain vocabulary, processes,

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concepts, and learning strategies. In a musical notation context, students must process abstract visual symbols, associate them with sounds, and keep this relationship in long-term memory, which is a demanding skill process for young learners (Nutley et al., 2014).

Despite the well-known benefits of mnemonics, its systematic incorporation into musical notation, especially for non-optimal music teachers in the Malaysian music scene, remains rarely explored. According to the corresponding author's experience teaching music in Malaysian primary schools, many non-optimal teachers lack confidence, have no musical training, and use a limited pedagogical approach when teaching fundamental music notation. As a result, there is a need to explore the views, obstacles, and instructional requirements of non-optimal teachers to support the design and development of a mnemonics-based teaching module specifically customised to their needs. Therefore, this study was conducted to systematically identify and prioritise the specific instructional needs of non-optimal music teachers in Samarahan for a mnemonics-based teaching module. Using Rossett's (1987) Training Needs Assessment Model, this research quantitatively assesses needs across five domains to identify the most critical gaps and provide an evidence-based foundation for targeted module design.

1.1 Objectives of Study

Therefore, this study was conducted to investigate the instructional needs of non-optimal music teachers in Samarahan, Sarawak, to design and develop a mnemonics-based module for teaching basic musical notation. This needs analysis provides early insights that will guide the systematic design, validation, and future classroom implementation of a structured mnemonics-based teaching module.

2.0 Literature Review

2.1 Mnemonics in Education

Mnemonics is one of the cognitive strategies designed to support memory by helping students organise and retrieve information effectively. Mnemonics enhance memory by helping students encode and retrieve information effectively by connecting meaningful cues such as rhymes, acronyms, acrostics, songs, or images (Conderman, 2020; Higbee, 2001). Contemporary research by Gonzaga et al. (2025) shows that mnemonic strategies improve students' ability to retain vocabulary, sequences, information, and symbolic representations. Conderman (2020) also stated that teachers frequently adopt mnemonics as aid for students with differing cognitive needs, as the strategies improve both processing efficiency and long-term retention.

In the context of music education, mnemonics play a crucial role due to the nature of musical symbols. Students must be able to interpret visuals, associate symbols with rhythm and pitch, and store these associations in memory. Research demonstrates that employing mnemonic cues, such as letter prompts and verbal linkages, enhances students' ability to recognise musical notes more quickly while reducing cognitive burden (Knott & Thaut, 2018). Additionally, Echauri et al. (2025) highlight how mnemonics enhance memory traces, enabling learners to retrieve notation material more consistently during practice and performance. Therefore, mnemonic-based instruction has significant potential to improve students' memory retention, motivation, and comprehension in learning basic musical notation.

2.2 Teaching Music Notation in Primary Schools

In Malaysian music education, proficiency in musical notation is a foundational component of the national curriculum, as outlined in the prescribed music syllabus. Musical notation will enable students to interpret, perform, and create music within the framework of the curriculum. In the music curriculum under Kurikulum Standard Sekolah Rendah (KSSR), basic music notation is formally introduced at Level Two (Year 4-6), although basic exposure begins in Year 3 (Kementerian Pendidikan Malaysia, 2016). Despite this early implementation, many students struggle with memorising the musical symbols, especially when the teaching is delivered through conventional and teacher-centred approaches. Teaching basic musical notation through textbooks or memorising has proven insufficient in engaging students or promoting long-term memory retention.

2.3 Non-Optional Music Teachers and Classrooms Needs

The non-optimal teacher plays a critical role in sustaining music education in the majority of Malaysian schools, especially in schools that lack optional music teachers. However, studies suggest that these non-optimal music teachers often enter the classroom with little music literacy, limited topic understanding, and insufficient pedagogical practices fit for the music domain (Augustine et al., 2016). Their challenges were compounded by large class sizes, limited time teaching, and a lack of structured teaching modules specifically catered to non-optimal teachers. Usually, non-optimal teachers rely on self-developed or improvised materials and design self-made exercises to support their students who require additional help. Research by Cheong Jan & Jamaludin (2010) indicates that these challenges reduce teaching effectiveness and can contribute to negative teacher perceptions, stress, and low motivation to teach music.

Therefore, identifying the instructional needs of non-optimal music teachers is essential to ensure that any pedagogical intervention, especially a mnemonics-based module, is relevant, feasible, and aligned with the needs of non-optimal music teachers, as well as addressing real classroom challenges. A structured needs analysis helps determine teachers' perceptions, confidence levels, knowledge gaps, and expectations for instructional support. The insights from this research provide the foundation for designing an effective teaching method that strengthens both students' learning outcomes and the performances of non-optimal music teachers.

3.0 Methodology

3.1 Research Design

This study employed a quantitative research design, utilising a descriptive analysis survey approach, to determine the needs for a mnemonic teaching module among non-optional primary school music teachers in the Samarahan district. A needs analysis was conducted to determine teachers' perceptions, challenges, and expectations regarding the development of a mnemonic teaching module for basic musical notation. This research design was selected because needs analysis provides a systematic process for identifying performance gaps, determining instructional requirements, and aligning pedagogical interventions with real classroom situations (Pu et al., 2025). Findings from this research serve as a foundational step before designing a structured mnemonic teaching module that will be used by non-optional teachers in primary school.

3.2 Participants

A total of 30 non-optional music teachers from primary schools across the Samarahan district in Sarawak participated in this study. These teachers were selected because they were responsible for teaching music in their school despite not having formal training in music education. Those criteria make them a relevant participant for assessing instructional needs. Participation was voluntary, and all respondents completed the online questionnaire anonymously. Table 1 below shows the demographic profile of the participants.

Table 1. Demographic Profile of Participants (n = 30)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	9	30.0
	Female	21	70.0
Age	21-30 years	1	3.3
	31-40 years	3	10.0
	41-50 years	12	40.0
	51 years and above	14	46.7
	Less than 5 years	17	56.7
Music Education Teaching Experience	5-10 years	4	13.3
	More than 10 years	9	30.0
	Diploma	2	6.7
	Bachelor's Degree	26	86.7
Academic Qualification	Master's Degree	2	6.7
	Malay Language	16	53.3
	Mathematics	4	13.3
	Science	3	10.0
	Islamic Education	2	6.7
	Early Childhood Education	2	6.7
	Visual Arts	1	3.3
	Physical Education	1	3.3
	English	1	3.3
	-	30	100.0
Total Participants			

3.3 Instrument

The instrument used in this study was a 28-item questionnaire developed based on Rossett's (1987) Training Needs Assessment Model, which comprises five domains:

- i. Optimal Performances – Teacher's understanding of ideal teaching expectations.
- ii. Actual Performance – Current practices and confidence in teaching notation.
- iii. Feelings – Attitudes, motivation, and comfort in teaching music.
- iv. Causes and Barriers – Factors contributing to teaching difficulties.
- v. Solutions – Types of instructional support and resources needed.

All of the items were measured using a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). A higher mean score indicates a higher perceived need in each domain. This questionnaire undergoes expert validation from three experts in music education, Malay language, and curriculum design to ensure the accuracy of the content and language clarity. The questionnaire was also examined for reliability, and a Cronbach's Alpha of 0.893 indicates high internal consistency, which aligns with Cohen et al.'s (2017) suggestions. The value indicates the reliability of the instrument for the current study.

3.4 Data Collection Procedure

Data were collected online using Google Forms and distributed to schools within the Samarahan district. Permission was obtained from the Educational Planning and Policy Research Division, Kementerian Pendidikan Malaysia (KPM), Jabatan Pendidikan Negeri (JPN) Sarawak, and Pejabat Pendidikan Daerah (PPD) Samarahan. Teachers were given one week to complete the questionnaire. All responses were collected electronically, screened for completeness, and analysed quantitatively.

3.5 Data Analysis

Data were analysed using descriptive statistics, including mean and standard deviation, to determine the teacher's training needs within the five domains of Rossett's model. This analysis was conducted to determine the level of need, categorised as low, average, or high, across five domains, in order to guide the development of the mnemonics teaching module. Interpretation of means scores followed standard guidelines by Landel (1997) as indicated in Table 2 below.

Table 2. Interpretation of mean scores

Range of mean score	Frequency
1.00-2.33	Low
2.34-3.67	Average
3.68-5.00	High

(Source: Management by menu (Landel, 1997))

4.0 Findings

Based on five domains adapted from Rossett's (1987) Training Needs Assessment Model, this study investigated the instructional needs of non-optimal primary music teachers in the Samarahan district. The descriptive analysis focused on teachers' perceptions, performance levels, challenges, affective responses, and expectations related to the development of a mnemonic teaching module for teaching basic musical notation. Table 3 below presents the mean and standard deviation scores for each domain.

Table 3. Summary of Need Analysis Findings (n = 30)

Domain	Mean (M)	Standard Deviation (SD)	Interpretation
Optimal Performances	3.97	1.15	High
Actual Performances	3.36	1.16	Moderate
Feelings	3.64	1.17	Moderate
Causes and Barriers	3.03	1.24	Moderate
Solutions	4.17	0.89	High

Overall, the findings indicate that the highest mean score was reported for the Solutions domain ($M = 4.17$, $SD = 0.89$), followed by Optimal Performances ($M = 3.97$, $SD = 1.15$). These findings indicate a high degree of instructional demand, suggesting that educators recognise the value of teaching fundamental music notation and have a significant desire for organised support, particularly through a methodical, mnemonic-based module, as suggested by Fautley (2017). Moderate mean scores were recorded for Actual Performances ($M = 3.36$), Feelings ($M = 3.64$), and Causes and Barriers ($M = 3.03$). These findings align with previous research by Augustine et al. (2016), showing that although teachers recognise the importance of teaching music notation, they encounter several obstacles, such as a lack of confidence, a lack of pedagogical readiness, a lack of exposure to mnemonics-based strategies, and difficulties in teaching music without specialised training. While the Causes and Barriers domain emphasises contextual and instructional limits in the classroom, the Feelings domain's intermediate ratings suggest varying degrees of motivation, comfort, and excitement in teaching music.

The findings of this research indicate a clear need for an organised, non-optimal, beginner teacher-friendly and instructional mnemonic teaching module that can guide the execution of lessons, enhance student engagement, and support educators in overcoming classroom obstacles. These results provide a crucial basis for the subsequent stage of methodical module development.

5.0 Discussion

The findings of this study offer significant insights into the educational requirements of Samarahan's non-optimal music teachers, especially regarding the design and development of a teaching module for basic musical notation based on mnemonics. The high mean scores for the Optimal Performances and Solutions categories indicate that educators recognise the benefits of structured support in improving their teaching methods, as well as the importance of teaching musical notation. These findings are consistent with earlier research that highlights the crucial significance of good teaching tools in promoting both teacher performance and student learning outcomes in music education (Kaur, 2025).

Non-optimal music teachers in Samarahan require a structured educational design, especially one that is easily accessible, simple to use, and suitable for non-optimal teachers, as indicated by the strong requirement expressed in the Solutions domain ($M = 4.17$). Despite having no professional training in music education, many non-optimal music teachers in Samarahan were appointed by their school to teach music classes, which leads to low confidence, uncertainty when presenting musical notation principles, and challenges when choosing effective teaching methods. A mnemonics teaching module offers the potential to bridge these gaps by simplifying complex symbolic content and supporting memory-based learning (Higbee, 2001; Rose et al., 2019). Therefore, there is a necessity to create structured teaching materials that are in line with classroom reality and consider the competencies of non-optimal music teachers, who are highlighted by the high demand for solutions.

The Actual Performances and Feelings domains moderate mean scores indicate that although teachers are aware of their teaching obligations, their comfort and readiness levels vary when it comes to teaching basic musical notation. This is consistent with research by Abdullah (2021) showing that non-optimal teachers frequently find it difficult to implement successful music-specific pedagogies since they have little exposure and assistance. The mean for the Feelings domain score ($M = 3.64$) suggests that teachers have varying degrees of confidence and motivation. By offering systematic direction and lessening the cognitive load of lesson preparation, a well-designed mnemonic teaching module may help lower anxiety and increase teaching motivation.

With a moderate mean score ($M = 3.03$), the Causes and Barriers domain highlighted issues such as inadequate pedagogical training, a lack of teaching resources, and challenges with classroom time and student preparedness. These challenges reflect broader issues in Malaysian primary music education, where many schools rely heavily on non-optimal teachers to deliver music lessons (Ong, 2025). Meanwhile, non-optimal music teachers in Samarahan require practical tools that address these contextual limitations. A mnemonic teaching module could mitigate these barriers by offering ready-to-use activities, step-by-step lesson guidance, and memory-supportive materials that simplify notation teaching.

Overall, the results highlight the urgent need for a structured teaching module based on mnemonics that is designed explicitly for non-optimal music teachers. This module could improve students' involvement and comprehension of basic musical notation while also supporting teachers' pedagogical preparation. This needs analysis research offers crucial guidance for the next stages of module development, such as producing material, expert validation, and continuous improvement. In order to ensure the module's feasibility, effectiveness, and long-term efficacy in enhancing music learning, it is crucial to contextualise instructional materials within teachers' real challenges and expectations.

Beyond the local context, these findings carry implications for educational policy and teachers' professional development. Findings from this research highlight the need for system-level support, such as integrating validated, teacher-friendly modules into national digital teaching platforms to ensure equitable resource access.

6.0 Conclusion and Recommendations

6.1 Conclusion

This study explored the instructional needs of non-optimal primary music teachers in Samarahan district as early research before the development process of a mnemonics teaching module for learning basic musical notation. High levels of need were found in the domains of Optimal Performance and Solutions, according to the findings. This suggests that teachers have high demands for structured instructional support and for understanding the importance of teaching basic musical notation successfully. Gaps in pedagogical preparedness, confidence, access to suitable teaching resources, and experience with mnemonics-based approaches are reflected in the moderate mean scores in Actual Performances, Feelings, and Causes and Barriers.

These results suggest that to overcome challenges faced by non-optimal music teachers, they need assistance in instructional resources that are practical, easily accessible, and suitable for the classroom. By offering memory-supporting techniques and detailed teaching instructions, a mnemonics teaching module offers a great deal of potential to achieve these objectives. The study's conclusions provide a solid basis for the remaining stages of module development, such as expert validation, improvement, and actual classroom deployment. This study helps improve the quality of music education in Malaysian primary schools, especially when non-optimal music teachers need to teach their classes.

6.2 Limitations of the Study

The sample was small ($n=30$) and drawn only from Samarahan district, which may limit generalizability. The reliance on self-reported questionnaire data carries the potential for response bias. Furthermore, the cross-sectional design captures needs at one point in time. Future research would benefit from larger, multi-district samples, mixed-methods data collection, and longitudinal approaches.

6.3 Recommendations

Based on the findings, researchers suggest four recommendations for future research in table 4 below.

Table 4. Recommendations for Future Research

No.	Recommendation Area	Description
1	Module Development	Create a structured mnemonics-based module with guided lessons and visual supports.
2	Expert Validation	Conduct expert evaluation using the Fuzzy Delphi Method to validate module content, structure, and relevance.
3	Teacher Training	Conduct training programmes to help non-optimal teachers use mnemonic strategies confidently.
4	Pilot Implementation	Pilot the module in additional districts and evaluate its instructional impact.

Future study recommendations help to improve the competencies of non-optimal music teachers, foster creative approaches in Malaysian music education, and provide engaging learning environments.

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Contribution to the Field

By filling a significant gap in mnemonic notation teaching, this research advances the fields of instructional design and music education. A validated teaching module, aligned with Rossett's (1987) Training Assessment Model, was developed based on the findings, which provide empirical evidence of the demands and difficulties faced by non-option music teachers. For curriculum designers, teacher educators, and legislators looking to improve music notation instruction through creative, memory-based approaches, the study's methodology and findings have important implications. Additionally, within the broader framework of Malaysian arts and creative education, incorporating mnemonic devices into formal instructional design enhances pedagogical strategies.

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