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Jazz Guitar Reharmonization in Malay Asli Music: A Case Study on Harmonic Adaptation in Pedagogy

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Abstract : Jazz reharmonization techniques are a well-established area of focus in Western music. However, their application to non-Western genres, such as Malay Asli music, is, at best, an unexplored area of music. This disconnect is rooted in the absence of a theoretical model, one which exists within a broader Eurocentric approach to music pedagogy that privileges Western harmony. Jazz reharmonization of Malay Asli presents challenges in cross-cultural reinterpretation and hybrid learning. This study aims to develop and evaluate a guidebook on jazz guitar reharmonization techniques to be applied in Malay Asli music. It treats the guide's pedagogical efficacy in a cross-idiomatic context while maintaining the genre's stylistic integrity—A qualitative case study with five jazz guitarists following a structured method book. Data consisted of assessments of performance before and after instruction, participant reflections, and semi-structured interviews. Using ISO 9241-11 measurements—efficiency, effectiveness, and satisfaction—observational analysis and participant feedback were used to measure usability. Participants exhibited improved fluency and flexibility in processing Malay Asli melodies in jazz. They recommend the guide's poetic and flexible approach as a tool for mastering complex harmonic ideas while keeping the central idea in Malay Asli music intact. The classification of jazz harmony in stages allowed for gradual integration into their normal structural perception, which complemented their understanding of both practices. Analysis implemented through usability testing found overall acceptance of the direct scope of instructions, ordering of steps needed, and appropriate application. The study's results demonstrated how jazz reharmonization can be potent in enhancing creativity versatility within the framework of Malay Asli music and closing



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its traditional monopoly barriers to cross-cultural engagement through creativity. This study addresses the larger conversation of inclusive music pedagogy by connecting jazz harmony and Malay Asli aesthetics. Further engagement in hybrid music learning could involve interactive tutorials or similar digital tools explored through future research.

Keywords: Jazz guitar reharmonization; Malay Asli music; cross-cultural pedagogy; usability assessment



1. Introduction

Reharmonization in jazz is the process of altering existing chord progressions to construct novel harmonic structures, requiring a sophisticated understanding of chords, scales, and arpeggios (Mazlan, 2021a; Rawlins & Bahha, 2005; Rohrmeier, 2020; Sarmanho, 2024). This method allows musicians to elaborate melodic or harmonical elements, forming new tonal structures, portraying their music in new appearances (Berkman, 2013; J. Bradley, 2014; Felts, 2002; Mazlan, 2021b; Terefenko, 2014a). Felts (2002) compares reharmonization to painting an old car, pointing out that new harmonic choices can change a piece's overall texture and character. As Terefenko (2014) points out, reharmonization has a more specific meaning than harmonization; harmonization refers to the act of merely assigning chords to a melody, while reharmonization specifically refers to altering pre-existing progressions to enrich or redefine the harmonic network. This essential guide integrates traditional and contemporary musical practices with its examination of jazz reharmonization techniques in the context of its application in Malay Asli songs. In doing so, it draws attention to reharmonization to grow musicianship, expand harmonic vocabulary and create a thoughtful reimagining of existing music forms (J. Bradley, 2014; Han & Xu, 2024; Ismail & Loo, 2023; Lydon, 2023; Mazlan, 2021b; Rodulfo, 2013).

1.1 Research Gap & Justification

Integrating jazz idioms with traditional music has enhanced musical understanding and pedagogy. Several studies highlight the pedagogical benefits of blending jazz elements with diverse traditional genres, illustrating how such integration fosters technical proficiency while preserving cultural authenticity (Chaichana, 2022; Hidayatullah et al., 2024; imiti & Liu, 2024; Mazlan, 2021a; Mazlan, Abdullah, Nor Hashim, et al., 2025; Rodulfo, 2013). However, while jazz reharmonization has been widely explored in Western music education, its application in non-Western musical traditions, particularly Malay Asli compositions, remains underdeveloped (Alimi & Kassin, 2018b; Hashim, 2012; Hassim & Karim, 2023; Hassim & Mazlan, 2023; Mazlan, 2021a). Malay Asli songs hold deep cultural and historical significance in Malaysia and Indonesia, characterized by their unique melodic and harmonic structures (Abdullah, 2019; Alimi & Kassin, 2018a; Arshad, Mazlan, et al., 2022; Arshad, Sulong, et al., 2022; Bramantyo, 2020; Hashim, 2012; Hassim & Karim, 2023; Hassim & Mazlan, 2023; Jehwae, 2024; Mazlan, Abdullah, Nor Hashim, et al., 2025; Sani et al., 2024). Despite their rich heritage, contemporary adaptations often lack harmonic innovation, limiting their evolution in modern contexts (Mazlan, 2021b; Mazlan, Abdullah, Nor Hashim, et al., 2025). Recent research on jazz and classical fusion (Jarvis, 2024) and cross-cultural

jazz pedagogy (Born, 2010; Chaichana, 2022; Hidayatullah et al., 2024; Rodulfo, 2013; Runkun, 2020) reinforces the growing importance of musical hybridity, yet practical pedagogical models for integrating jazz with Malay Asli music remain absent.

1.2 Theoretical Framework: Pragmatism in Music Education

A key challenge in integrating jazz reharmonization into Malay Asli music lies in maintaining cultural authenticity while adopting contemporary harmonic techniques (Arshad, Mazlan, et al., 2022; Arshad, Sulong, et al., 2022; Hassim & Karim, 2023; Hassim & Mazlan, 2023; Mazlan, 2021b). Prior studies indicate that blending jazz elements with traditional forms fosters many possibilities, such as cultivating creative solos that help to reduce cognitive and attentional load (Yossef & Granot, 2023) and promoting self-discovery (Rodríguez, 2022). However, existing methodologies lack a systematic instructional approach grounded in real-world application, especially jazz guitar reharmonization and Malay Asli songs (Mazlan, 2021b; Mazlan, Abdullah, Sulong, et al., 2025).

Pragmatism is a guiding framework in music education, emphasizing the fusion of theory and practice (Mazlan, 2021a). This approach allows musicians to internalize theoretical concepts through hands-on experimentation and contextual application. In jazz education, pragmatism provides a flexible learning model, enabling students to explore harmonic structures through interactive and exploratory methods rather than rigid theoretical lenses (Sharma et al., 2018). While some foundational sources are more than five years old, they remain fundamental to understanding pragmatism in education. APA guidelines confirm that older references are acceptable when discussing established theories (Greenbaum, 2021; C. Lee, 2015). Moreover, this study builds upon my previously published PhD dissertation (Mazlan, 2021a), reinforcing its validity in academic discourse. Lastly, incorporating ISO 9241-11 usability metrics, this study ensures that the method book for jazz reharmonization is assessed based on efficiency, effectiveness, and satisfaction (Bevan et al., 2015; Dietlein & Bock, 2019; Dutsinma et al., 2022; Mazlan, 2021a; Xiao & Mazlan, 2024).

2. Literature Review

2.1 Jazz Reharmonization Techniques

Reharmonizing chords is one of the main ideas this system uses under the hood, and it is also one of the ideas at the base of jazz harmony, which transforms existing chord progressions using new harmonic interpretations, creating musical expressivity. Reharmonization codes for two essential elements of jazz theory and practice, demanding an acute awareness of chord structures (how they are defined and

categorized), voice leading, functional vs. non-functional harmony, as well as modal and chromatic substitutions (Rawlins & Bahha, 2005). The process is a valuable technique for jazz musicians, allowing them to vary melodies, broaden harmonic choices, and enhance improvisation techniques. Existing literature has explored techniques, such as diatonic and chromatic substitution, modal interchange, and harmonies from the extended series of chords, in jazz reharmonization in addition to recently emerging digital-oriented learning frameworks (Berkman, 2013; J. Bradley, 2014; Felts, 2002; Mazlan, 2021a; Rawlins & Bahha, 2005; Terefenko, 2014b).

2.1.1 Conceptualizing Reharmonization in Jazz

The concept of reharmonization has been an essential part of jazz theory since the field's early development. For example, Terefenko (2014) differentiates between harmonization and reharmonization, stating that the first refers to the accompaniment of a melody with chords, while the second relates to alterations in the structural elements that characterize a piece. According to Felts (2002) offers a useful analogy by comparing reharmonization to changing the color of a car. Although the structure of the car remains unchanged, its new color gives it a fresh identity. In the same way, reharmonization reshapes a musical phrase by modifying its harmonic character and providing it with a new expressive quality. The scope of reharmonization techniques can range from subtle harmonic adjustments to complete transformations. Musicians use a variety of approaches to reharmonization, including chord substitution, tritone subs, modal reharmonization, chromaticism, and functional reinterpretation are on a continuum of how musicians reharmonize in jazz (Berkman, 2013; J. Bradley, 2014; Terefenko, 2014b). These methodologies can be beneficial when applied appropriately to musical compositions and genres.

2.1.2 Challenges in Radical Reharmonization

While reharmonization is a valuable tool in jazz, it presents challenges, particularly when dealing with radical harmonic changes. Although basic chord notation can help communicate complex jazz harmonies, it has limitations, as discussed by Kubiak-Kenworthy (2024). Through an experimental study involving sixteen professional jazz musicians, Kubiak-Kenworthy found that they often reached different conclusions when interpreting chord charts containing radical reharmonization. The study involved reharmonizing the jazz standard *Smile*, which was originally transcribed using Western classical notation. The musicians created harmonic representations that differed significantly from the original, suggesting that traditional chord notation may not effectively convey the finer details of contemporary jazz reharmonization. This

discovery highlights an essential discussion in jazz pedagogy and performance practice. Although chord charts remain the primary means of communicating harmonic structures in jazz, they often lack depth in representing harmonic substitutions, extensions, and chromatic alterations. This raises an important question about whether standard lead sheet notation is sufficient for conveying contemporary reharmonization practices. As a result, there is a growing need to explore alternative methods of embedding harmonic information, such as hybrid classical-jazz notation or real-time harmonic analysis.

2.1.3 Taxonomy of Reharmonization Techniques

The application of reharmonization techniques varies across different jazz traditions and theoretical perspectives. Table 1 below synthesizes key classifications of jazz reharmonization as identified by seminal scholars, including Berkman (2013), Felts (2002), Rawlins & Bahha (2005) and Terefenko (2014).

Table 1. Jazz reharmonization techniques and their classifications
Source: (Mazlan, 2021a)

Reharmonization Techniques	Authors				
	Felt (2002)	Rawlins & Bahha (2005)	Berkman (2013) Functional	Berkman (2013) Non-functional	Terefenko (2014)
Chord Substitution	Simple substitution	Diatonic substitution in tonal contexts	The first circle: I, IV, and V7 chords	Same root, different chord quality	Addition Extensions
Chromatic Approaches	Tritone substitution	Tritone substitution	The third circle: Secondary dominant seventh and related ii-minor7 chord	Harmonizing a bass line	Harmonic expansion of structural chords
Modal Reharmonization	Modal interchange	Passing chords	The fifth circle: Modal interchange chords	Giant steps	Interpolation of auxiliary progressions
Bass-Driven Reharmonization	Reharmonization using bass lines	Diminished chord function	The last circle: Tritone substitutes	Color chords	Melodic recontextualization
Functional and Non-functional Harmony	Displacement	Changing chord quality	The fourth circle: Passing chords	Chords based on fourths	Functional exchange
Structural Expansion	Turnarounds	Diminished substitution	Added ii-Vs	Chord subtraction	Tonicization

Such a categorization gives insight into the differences between the jazz reharmonization methodologies of theorists and the categories in which they reevaluate harmonic transformations. Even with different names, these techniques often share conceptual similarities. For example, simple substitution of chords (Felts, 2002), diatonic substitution specifically in tonal contexts (Rawlins & Bahha, 2005), and diatonic seventh chord substitute for I, IV, and V7 (Berkman, 2013), all detail the same essential practice of substituting chords within the same functional type (tonic, subdominant, or dominant). Likewise, tritone substitution is a well-known concept in jazz theory and is present in most other systems, confirming the structural importance of reharmonization (Mazlan, 2021b; Mazlan, Abdullah, Sulong, et al., 2025).

2.1.4 Digital and Bite-Sized Learning Frameworks for Jazz Reharmonization

The expansion of jazz reharmonization into digital learning environments has introduced new pedagogical methodologies to enhance accessibility and instructional efficacy. (Mazlan, 2021b; Mazlan, Abdullah, Sulong, et al., 2025) proposed a bite-sized learning framework for jazz guitar reharmonization, utilizing digital technology to improve learning experience (Kaestri & Widodo, 2021). Their study outlined the development of a structured online learning model designed to teach basic reharmonization techniques incrementally, allowing learners to engage with harmonic transformations in a modular, self-paced format. Mazlan et al. argued that traditional jazz pedagogy, which relies heavily on comprehensive harmonic analysis, often overwhelms beginners. By integrating heutagogy, a self-directed learning approach, into jazz reharmonization instruction, their study advocated for a more intuitive and accessible pedagogical model. This digital learning framework aligns with broader trends in music technology and online education, offering potential applications for learners across diverse musical backgrounds (Mazlan, 2021b; Mazlan, Abdullah, Sulong, et al., 2025).

2.1.5 Pedagogical and Theoretical Implications

The ongoing discourse on jazz reharmonization techniques carries significant implications for both pedagogy and performance. One of the primary concerns, as highlighted by Kubiak-Kenworthy (2024), is the need for more nuanced notation systems that can effectively represent contemporary jazz harmony. Addressing this challenge may require the exploration of alternative harmonic communication methods, such as hybrid notational systems or real-time harmonic analysis in digital environments. Another key implication arises from the taxonomical frameworks established by scholars such as Berkman (2013), Felts (2002), Rawlins & Bahha (2005) and Terefenko (2014). These frameworks emphasize the diversity of reharmonization techniques, reinforcing the idea that jazz harmony is not a fixed construct but an evolving practice that can be shaped and adapted through various approaches. Jazz musicians frequently reinterpret harmonic progressions through diatonic, chromatic, modal, and structural means, demonstrating the inherent flexibility of the genre. Given the complexities involved in reharmonization, its instruction requires structured pedagogical methodologies. Several authors such as Hallam & Arellano (2012), Acquilino & Scavone (2022) Jeong & Ryan (2022) and White (2021) argue that effective music pedagogy integrates theoretical knowledge with practical application. In jazz education, reharmonization exercises often include harmonic analysis, ear training, and real-time application in improvisation and arrangement (Terefenko, 2014b).

Research further suggests that instructional models grounded in cognitive and experiential learning enhance students' ability to internalize and apply reharmonization principles, enabling them to develop their own harmonic interpretations (J. Bradley, 2014). Finally, the digital innovations proposed by (Mazlan, 2021a; Mazlan, Abdullah, Sulong, et al., 2025) mark a transition toward a more technology-driven jazz education landscape. The implementation of bite-sized learning models introduces new possibilities for teaching and learning jazz reharmonization. This shift signals an evolution in jazz pedagogy, where traditional, theory-intensive instruction is now complemented by participatory and digital learning approaches that accommodate a diverse range of learners.

2.2 Previous Studies on the Integration of Traditional Music and Jazz

The fusion of jazz with traditional music has received increasing scholarly attention, particularly in the areas of cultural hybridization, jazz pedagogy, and cross-cultural music education. Recent studies exploring this relationship have expanded our understanding of how jazz idioms, including reharmonization techniques, improvisation, and rhythmic structures, interact with traditional musical forms. These studies highlight both the pedagogical and creative implications of blending these musical traditions. Existing research suggests that jazz, due to its inherent flexibility, serves as an effective medium for reinterpreting traditional music. Its harmonic and improvisational elements provide musicians with expanded expressive possibilities, allowing for innovative reinterpretations of traditional musical styles within a jazz framework.

2.2.1 Jazz and Venezuelan Folk Music

One of the most comprehensive investigations into the intersection of jazz and traditional music is found in Rodulfo (2013) study on Venezuelan folk music in a jazz performance context. His research involved the development of instructional materials designed to help jazz musicians engage with Venezuelan music. The study included transcriptions of merengue, gaita, and joropo, arranged in lead sheet formats, like those found in jazz Real Books and Fake Books. By incorporating jazz harmonization techniques such as modal interchange and secondary dominants, Rodulfo structured Venezuelan music in a way that allowed jazz musicians to interpret it with clarity and coherence. The repertoire, developed in collaboration with nine expert musicians and educators, preserves the authenticity of Venezuelan musical traditions while remaining accessible to jazz performers. This accessibility is due in part to the shared harmonic and rhythmic elements between jazz and Venezuelan styles. Rodulfo's findings highlight the importance of idiomatic adaptation, emphasizing that

jazz musicians must understand Venezuelan music's unique rhythmic phrasing and harmonic structures while integrating improvisatory elements. His research contributes to a broader discussion of jazz as a vehicle for cross-cultural musical exchange, offering structured learning pathways for musicians unfamiliar with folk traditions (Rodulfo, 2013).

2.2.2 Jazz and Chinese Traditional Music

A similar approach to jazz-traditional music integration was undertaken by Runkun (2020), who addressed the application of jazz idioms in Chinese folk music teaching. The study aimed to introduce students to concepts of jazz harmony, rhythmic transformation, and improvisational skills using traditional Chinese melodies. Runkun created five jazz etudes using familiar pentatonic popular folk melodies and things like swing feels, syncopation, and modal reharmonization to accomplish this. Runkun work stressed the pedagogical advancements of hybrid jazz etudes and showed that this model allows students to absorb jazz ideas while being involved with their folk music. The study demonstrated that jazz harmonic adaptations could be applied in non-Western tonal systems by taking an example of the Chinese modal systems, which possess a range of reharmonization techniques like Western jazz. Runkun inquiry embraces the concept of jazz as a culturally inclusive pedagogical framework that conceptualizes a melding of traditional music with jazz phrasing and articulation (Runkun, 2020).

2.2.3 Jazz and Thai Traditional Music

The hybridization of Thai traditional music and jazz has also been explored in depth, particularly in large-scale compositional projects. Chaichana (2022) investigated contemporary jazz stave music with the inclusion of *Dontri Thai Doem* (Thai classical music) components. His research centered on transcribing that body of traditional Thai pieces, analyzing what was going on with their harmonic and rhythmic structures, and adapting them into jazz orchestral settings. A central theme of Chaichana's work was the structural compatibility of Thai classical improvisation with jazz phrasing. However, the study found that Thai melodic ornamentation could be mapped onto jazz phrasing techniques, allowing for a natural integration of Thai and jazz improvisation. Hence, this served as a compelling vehicle for jazz big-band-style arrangements of Thai rhythmic cycles, featuring often asymmetrical meters and showing both traditions' rhythmic flexibility. Chaichana's study is significant because it marks one of the earliest detailed studies of hybridizing Thai and jazz cultures. His research expands the broader conversation on how jazz operates as a transnational musical language,

allowing unfamiliar sounds and "cognitive dissonance" to coexist with its harmonic underpinnings (Chaichana, 2022).

2.2.4 Jazz Reharmonization in Malay Traditional Music

The application of jazz reharmonization techniques to Malay traditional music has been investigated by (Mazlan, 2021b; Mazlan, Abdullah, Sulong, et al., 2025), focusing on *Lagu Melayu Asli*. Their study examined how jazz chord-melody techniques could reinterpret traditional Malay compositions while preserving their melodic integrity and cultural identity. The researchers employed extended jazz harmonies, including ninth, eleventh, and thirteenth chords, to enrich traditional Malay modal structures. Their study also explored the application of chord substitutions and voicings to maintain authenticity in Malay melodic phrasing. One of the key findings was that reharmonization when applied with cultural sensitivity, could modernize Malay folk melodies while retaining their essential characteristics. Mazlan et al. also investigated digital learning frameworks for jazz guitar reharmonization, proposing a bite-sized learning model to teach fundamental reharmonization techniques online. Their study highlighted the potential of technology-driven jazz education, where self-directed learning could enhance accessibility and engagement for students across diverse cultural backgrounds (Mazlan, 2021a; Mazlan, Abdullah, Sulong, et al., 2025).

2.2.5 The Role of Jazz in Anglo-Indian Cultural Identity

Integrating jazz into Anglo-Indian musical culture offers a historical perspective on cross-cultural jazz adaptation. Sardar (2024) focused on jazz as a cultural expression and identity formation for the Anglo-Indian community during colonial and postcolonial India. The study traced jazz's origins in Calcutta and Bombay, where Anglo-Indians were instrumental in weaving jazz into Indian classical traditions and folk forms. Sardar's research showed that Anglo-Indian musicians were among the first to popularize jazz in India, where they adapted the harmonic structures of the genre to local musical traditions. Then came Indo-jazz fusion, which fused jazz improvisation with Indian raga-based melodic frameworks. This historical analysis highlights the potency of jazz as a transcultural mode of musical expression that can make visible the socio-political realities of the practitioners while resonating through intercultural dialogue (Sardar, 2024).

2.2.6 Theoretical and Pedagogical Implications

The reviewed studies highlight key dimensions in the integration of jazz and traditional music. One significant aspect is the process of idiomatic adaptation, which demonstrates that musicians trained in Western classical or folk traditions must

navigate both the stylistic conventions of traditional repertoires and the harmonic and improvisational frameworks of jazz. This adaptation requires an understanding of both musical languages to achieve a cohesive synthesis (Mazlan, 2021a; Mazlan, Abdullah, Sulong, et al., 2025). Another important consideration is the role of structural pedagogical tools in facilitating cross-cultural musical engagement. Resources such as lead sheets, jazz etudes, and emerging digital learning frameworks play a crucial role in enabling musicians to participate effectively in jazz-traditional music fusion. The findings suggest that as jazz education increasingly adopts hybrid learning environments, there is a growing emphasis on integrating classical pedagogical principles with digital innovations. Research on bite-sized learning frameworks (Mazlan, Abdullah, Sulong, et al., 2025) and the challenges of harmonic communication in radical reharmonization (Kubiak-Kenworthy, 2024) highlights the need for more adaptive, technology-based instructional methods. These approaches provide educators with flexible teaching strategies that align with evolving digital learning landscapes (Safian et al., 2024). Ultimately, jazz's openness to the convergence of diverse musical traditions reinforces its identity as a global musical language that continues to evolve through engagement with new cultural paradigms. Further research is needed to explore how jazz hybridization can be effectively integrated into various educational settings, including multicultural music curricula and online learning environments.

2.3 Usability in Music Pedagogy

Usability is a foundational concept at the intersection of technology and learning environments and includes an emphasis on educational tools and resources being effective, efficient, and satisfying to the user (ISO 9241-11). Usability in Learning Music Due to the vast proliferation of learning platforms and instructional software, usability is also an interesting parameter for development efforts in music pedagogy and improved performance training. E-learning platforms, digital interfaces, and software tools for music are investigated using usability studies, showing how user-centered design can improve accessibility, engagement, and learning outcomes. The following sections review major studies on usability frameworks, usability in educational technology, interactive learning tools, and accessibility in music education.

2.3.1 Defining Usability in Educational and Music Learning Contexts

The ISO 9241-11 standard defines usability as how a system enables users to achieve their goals effectively, efficiently, and satisfactorily. In music pedagogy, these principles are increasingly being extended to apply to areas focused on digital forms of learning, including interactive music software and e-learning platforms. This usability

is emphasized that while effectiveness and efficiency are relatively measurable attributes, user satisfaction remains subjective, requiring advanced usability assessment tools (Lewis & Sauro, 2021; Ntoa, 2025; Tractinsky, 2018). Hence, usability has also been studied in the emerging field of digital accessibility, especially for underrepresented populations. Doulani et al. (2022) examined how web-based learning environments can be optimized for illiterate and low-literate users, highlighting the role of visual and audio-based content in improving usability. Their study revealed that interactive elements, culturally relevant design, and adaptive interfaces significantly enhance user engagement. This principle applies to music pedagogy, where visual representations of notation, interactive sound demonstrations, and real-time feedback systems are essential for learning. Interactive elements and culturally appropriate designs increase user involvement and adaptive interfaces deeply affect involvement (Adomavicius et al., 2008; Chan et al., 2025; Pisoni et al., 2021; Reinecke & Bernstein, 2011; Srivastava et al., 2021), principles that may translate to music pedagogy where different representations of notation, interactive demonstrations in sound, and real-time feedback systems are critical in the learning process (Almusaed et al., 2023; Deeva et al., 2021; Diraco et al., 2023; H. Lee & Park, 2024; Mazlan et al., 2021; Nasrifan & Rahim, 2019; Pisali et al., 2017).

2.3.2 Usability of E-Learning and Digital Tools in Music Education

Integrating e-learning platforms in music education has led to a shift in instructional methodologies, emphasizing self-paced learning, digital interactivity, and online collaboration (Mazlan, Abdullah, Sulong, et al., 2025; Ramdan et al., 2024; Safian et al., 2024; Wang & Koning, 2025). Several studies have analyzed the usability of learning management systems and online course platforms to evaluate their effectiveness in supporting music instruction. Tanış et al. (2022) identified usability challenges in one of the largest MOOC platforms, Coursera, using eye-tracking analysis. Their findings emphasized the need to reduce complexity and facilitate task access through adaptive controls and content delivery. Learners in music education require quick and intuitive access to instructional videos, notation software, and interactive MIDI exercises. Next, Ngadiman et al. (2020) conducted a comparative study on the quality features of educational applications. Their findings revealed that many existing e-learning platforms lack essential usability attributes such as user interface aesthetics, understandability, and task efficiency. This study underscored the importance of user-friendly interface design in music education software, particularly for notation reading, instrument training, and music theory instruction.

Expanding on these insights, Safian et al. (2024) introduced e-MARZ, a Virtual Reality (VR) software developed to enhance music appreciation lessons in the Malaysian lower secondary school curriculum. Their study highlighted the potential of 360-degree performance videos integrated into interactive VR modules to foster student engagement and immersive learning. Using the System Usability Scale (SUS) and the Post-Study System Usability Questionnaire (PSSUQ), the study confirmed that the e-MARZ software was effective, user-friendly, and adaptable for music education. Despite certain limitations, such as the use of 3DOF instead of the more advanced 6DOF, which could impact on the scope of achievable VR experiences, the research underscored the importance of cost-effective and accessible VR applications in digital music education. By synthesizing these studies, it becomes evident that usability in digital music education tools is a crucial factor in determining student engagement, instructional effectiveness, and accessibility. The integration of AI-driven learning, adaptive user interfaces, and immersive VR applications represents the future direction of digital pedagogy in music education ' (Cui, 2023; Merchán Sánchez-Jara et al., 2024; Singh, 2024; Yeganeh et al., 2025; Zhang, 2025; Zwoliński & Kamińska, 2024).

2.3.3 Accessibility and Usability for Special User Groups in Music Learning

Ensuring usability in music education technology also involves designing for accessibility, particularly for students with disabilities or unique learning needs. Research studies have emphasized the importance of inclusive design frameworks when developing interactive music tools. Pérez-Bautista et al. (2020) provided web applications for sex education for deaf students, which were investigated in terms of usability based on ISO 9241-11 criteria. Their results highlight the need for precise navigation, visual learning aspects, and user customization for accessibility. Integrating haptic feedback, visual notation cues into digital music and learning tools, and the interpretation of music through sign language could ground these insights into inclusive music education. Similarly, Azeta et al. (2010) addressed VoiceXML in e-learning for visually impaired students and showed that the correct way of voice guidance and auditory feedback improves usability. This approach may prove helpful in such musicians, especially regarding screen-reader-friendly music notation software and audio music theory tools.

2.3.4 Measuring Usability in Music Pedagogy: Assessment Models and User Experience

Assessing usability in music education technologies requires comprehensive evaluation frameworks that measure effectiveness, efficiency, and user satisfaction. Several studies have applied ISO 9241-11 usability metrics to assess educational software, digital learning tools, and user interaction models. Salau et al. (2021)

examined the usability effectiveness of federated search systems in academic repositories using structured usability questionnaires and task-based performance evaluations. Their findings emphasized the importance of intuitive search capabilities and structured content organization, both of which are crucial for music education platforms that often contain extensive collections of sheet music, instructional videos, and audio resources. 'Borsci et al. (2019) discussed the ongoing debate on usability as a measurable construct, highlighting that usability metrics often fail to produce stable and universally accepted results. By incorporating both qualitative and quantitative measures, they advocated for a more holistic model of usability assessment. In the context of music education, this approach could be implemented by integrating usability testing, student feedback, and real-time interaction analytics to provide a more comprehensive understanding of digital music learning experiences """"(Ahuja et al., 2023; AlGerafi et al., 2023; Skulmowski & Xu, 2021; Song & Song, 2023; Yan et al., 2021; Yeh, 2025).

This research applies jazz guitar reharmonization techniques to traditional Malay Asli songs by integrating jazz harmony approaches. Although jazz has influenced various musical traditions, its application in Malay Asli music remains underexplored. To address this gap, this study examines structured methodological approaches that align with pedagogical frameworks and the practical relevance of jazz education. By doing so, it aims to develop instructional materials that enhance both musical creativity and usability, following the standards outlined in ISO 9241-11. The methodological framework of this study is detailed in the following sections, covering research design, participant selection, data collection procedures, and relevant analytical approaches for assessing the usability of jazz guitar reharmonization techniques in Malay Asli songs.

3. Method

This study employs a qualitative experimental case study design, following Gerring & McDermott (2007) framework for causal mechanism analysis in case study research. The methodology focuses on real-world contexts where jazz reharmonization techniques intersect with established Malay Asli musical traditions. Unlike most experimental studies, which prioritize statistical generalizability (Gerring & McDermott, 2007; Mazlan, 2021a), this research adopts a pragmatic approach, emphasizing depth of understanding rather than broad applicability. To assess skill development, the study integrates experimental elements, including pre-test and post-test comparisons. However, proponents of qualitative methodologies argue that statistical generalization is not the primary objective; rather, the goal is to provide nuanced insights into individual experiences (S. K. Ahmed, 2024; Cooper et al., 2022; E.

Fischer & Guzel, 2023; Lim, 2024; Limna, 2023; Maxwell, 2021; Migdad & Buheji, 2024). Conventional experimental research designs often prioritize numerical data at the expense of deeper explorations of pedagogical processes (Degtiar & Rose, 2023; Gray, 2019; Love et al., 2023). Therefore, to enhance methodological rigor, this study employs triangulation, incorporating video analysis, observational checklists, and semi-structured interviews to generate detailed descriptions and ensure contextual validity (Bowen, 2009; Creswell & Báez, 2021; Creswell & Poth, 2018; Heale & Forbes, 2013; Meydan & Akkas).

3.1 Theoretical Justification for Research Design

A within-subject design was chosen, allowing participants to serve as their own controls by directly comparing pre-test and post-test performances (Gerring & McDermott, 2007). This strategy minimizes across-case variance and enables a detailed examination of individual learning trajectories, making it particularly suitable for research focused on skill development and creative adaptation rather than standardized assessment. Unlike traditional experimental studies that include a classical control group, this study prioritizes usability in cultural and educational contexts over generalized effectiveness (H. E. Fischer et al., 2023; Gerring & McDermott, 2007). By adhering to qualitative research principles, which emphasize context-dependent insights over statistical inference, the study remains grounded in real-life musical practices. Rather than imposing external theoretical frameworks, the research focuses on how participants engage with Malay Asli music, allowing for in-depth exploration of their musical and cultural backgrounds. Music education research must acknowledge cultural specificity, as learning and adaptation processes are deeply embedded in socio-cultural frameworks (Creswell & Creswell, 2017; Creswell & Poth, 2018; Lim, 2024; Osborne & Grant-Smith, 2021; Ozuem et al., 2022; Plano Clark & Creswell, 2014). Through this approach, the study seeks to integrate jazz guitar reharmonization techniques with traditional Malay Asli songs while preserving their original musical identity.

3.2 Participants and Recruitment

Five participants were purposively selected based on their expertise in jazz guitar and harmony theory, ensuring maximum informational richness in accordance with established qualitative research methodologies (Mazlan, 2021a; Nyimbili & Nyimbili, 2024; Patton, 2015; Tisdell et al., 2025). Initially, ten potential candidates were identified during the recruitment process, but only five were retained due to a participant dropout. Although the study was originally designed for a larger sample, qualitative research prioritizes depth over breadth, focusing on rich, contextually

sensitive data rather than broad generalizability (Creswell & Báez, 2021; Creswell & Creswell, 2017; Creswell & Poth, 2018). Selecting five participants aligns with best practices in qualitative research, where sample sizes are flexible and contingent on the study's objectives, methodological approach, and data richness (Crawford, 2020; Oliffe et al., 2021; Serrano & Casanova, 2022; Subedi, 2021). Qualitative methods prioritize data depth and richness, meaning that a smaller, well-selected sample often provides more nuanced insights without compromising analytic depth. In research involving specialized expertise or cutting-edge fields, sample sizes as small as one has been deemed methodologically valid (Boddy, 2016; Subedi, 2021). In this study, the focus on guitar students adapting Malay Asli music through jazz reharmonization required a highly specialized participant pool. Each musician's interpretation and application of reharmonization techniques contributed valuable qualitative insights. Additionally, in usability research, small sample sizes are often preferred as they facilitate iterative testing and in-depth participant feedback, yielding rich qualitative data while preventing oversaturation in analysis (Braun & Clarke, 2021; Dutsinma et al., 2022; Yeganeh et al., 2025; Yeh, 2025; Yossef & Granot, 2023; Zhang, 2025; Zhukov, 2015). Since the primary objective of this study is to assess the instructional usability of the developed method book, a targeted participant pool enables a more focused evaluation of the material. To ensure participants met the necessary theoretical and practical requirements, a two-stage selection process was implemented, as outlined in Table 2:

Table 2. Selection criteria.
(Source: Mazlan, 2021)

Stage	Context	Description
1	Music theory text	This written assessment examined their knowledge of harmonic principles, including modal systems and functional harmony. Participants were tested on their understanding of chord degrees such as Imaj7, II-7, III-7, IVmaj7, V7, VI-7, and VII-7b5.
2	Practical guitar text	This evaluation assessed their ability to apply reharmonization techniques, focusing on their capacity to construct chord melodies and harmonic substitutions within a given harmonic framework.

Participants were recruited in collaboration with guitar lecturers at the National Academy of Arts, Culture, and Heritage to ensure that all individuals had a strong foundation in jazz reharmonization (Mazlan, 2021). This approach aligns with qualitative research methodologies, which emphasize purposeful participant

selection to obtain rich, relevant data (Merriam & Tisdell, 2015; Patton, 2015; Nyimbili & Nyimbili, 2024). Like school-based recruitment models, this process was targeted and strategic, relying on institutional gatekeepers, such as educators and faculty members, to identify and motivate potential participants for the study (Jacobsen et al., 2016). In this study, faculty members acted as academic prospectors, selecting music students who already possessed the necessary jazz reharmonization knowledge and guitar skills to effectively engage with the study's objectives. This method is comparable to how teachers identify students who are more likely to excel in specialized learning activities. While recruitment strategies play a crucial role in qualitative research, ensuring equitable representation remains essential. However, in this study, the focus was on expertise rather than representational balance. Participants were deliberately selected based on their proven proficiency, ensuring that the data collected meaningfully reflected the usability of jazz reharmonization techniques, specifically in the context of Malay Asli songs.

3.3 Instructional materials

The core jazz guitar reharmonization techniques employed during the structured training for Malay Asli reharmonization are tabulated in Table 3. This method book is organized into three central units. Unit one, the chord inversion unit, presents jazz theory of chord inversions and their uses, incorporating functional harmony and chord categories. Unit two expands on functional harmony and explores the classification of chordal structures. Finally, unit three, the recontextualization reharmonization unit, develops techniques to transform contained harmonies into new harmonies.

Table 3. Basic jazz guitar reharmonization techniques.
 (Source : Mazlan. 2021)

Unit	Description
Chord inversion	Fundamental principles of chord inversions and their application in jazz reharmonization
Chord categories	Exploring functional harmony and the classification of chordal structures
Recontextualization reharmonization	Techniques for transforming existing harmonies into new harmonic interpretations

3.4 Practical Assessment

Practical pre-test and post-tests were conducted using two Malay Asli compositions, *Damak* and *Patah Hati*, to evaluate the effectiveness of the structured training.

Participants were required to apply jazz reharmonization techniques to these pieces, assessing their understanding and practical execution of the concepts outlined in Table 3. The assessment focused on key aspects of jazz reharmonization, including chord inversions, functional harmony, and recontextualization reharmonization. Participants were evaluated based on their modifications to chord voicings and harmonic progressions. By comparing pre-test and post-test performances, the study measured the extent of participants' improvement in applying jazz guitar reharmonization techniques to Malay Asli compositions. A detailed analysis of these results, including musical notation comparisons, is presented in the Results section, where pre-test and post-test scores are examined to illustrate participants' development in jazz guitar reharmonization.

3.5 Research Procedure

The study followed three phases, each designed to systematically evaluate students' engagement with reharmonization techniques and track skill development over time, as shown in Table 4 below:

Table 4. Pre-posttest phrases.
(Source : Mazlan. 2021)

Phrases	Description
Pre-test	Participants were assessed on their ability to reharmonize Malay Asli melodies using their existing harmonic knowledge. This baseline assessment provided initial insights into their harmonic manipulation skills and improvisational tendencies.
Intervention	Over 24 weeks, participants engaged with the jazz guitar reharmonization method book, applying harmonic substitutions, modal reinterpretation, and chord inversion techniques to Malay Asli song compositions. Periodic evaluations and feedback sessions were conducted to monitor progress and refine their approach.
Post-test	Participants revisited the same test compositions in the final stage but applied the reharmonization techniques they had acquired from the instructional material. Their performances were analyzed for harmonic fluency, technical execution, and creative adaptability, providing comparative analysis of skill progression.

3.6 Instructional Methodology

The learning process in this study was mainly self-oriented, whereby participants personally studied a range of jazz reharmonization techniques, both in general and primarily applied to the Malay Asli composition. However, to ensure structured learning and address any conceptual challenges, participants had ongoing access to the researcher for clarification and feedback throughout the study. This method is

consistent with hybrid learning models that sedate autonomy within and expert support outside of the student learning experience. This included biweekly check-ins with the researcher, during which participants could discuss challenges, fine-tune their choices of the original material's harmonization, and receive focused feedback on reharmonization strategies. This framework is congruent with modern, learner-centered teaching practices that preserve the pedagogical supports that help students grow their skills but allow some flexibility, ideally (Pope, 2020).

3.7 Data Collection and Analysis

The study used a triangulated data collection approach to comprehensively assess participants' development and application of jazz reharmonization techniques. Three main types of data were collected: pre- and post-test videos, which recorded participants' technical execution and harmonic decisions; observation checklists, which systematically recorded the incorporation of harmonic techniques such as chord inversions, functional reharmonization, and modal reinterpretation; and semi-structured interviews that discussed participants' learning experiences and their reflections on the usability of the instructional materials. These data sources' deliberate and strategic choices ensured cross perspectives that provided a well-rounded view of participants' progress. Triangulation, which is a popular approach in qualitative research, improves the internal and external validity by cross-referencing the data from multiple sources (S. K. Ahmed, 2024; Bowen, 2009; Creswell & Creswell, 2017; Creswell & Poth, 2018; Meydan & Akkaş; Stamenkov, 2023). The thematic analysis framework was used to analyze data (Bowen, 2009; Braun & Clarke, 2021; Morgan, 2022; Ozuem et al., 2022), identifying patterns and themes about participants' skills and usability of the jazz reharmonization method book. As this study is qualitative, no statistical analysis was employed, as qualitative research seeks in-depth, descriptive insights rather than engaging in numerical generalization (Creswell & Báez, 2021; Creswell & Creswell, 2017; Islam & Aldaihani, 2021; Osborne & Grant-Smith, 2021; Sahrir et al., 2012).

3.8 Measurement and Evaluation

Participants' output of jazz reharmonization was evaluated using a structured rubric, as shown in Table 5. This rubric captured two key dimensions of performance: inversion, judging participants' ability to rearrange chord structures across measures (1–7), and reharmonization quality, which focused on tonal creativity and melodic sharpening. The role of the rubric was to provide a standard assessment tool so that evaluations were consistent and systematic and adhered to the essential principles of

harmonic application. Including objective performance criteria and qualitative reflections provided a comprehensive assessment approach that remained pedagogically meaningful, fulfilling the study's overarching aims. This organization of the assessment process supports new trends in music assessment called multidimensional methods that reflect technical ability and adaptability "(Barrett & Zhukov, 2022; Denis, 2018).

Table 5. Practical pre-posttest checklist rubric (Translated from Bahasa Melayu).

Note: This rubric is not scored. The purpose of indicators 1–5 is solely to assist in the researcher's notes
 (Source : Mazlan. 2021)

Bar	Chord Inversion (Pembalikan Kord)	Reharmonization (Pengharmonian)
1	No chord inversion used (<i>Tiada pembalikan kord yang digunakan</i>)	No reharmonization is produced, only playing the melody without harmonic accompaniment (<i>Tiada pengharmonian dihasilkan dan hanya memainkan melodi tanpa iringan kord</i>)
2	Uses one type of chord inversion (<i>Menggunakan satu jenis pembalikan kord</i>)	Produces reharmonization on certain non-melody notes while maintaining chord quality within the same scale (<i>Menghasilkan pengharmonian pada sebahagian not-not melodi dan mengekalkan kualiti kord dengan tangga nada</i>)
3	Uses two types of chord inversion (<i>Menggunakan dua jenis pembalikan kord</i>)	Produces reharmonization on all non-melody notes while maintaining chord quality within the same scale (<i>Menghasilkan pengharmonian pada semua not-not melodi dan mengekalkan kualiti kord dengan tangga nada</i>)
4	Uses three types of chord inversion (<i>Menggunakan tiga jenis pembalikan kord</i>)	Produces reharmonization on certain non-melody notes using different chord qualities (<i>Menghasilkan pengharmonian pada sebahagian not-not melodi dengan menggunakan kualiti kord yang berbeza</i>)
5	Uses three or more types of chord inversion (<i>Menggunakan tiga atau lebih jenis pembalikan kord</i>)	Produces reharmonization on all non-melody notes while maintaining chord quality within the same scale (<i>Menghasilkan pengharmonian pada semua not-not melodi dan mengekalkan kualiti kord dalam tangga nada yang sama</i>)
6		Produces reharmonization on certain non-melody notes using different chord qualities (<i>Menghasilkan pengharmonian pada sebahagian not-not melodi dengan menggunakan kualiti kord yang berbeza</i>)
7		Produces reharmonization on all non-melody notes using different chord qualities (<i>Menghasilkan pengharmonian pada kesemua not-not melodi dengan menggunakan kualiti kord yang berbeza</i>)

4. Results

This section presents a detailed analysis of each participant's pre-test and post-test practical assessments, emphasizing their application of chord inversions and reharmonization techniques. The observations highlight participants' approaches during the pre-test phase and the transformations evident in their post-test performances after applying the developed jazz guitar reharmonization techniques to Malay Asli songs. Figures 1 and 2 illustrate the sheet music used for the pre-test and post-test assessments of the compositions *Damak* and *Patah Hati*, respectively. These musical notations serve as a reference for evaluating participants' ability to apply jazz reharmonization techniques. By analyzing modifications in chord voicings and harmonic progressions, the study assesses participants' improvements.

Figure 1. Presents the pre- and post-test sheet music for *Damak*, used to assess participants' ability to apply jazz reharmonization techniques .
 (Source : Mazlan. 2021)

INSTRUMEN UJIAN AMALI PRA & POS

Arahan: Hasilkan pengharmonian kord melodi pada lagu di bawah:

Figure 2. Provides assessment materials for *Patah Hati*, following the same structured evaluation approach
 (Source : Mazlan. 2021)

INSTRUMEN UJIAN AMALI PRA & POS

Arahan: Hasilkan Pengharmonian pada melodi di bawah:

Comparisons between pre-test and post-test performances indicate a clearer understanding and more effective execution of chord inversions, functional harmony, and recontextualization reharmonization. The post-test results demonstrate enhanced harmonic interpretations, showcasing participants' ability to integrate jazz reharmonization techniques into Malay Asli compositions. The transformation in their harmonic choices is evident in the analyzed sheet music, reinforcing the effectiveness of the structured training approach.

4.1 Participant A - Pre-Test Analysis – Damak

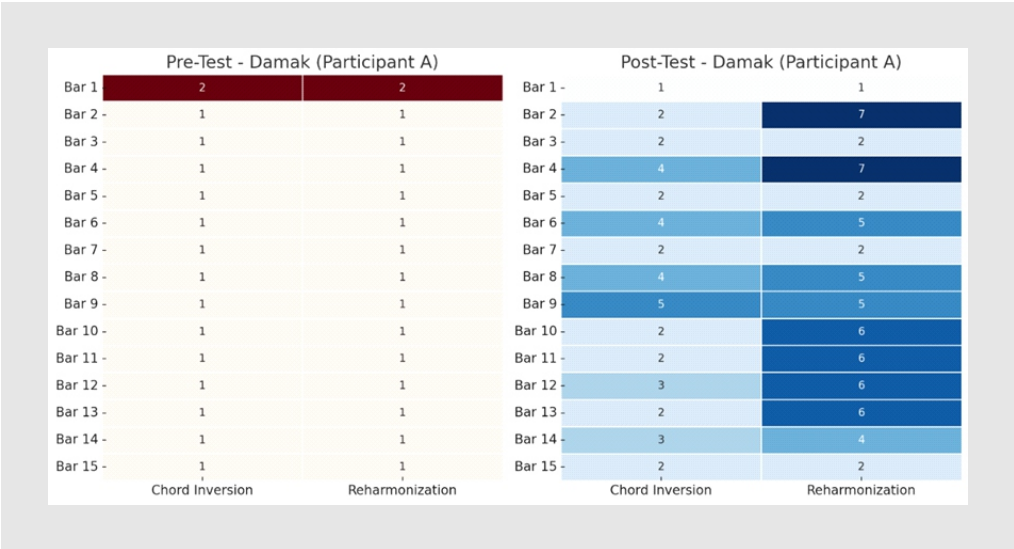
Before receiving structured training, Participant A's performance on *Damak* exhibited limited harmonic variation, relying primarily on basic chord voicings with minimal reharmonization. The participant applied a basic major 7th chord (Cmaj7) in the first bar using a drop-2 voicing in the middle. However, no reharmonization was applied to the melody from the second to the fifteenth bar, reflecting a lack of harmonic creativity. Throughout the performance, hesitation in choosing melodic positions was evident, leading to a lack of confidence in producing chord melodies and harmonic variations. The participant primarily adhered to chord progression without harmonic substitutions or structural modifications. The absence of advanced reharmonization techniques resulted in a static harmonic texture, where the interplay between melody and harmony remained unaltered. The performance suggested that the participant relied on foundational harmonic knowledge but had not yet developed the ability to experiment with alternative chord voicings or explore different harmonic colors within the jazz reharmonization framework.

4.2 Participant A - Post-Test Analysis – Damak

Following structured training and exposure to jazz reharmonization techniques through the instructional method book, Participant A demonstrated notable improvements in *Damak*'s post-test performance. Harmonic substitutions were introduced, including applying drop-2 and drop-3 inversions in multiple bars. The participant replaced the original C major chord in the second bar with an F#min7b5 drop-2 inversion, introducing an added harmonic complexity layer. The harmonic relation between F#min7b5 and C included the #11 (F#), major sixth (A), root (C), and major third (E), creating a more colorful and sophisticated voicing. Further developments were evident in bar three, where the participant used a cluster voicing (Cmaj7) consisting of the notes E, B, and C, contributing to a modern harmonic texture. By the fourth bar, applying a drop-2 voicing of Amin7, followed by A7b13 and Ab7#11 drop-3 inversions, highlighted an expanded harmonic vocabulary and the participant's

ability to integrate chromatic movement. The middle section of the performance, particularly in bars eight to ten, showcased greater harmonic fluidity, using Emin7 drop-3, G7 drop-2, and A7(13) drop-2, signaling a firmer grasp of harmonic progression and voice leading. By the fifteenth bar, a Cmaj7 cluster chord (B, C, and G) indicated greater confidence in reharmonization and a more seamless integration of chord melody. The performance suggested that the participant had internalized key jazz reharmonization principles, moving beyond basic voicings to explore richer harmonic textures.

Figure 3: Pre-posttest Heatmap for *Damak* (Participant A).
(Source : Mazlan. 2021)



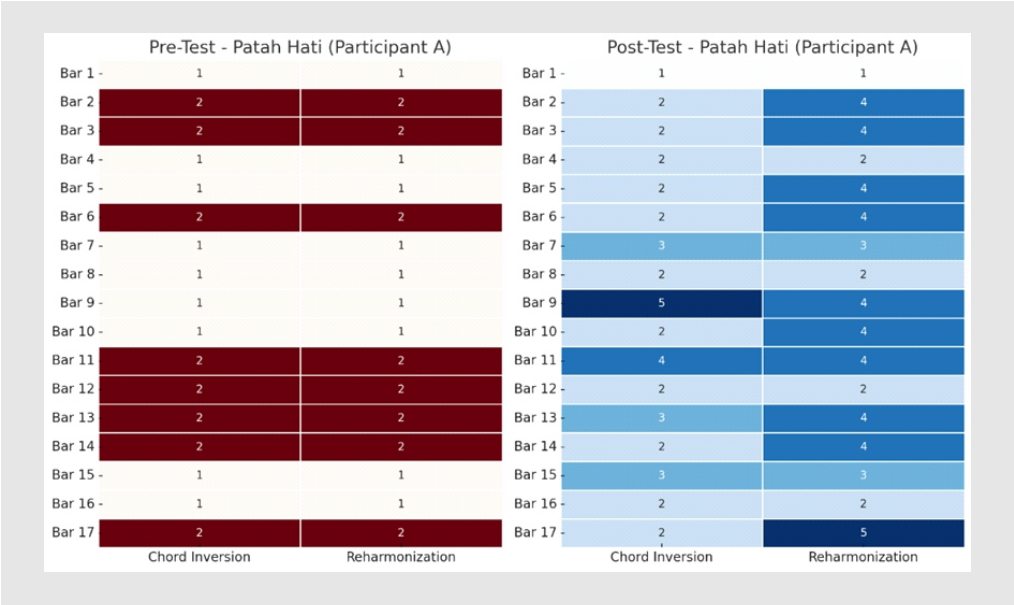
4.3 Participant A - Pre-Test Analysis – *Patah Hati*

A similar pattern was observed in *Patah Hati*'s pre-test performance. The participant demonstrated inconsistent application of reharmonization across different bars. In several measures, particularly bars one, four, five, seven, eight, nine, ten, fifteen, and sixteen, no reharmonization was attempted, indicating a reluctance to modify the given harmonic structure. In the second bar, the participant experimented with reharmonization using a drop-3 inversion in the upper position but did not extend this approach throughout the piece. Some minor reharmonization attempts were observed in bars six, eleven, and twelve, where drop-2 and drop-3 inversions were used, incorporating minor seventh and diminished chord substitutions. However, these modifications were infrequent and did not contribute significantly to the overall harmonic complexity of the piece. The performance remained largely static, as the participant hesitated to engage in harmonic variation, suggesting limited familiarity with jazz reharmonization techniques.

4.4 Participant A - Post-Test Analysis – Patah Hati

The post-test performance of *Patah Hati* also reflected a significant transformation in the harmonic approach. The participant demonstrated a broader range of harmonic substitutions and a greater willingness to modify the original progression. In the second bar, a Cmaj7 cluster voicing (E, B, C) introduced a more colorful reharmonization, showcasing the participant's ability to experiment with chordal textures. Further improvements were observed in bar three, where a DminMaj7(11) cluster chord replaced the original minor 7th voicing, creating increased harmonic tension. Bars seven to nine featured dominant chord substitutions, including E7 drop-2, F7 drop-2, and A7b9 voicings, contributing to a richer harmonic palette. The application of these advanced harmonic substitutions indicated an improved understanding of voice leading and modal interchange. By the seventeenth bar, the final resolution incorporated a Fmaj7 drop-2 in the upper register, suggesting a more refined harmonic choice than the pre-test version. The participant's use of extended chord structures and altered dominant substitutions reflected a more developed harmonic sensibility, demonstrating a shift from simple chordal accompaniment to a more sophisticated approach to jazz reharmonization.

Figure 4: Pre-posttest Heatmap for *Patah Hati* (Participant A).
(Source : Mazlan. 2021)



4.5 Summaries for Participant A

Participant A showed remarkable growth from the Pre-test to the Post-test in his ability to apply jazz reharmonization techniques. The greater use of drop-2 and drop-3 inversions and cluster voicings showed a deeper understanding of harmonic variety. The use of passing chords, secondary dominants, and other chromatic approaches

also became more common, working together to create a more condensed and expressive harmonic fabric. Furthermore, the participant demonstrated a marked increase in confidence and fluidity, with fluid movements between chord voicing and more excellent harmonic intuition. The evolution from rigid, unchanged chord progressions in the pre-test to fluid, harmonically interesting sequences in the post-test proves that the method book utilized to teach these students provided suitable information. Such results indicate the need for structured training in jazz reharmonization, demonstrating how it improves harmonic creativity and technical application.

4.6 Participant B – *Damak* Pre-Test Observations:

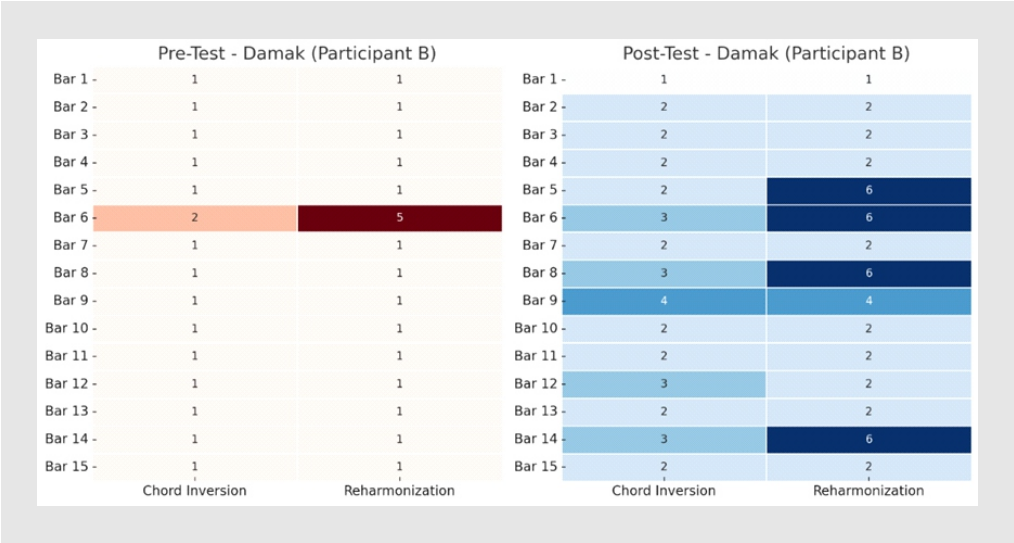
Before structured training, Participant B's performance on *Damak* demonstrated limited harmonic exploration, like Participant A. The participant relied primarily on basic chord voicings throughout the piece, with little to no application of advanced chord inversions or reharmonization techniques. In the first five bars, chord inversions remained minimal, sticking to root-position voicings with occasional basic inversions. A slight attempt at reharmonization was made in bar six, where a drop-2 voicing was introduced, but this was not consistently maintained throughout the rest of the performance. From bars seven to fifteen, the participant largely reverted to basic triads, hesitating to modify the harmonic framework. The overall lack of harmonic variation resulted in a static and predictable harmonic structure, with the melody being accompanied by conventional chord progressions without significant alterations. The pre-test performance suggested a foundational understanding of jazz harmony but an underdeveloped ability to effectively apply harmonic substitutions and inversions. The participant appeared hesitant to experiment with harmonic variations, limiting the depth and richness of the piece's harmonic structure.

4.7 Participant B – *Damak* Post-Test Observations:

Following structured training, Participant B significantly improved harmonic variety and applied reharmonization techniques in *Damak*. The post-test results showed a greater willingness to explore chord inversions and harmonic modifications, leading to a more dynamic harmonic interpretation of the piece. Participant B introduced more varied chord inversions in the early bars, incorporating drop-2 and drop-3 voicings, previously absent in the pre-test performance. By bar six, reharmonization was noticeably more advanced, incorporating chords with added tensions and passing chords, demonstrating a more confident approach to harmonic variation. The piece's middle section (bars seven to ten) showcased a clear improvement in harmonic

complexity, with the participant applying chromatic reharmonization, secondary dominants, and modal interchange techniques. One of the most striking differences in the post-test was the increased fluidity in harmonic movement, as opposed to the static chord progressions observed in the pre-test. By the final bars, the participant confidently used more adventurous reharmonization choices, showing an increased understanding of jazz harmonic concepts and chord relationships.

Figure 5: Pre-posttest Heatmap for *Damak* (Participant B) .
(Source : Mazlan. 2021)



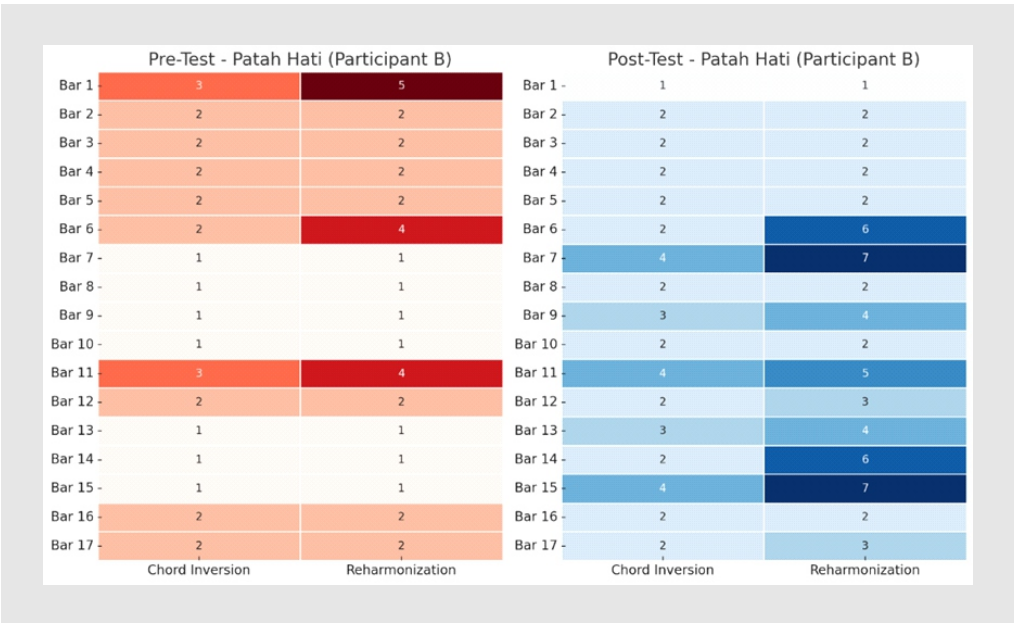
4.8 Participant B – *Patah Hati* Pre-Test Observations:

The pre-test results for *Patah Hati* reflected a similar pattern to *Damak*, with limited application of chord inversions and reharmonization techniques. The participant remained within the expected harmonic framework, using only basic inversions with minimal reharmonization. Chord inversions were rarely applied in bars one to five, maintaining a root-position approach to most chords. By bar six, there was an attempt at a drop-3 inversion, but it was not expanded upon in the following measures. The middle section (bars seven to ten) remained harmonically static, as the participant avoided secondary dominants, passing chords, or chromatic reharmonization techniques. Although there were minor reharmonization attempts in bars eleven and twelve, these were inconsistent and did not contribute to a significant transformation of the harmonic structure. The last five bars returned to a more simplistic harmonic interpretation, showing the participant's hesitance in expanding the harmonic framework. Overall, the pre-test performance suggested a passive approach to reharmonization, with little engagement in harmonic exploration beyond basic voicings and conventional progressions.

4.9 Participant B – *Patah Hati* Post-Test Observations:

The post-test performance of *Patah Hati* revealed a considerable shift in harmonic complexity and a greater willingness to explore harmonic substitutions and chord inversions. The participant demonstrated a more varied and expressive approach to reharmonization, integrating more sophisticated harmonic techniques throughout the piece. Unlike the pre-test, where reharmonization was inconsistent, the post-test featured a more structured application of harmonic substitutions. The participant incorporated cluster voicings and passing chords in bars one to five, creating a more fluid harmonic transition between measures. A dominant chord substitution was introduced by bar seven, adding harmonic tension and leading into a more colorful harmonic passage in bars eight and nine. The middle section saw the inclusion of modal interchange and chromatic reharmonization techniques, which were previously absent in the pre-test. In the final section (bars fifteen to seventeen), the participant confidently used drop-2 and drop-3 inversions and more refined use of altered dominant chords, demonstrating a clear progression in harmonic application and voice leading.

Figure 6: Pre-posttest Heatmap for *Patah Hati* (Participant B).
(Source : Mazlan. 2021)



4.10 Summaries for Participant B

The post-test results indicated substantial improvements in Participant B's ability to apply jazz reharmonization techniques. In *Damak*, the participant shifted from a static harmonic approach to a more dynamic and engaging harmonic interpretation,

incorporating various chord inversions and reharmonization techniques. Similarly, in *Patah Hati*, harmonic substitutions had grown increasingly structured and expressive, illustrating a matured understanding of harmonic movement and reharmonization principles. Participants showed increased confidence in changing harmonic structures and utilizing complex jazz reharmonization techniques. In contrast with the pre-test that demonstrated reservation and shallow harmonic content exploration, the post-test revealed a more flowing and nuanced reharmonization style, supporting the method book's effectiveness for enhancing creative harmonic use.

4.11 Participant C – Damak Pre-Test Observations:

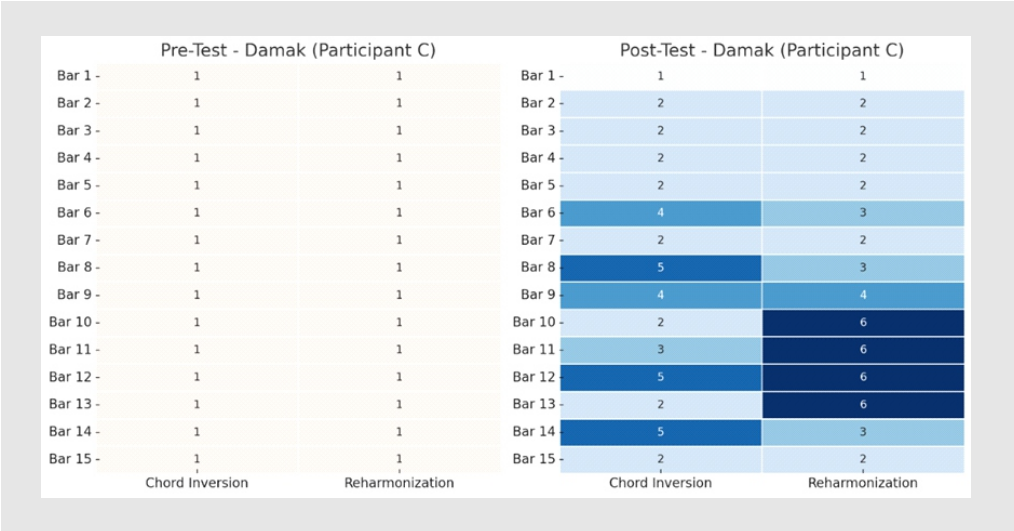
Before receiving structured training, Participant C's performance on *Damak* exhibited a lack of harmonic variety, with minimal attempts at reharmonization. The pre-test performance revealed a firm reliance on basic root-position chords, with virtually no application of drop-2 or drop-3 inversions. The participant played static chord voicings from the first to the fifteenth bar, remaining at indicator one across all measures. The participant appeared hesitant to experiment with harmonic substitutions or enrich the chordal texture, resulting in a harmonically predictable interpretation of *Damak*. Unlike the more varied harmonic approaches in jazz reharmonization techniques, this performance lacked the nuanced harmonic shifts that typically define an advanced reharmonization process. The absence of secondary dominants, passing chords, or extended harmonies suggested a limited application of harmonic knowledge in a practical setting.

4.12 Participant C – Damak Post-Test Observations:

Following structured training in jazz reharmonization techniques, Participant C's post-test performance of *Damak* demonstrated a significant expansion of harmonic vocabulary. The participant began incorporating a variety of chord inversions, introducing drop-2 and drop-3 voicings throughout the performance. A shift to a drop-2 voicing signified a more confident approach to harmonic structuring in bar six. A drop-3 inversion was introduced by bar eight, followed by additional voicing modifications in bar nine and ten, resulting in smoother harmonic flow and a more engaging progression. Notably, bars eleven through fourteen showcased the most substantial improvements, with the participant successfully applying reharmonization techniques involving chromatic movement and secondary dominants. The final bars maintained a strong harmonic direction, ensuring a more cohesive and expressive musical interpretation than the pre-test. Overall, the post-test performance reflected an increased level of harmonic awareness, as well as greater confidence in applying

jazz reharmonization techniques. The hesitation observed in the pre-test was significantly reduced, replaced by a more deliberate and nuanced harmonic approach.

Figure 7: Pre-posttest Heatmap for *Damak* (Participant C) .
(Source : Mazlan. 2021)



4.13 Participant C – *Patah Hati* Pre-Test Observations:

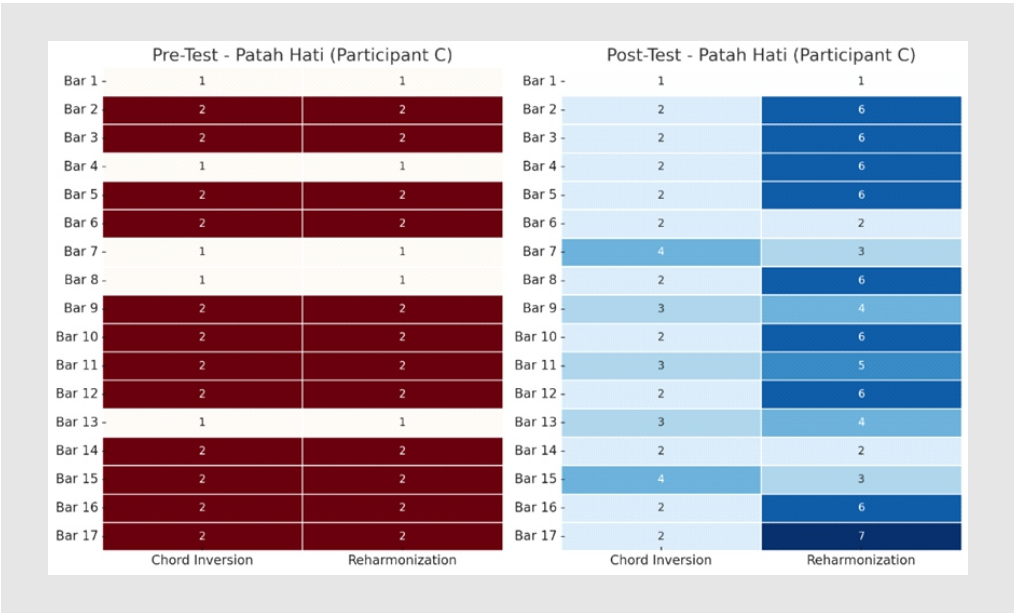
The pre-test results for *Patah Hati* reflected a similar pattern to *Damak*, with limited application of chord inversions and reharmonization techniques. The participant remained within the expected harmonic framework, using only basic inversions with minimal reharmonization. Chord inversions were rarely applied in bars one to five, maintaining a root-position approach to most chords. By bar six, there was an attempt at a drop-3 inversion, but it was not expanded upon in the following measures. The middle section (bars seven to ten) remained harmonically static, as the participant avoided secondary dominants, passing chords, or chromatic reharmonization techniques. Although there were minor reharmonization attempts in bars eleven and twelve, these were inconsistent and did not contribute to a significant transformation of the harmonic structure. The last five bars returned to a more simplistic harmonic interpretation, showing the participant's hesitation in expanding the harmonic framework. Overall, the pre-test performance suggested a passive approach to reharmonization, with little engagement in harmonic exploration beyond basic voicings and conventional progressions.

4.14 Participant C – *Patah Hati* Post-Test Observations:

The post-test performance of *Patah Hati* revealed a considerable shift in harmonic complexity and a greater willingness to explore harmonic substitutions and chord

inversions. The participant demonstrated a more varied and expressive approach to reharmonization, integrating more sophisticated harmonic techniques throughout the piece. Unlike the pre-test, where reharmonization was inconsistent, the post-test featured a more structured application of harmonic substitutions. The participant incorporated cluster voicings and passing chords in bars one to five, creating a more fluid harmonic transition between measures. A dominant chord substitution was introduced by bar seven, adding harmonic tension and leading into a more colorful harmonic passage in bars eight and nine. The middle section saw the inclusion of modal interchange and chromatic reharmonization techniques, which were previously absent in the pre-test. In the final section (bars fifteen to seventeen), the participant confidently used drop-2 and drop-3 inversions and more refined use of altered dominant chords, demonstrating a clear progression in harmonic application and voice leading.

Figure 8: Pre-posttest Heatmap for *Patah Hati* (Participant C) .
(Source : Mazlan. 2021)



4.15 Summaries for Participant C

Results indicate a marked turnaround in the reharmonization approach for Participant C. At first, the player showed restraint and sparse harmonic exploration, relying on elementary root-position voicings. After structured training, the participant incorporated jazz reharmonization techniques, exhibiting enhanced harmony understanding, voice leading, and innovative chord progressions. In *Damak*, the participants used chord inversions and reharmonization to another level, creating a more enjoyable and colorful harmonic progression. The reharmonization of the *Patah*

Hati began to take on a more structured and expressive form, using dominant substitutions, chromatic movements, and modal interchange. Noticeable improvements in the post-test results for Participant C confirm the effectiveness of the instructional method book in promoting harmonic creativity and technical application in jazz reharmonization.

4.16 Participant D – *Damak* Pre-Test Analysis Observation:

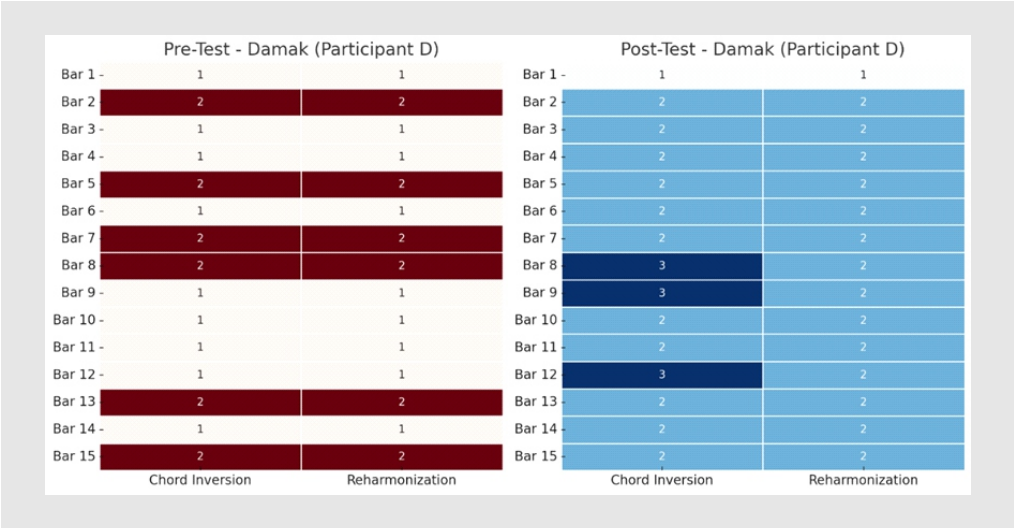
Before structured training, Participant D's performance on *Damak* demonstrated a fundamental but limited application of chord inversions and reharmonization techniques. The participant primarily adhered to basic root-position chord voicings, with minimal harmonic variation throughout the piece. In the early measures (bars one to five), the participant occasionally used drop-2 inversions, but these were inconsistent and did not contribute significantly to harmonic movement. The piece's middle section (bars six to ten) reflected a lack of experimentation with harmonic substitutions, as the participant remained within the basic diatonic harmonic framework. While some reharmonization was attempted in bar six, these efforts were not sustained in the following measures, indicating a limited grasp of reharmonization strategies. Overall, the pre-test performance suggested a cautious and conservative approach to harmony, with the participant displaying hesitation in altering chord progressions beyond their standard voicings. The result was a predictable harmonic structure lacking jazz reharmonization's richness and fluidity.

4.17 Participant D – *Damak* Post-Test Analysis Observation

Following structured instruction in jazz reharmonization techniques, Participant D exhibited a clear improvement in harmonic variation and chord inversions. The post-test performance of *Damak* revealed a more confident and deliberate application of harmonic substitutions, leading to a richer harmonic palette. In the first five bars, the participant began integrating drop-2 and drop-3 inversions, with some measures reaching indicator 3, signaling a greater willingness to explore harmonic variations. By bar seven, a more structured application of reharmonization techniques became evident, with the participant utilizing dominant chord substitutions to introduce harmonic tension and resolution. The middle section (bars eight to ten) reflected a more advanced harmonic understanding as the participant applied modal interchange and passing chords, creating a more fluid and engaging harmonic structure. This approach significantly differed from the static chords' progression observed in the pre-test. Towards the final measures of the piece, the participant demonstrated a stronger command of reharmonization principles, incorporating

secondary dominants and altered chords to enhance the harmonic expressiveness of the piece. The post-test results suggested that the participant had developed a deeper understanding of harmonic relationships, leading to a more dynamic and engaging performance.

Figure 9: Pre-posttest Heatmap for *Damak* (Participant D) .
(Source : Mazlan. 2021)



4.18 Participant D – *Patah Hati* Pre-Test Analysis Observation:

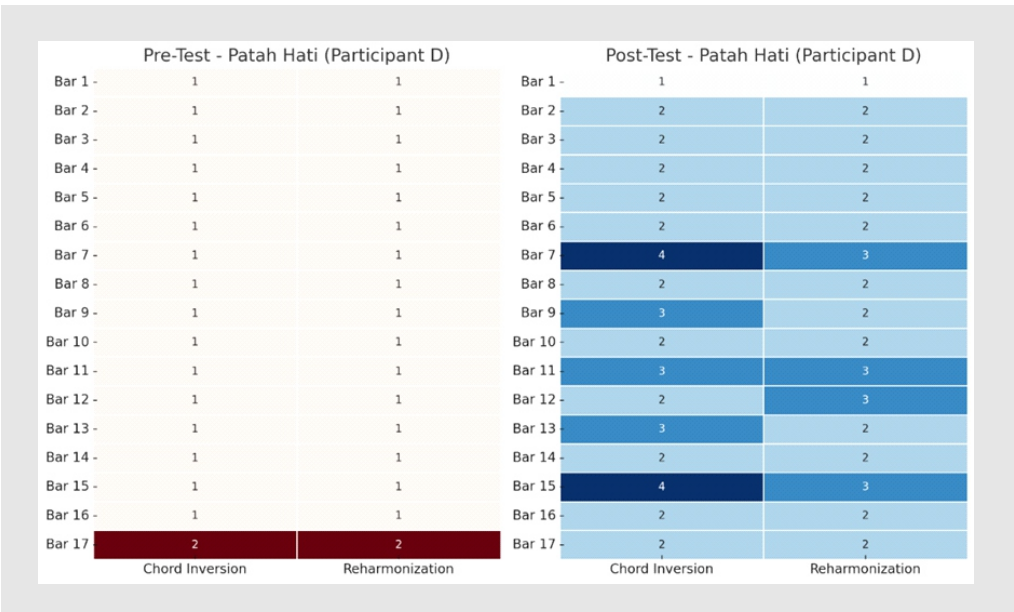
Like the *Damak* pre-test, Participant D's performance on *Patah Hati* exhibited a static harmonic structure with slight variation in chord voicings. The participant consistently played root-position chords with no application of drop-2 or drop-3 inversions. In bars one through sixteen, the harmonic approach remained unchanged, with all measures receiving indicator 1, signaling an absence of harmonic modification. The only deviation from this pattern occurred in bar seventeen, where a slight reharmonization attempt was observed. However, this effort was isolated and did not influence the overall harmonic direction of the piece. The lack of reharmonization throughout the performance indicated that the participant had not yet been able to experiment with harmonic textures, resulting in a rigid and predictable harmonic interpretation. The hesitation to explore altered voicings or passing chords further reinforced the need for structured harmonic training.

4.19 Participant D – *Patah Hati* Post-Test Analysis Observation:

The post-test results for *Patah Hati* mirrored the improvements seen in *Damak*, with a greater variety of chord inversions and reharmonization techniques applied throughout the performance. Unlike the pre-test, which lacked harmonic movement, the post-test demonstrated a more intentional and structured approach to

reharmonization. In bars one through five, the participant began incorporating basic reharmonization techniques, moving beyond the static voicings observed in the pre-test. By bar seven, a significant improvement in harmonic variation was observed with the introduction of drop-2 and drop-3 inversions and chromatic reharmonization techniques. The piece's middle section (bars eight to twelve) featured greater harmonic complexity, with the participant exploring alternative chord substitutions and altered dominant voicings, which were absent in the pre-test. Bars fifteen to seventeen demonstrated the most advanced application of reharmonization techniques, with modal interchange and passing chords enhancing harmonic fluidity. These findings indicated a significant improvement in harmonic creativity and application, confirming the effectiveness of the instructional method book in strengthening the participant's ability to apply jazz reharmonization techniques.

Figure 10: Pre-posttest Heatmap for *Patah Hati* (Participant D) .
(Source : Mazlan. 2021)



4.20 Summaries for Participant D

Post-test results confirmed a significant increase in Participant D's harmonic awareness and application of reharmonization techniques. In the first round, the subject appeared tentative and resorted to root-position chords and stagnant harmonic movements with little modulation. However, following systematic training, the participants introduced changes to their harmonic approach, such as using chord inversions, harmonic substitutions and passing chords, resulting in a much more interesting and colorful harmonic interpretation. The *Damak* participant held more will to explore different harmonic textures, applying drop-2 and drop-3

inversions and chromatic reharmonization techniques. In *Patah Hati*, reharmonizations became more organized and expressive, using dominant substitutions, extended harmonies, and modal interchange. The results found in the post-test of Participant D confirmed the effectiveness of the instructional method book in increasing jazz reharmonization through harmonic creativity and technical application. Controlling the input in this way allowed us to focus specifically on the reharmonizing ability rather than the harmonic vocabulary of the participants, and the results indicate that even musicians with little to no previous experience in harmonic exploration can improve their reharmonization skills with more organized training.

4.21 Participant E – Damak Pre-Test Analysis Observation:

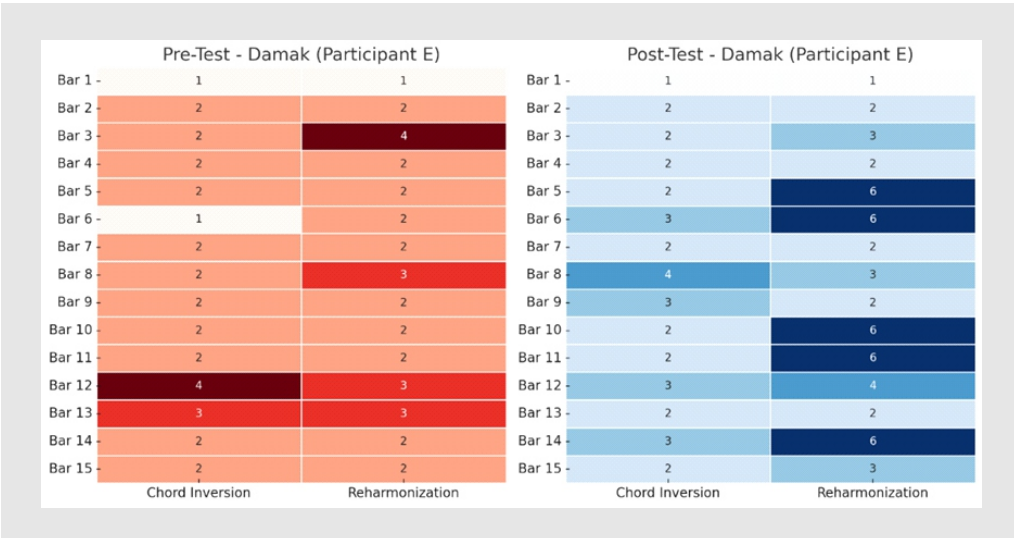
Before receiving structured training, Participant E's performance on *Damak* demonstrated a basic harmonic approach, with minimal application of advanced chord inversions or reharmonization techniques. The participant remained within a conventional harmonic framework, using simple root-position chords and occasional drop-2 voicings without significant modifications to the harmonic structure. The participant employed basic chord inversions in bars one through five, maintaining a predictable harmonic progression. Some reharmonization was attempted in bar three, where an indicator four substitution was applied, but this was not expanded upon in the following bars. The piece's middle section (bars six to ten) remained harmonically static, with only slight alterations to chord voicing and voice leading. Towards the final measures, a few instances of altered voicing were introduced, particularly in bars twelve and thirteen, where cluster voicings and harmonic extensions began to emerge. However, these modifications were isolated and did not significantly alter the overall harmonic direction of the piece. The pre-test performance suggested a strong foundational understanding of harmony but a limited application of creative reharmonization techniques.

4.22 Participant E – Damak Post-Test Analysis Observation:

Following structured training in jazz reharmonization techniques, Participant E's post-test performance of *Damak* significantly improved harmonic creativity and application. The participant began exploring more varied chord inversions, incorporating drop-2, drop-3, and cluster voicings in multiple sections. In the first five bars, the participant expanded harmonic choices, with reharmonization reaching indicator 6 in bar five, where a more advanced harmonic substitution was applied. The participant was more willing to modify the harmonic structure by bar six, introducing a secondary dominant substitution that enriched the texture. The piece's middle section

(bars eight to twelve) showed a substantial increase in harmonic complexity, with the participant incorporating passing chords, modal interchange, and chromatic reharmonization techniques. These harmonic alterations created a more fluid and expressive harmonic movement, moving beyond the static chords' progression observed in the pre-test. The final measures (bars thirteen to fifteen) revealed a confident use of reharmonization techniques, including altered dominant chords and upper-structure triads, which enhanced the depth and expressiveness of the harmonic structure. The participants demonstrated clear progression from simple chord inversions to a more sophisticated harmonic approach, reflecting a firm grasp of jazz reharmonization principles.

Figure 11: Pre-posttest Heatmap for Damak (Participant E)
(Source : Mazlan. 2021)



4.23 Participant E – Patah Pre-Test Analysis Observation:

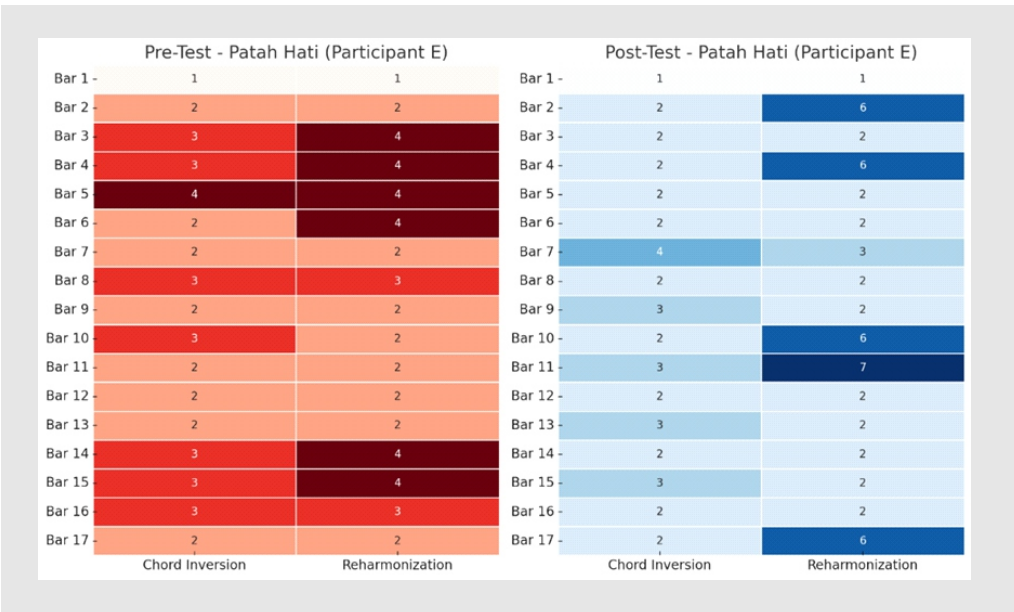
The pre-test results for *Patah Hati* revealed a similar reliance on conventional harmonic structures, with limited application of chord substitutions or advanced reharmonization strategies. The participant's approach to voice leading and harmonic movement remained minimal, reflecting a cautious approach to altering the chord progressions. Basic chord inversions were used in bars one through five, with some attempts at reharmonization in bars three through five, where indicator four chord substitutions were introduced. However, these harmonic alterations were not consistently applied across the piece, resulting in a harmonic structure that remained unchanged from its original form. The middle section (bars six to ten) maintained a static harmonic framework, with only minor alterations in voicing. Some reharmonization appeared in bars fourteen and fifteen, where the participant introduced chord substitutions at indicator 4, but these changes were not extended

into the surrounding harmonic context. Overall, the pre-test performance of *Patah Hati* reflected a basic understanding of jazz harmony. Still, the participant hesitantly applied more extensive harmonic modifications, resulting in a harmonically conservative interpretation of the piece.

4.24 Participant E – Patah Post-Test Analysis Observation:

The post-test results for *Patah Hati* highlighted a significant shift in the participant's ability to modify harmonic structures, integrating more dynamic harmonic movement and greater variety in chord voicings. Unlike the harmonically static pre-test performance, the post-test demonstrated a more flexible and intentional approach to reharmonization. In bars one through five, the participant implemented harmonic substitutions absent in the pre-test, introducing indicator six reharmonizations in bars two and four. The participant incorporated dominant chord substitutions by bar seven, creating a more engaging harmonic progression. The middle section (bars eight to twelve) revealed a noticeable improvement in reharmonization techniques, with the participant applying chromatic reharmonization and secondary dominants to enhance the harmonic movement. The most significant improvement was observed in bar eleven, where reharmonization reached indicator 7, reflecting a mature and confident approach to harmonic development. In the final section (bars fifteen to seventeen), the participant explored richer harmonic textures, integrating modal interchange and altering dominants. These advanced harmonic choices contributed to a more fluid and expressive resolution, significantly departing from the rigid harmonic structure observed in the pre-test.

Figure 12: Pre-posttest Heatmap for *Damak* (Participant E) .
(Source : Mazlan. 2021)



4.25 Summaries for Participant E

The analysis of post-test results for Participant E showed a marked improvement in harmonic application and reharmonization techniques. The participant's treatment of *Damak* and *Patah Hati* was rather conventional initially, without much incorporation of advanced harmonic concepts. Nonetheless, relatively more extensive training enabled the participant to effectively induce intricate modifications in harmonic progression with a more advanced and prosperous stylistic treatment of reharmonization. The evolution in *Damak* was a move away from static harmonic structures toward a more fluid and dynamic harmonic conception, incorporating drop-2 and drop-3 inversions, modal interchange, and passing chords. Likewise, within *Patah Hati*, reharmonization proved more articulated and expressive, incorporating dominants on substitutions, chromatic movements, and altered dominants, showcasing an evident harmonic development.

4.26 Participants Feedback on the Usability of the Instructional Book

The usability measurement of basic jazz guitar reharmonization techniques using Malay Asli songs was assessed based on the efficiency, effectiveness and satisfaction by ISO 9241-11. Triangulation of performance videos, observational checklists, and participant interviews facilitated the emergence of three overarching themes and rich qualitative evidence, all contextualized within broader pedagogical discourse.

4.27 Efficiency of the Instructional Book

Efficiency refers to how well the instructional book supports participants in learning jazz reharmonization techniques with minimal effort and time. Participants emphasized that the book provided a structured, accessible approach facilitating rapid comprehension of complex harmonic concepts.

Participant A remarked:

"Before using this book, I struggled with chord inversions, but the structured exercises helped me internalize drop-2 and drop-3 voicings much faster than I expected."

Similarly, Participant B noted:

"The inclusion of QR codes linking to demonstrations was beneficial. Instead of guessing how a reharmonized passage should sound, I could immediately compare my playing to the provided examples."

Participant C found the layout particularly effective, stating:

"The progression from simple triadic voicings to extended harmonies was logical and

easy to follow. I never felt overwhelmed, even when tackling complex reharmonization techniques."

These responses suggest that the instructional book successfully optimized the learning process by reducing cognitive overload, allowing participants to absorb and apply harmonic concepts efficiently.

4.28 Effectiveness of the Instructional Book

Effectiveness refers to how well the instructional book fulfils its intended purpose, helping participants understand and apply jazz reharmonization techniques within Malay Asli music. Across all interviews, participants reported that the book expanded their harmonic vocabulary and improved their ability to apply reharmonization techniques contextually.

Participant D explained:

"I used to think of chords exactly, but this book showed me how different reharmonization choices could completely change the mood of a song. Now, I can manipulate harmony with more confidence."

Similarly, Participant E noted the impact on their overall musicianship:

"The theoretical explanations weren't just abstract concepts but had direct practical applications. The exercises pushed me to experiment, and I realized how much more I could do with harmonic substitutions."

Participant A also highlighted the book's cross-genre applicability, stating:

"I initially applied these reharmonization techniques to jazz, but now I use them in pop and folk arrangements. It has completely changed how I approach harmony."

This feedback underscores the book's effectiveness in bridging the gap between theoretical knowledge and practical application, fostering greater harmonic exploration and creative autonomy among participants.

4.29 Satisfaction with the Instructional Book

Satisfaction refers to participants' overall experience with the book regarding engagement, motivation, and creative fulfilment. Most participants expressed that the book improved their technical skills and inspired them to explore jazz reharmonization more deeply.

Participant C shared:

"What I liked most was the way this book encouraged improvisation. It didn't just tell me what to play; it gave me the tools to develop my harmonic ideas."

Participant B appreciated the versatility of the instructional material, saying:

"The reharmonization techniques weren't just limited to guitar. I also found myself experimenting with these concepts on the keyboard, which expanded my creative possibilities."

Participant D expressed a newfound confidence in their harmonic intuition, stating:

"Before, I hesitated to reharmonize melodies because I feared making mistakes. I understand harmonic movement better and can make more intentional choices."

The overwhelmingly positive responses suggest that the book was engaging, user-friendly, and capable of enhancing musicianship beyond the scope of the study.

4.30 Summaries of interview findings

Overview of interview findings Overall, the interview findings suggest that the instructional book had a substantial impact on participant's learning experiences. Both pre-and post-test results reflected measurable improvement, and as seen through qualitative analysis of interview data, participants reflected similar feelings of progress.

- **Efficiency:** The book allowed participants to learn reharmonization techniques with the least effort but maximum clarity so they were not confused and could learn faster.
- **Effectiveness:** The book broadened participants' understanding of harmony, allowing them to apply new reharmonization techniques appropriately in Malay Asli music.
- **Satisfaction:** Participants reported increased confidence and motivation, with a few applying everything they had learned harmonically to other instruments and styles of music.

These findings corroborate the utility of ISO 9241-11 usability guidelines and suggest the instructional book was efficient, effective, and satisfactory to learners, validating its practical utility as a learning resource for jazz reharmonization in a cross-cultural context.

5. Discussions

The findings of this study provide compelling evidence that the structured instructional book on jazz reharmonization significantly enhanced participants' harmonic fluency and creative application within Malay Asli music. By integrating jazz chord inversions, harmonic substitutions, and modal interchange techniques,

participants demonstrated measurable improvements in harmonic complexity and increased confidence in reharmonization applications.

5.1 Building Theory and Practical Knowledge

Before structured training, participants did not apply advanced chord inversions or reharmonization techniques, using mainly basic harmonic structures. Pre-test heatmaps demonstrated a still largely root-position harmonic approach, with most participants remaining almost stationary at the root and showing little harmonic functionality. In contrast, the post-test scores revealed a significant change from these trends in that subjects had similar rates of use on varied voicings, chromatic passing chords, and dominant substitutions in a manner that reflected principles of reharmonization established within the jazz literature (Berkman, 2013; J. Bradley, 2014; Felts, 2002; Terefenko, 2014b). Qualitative feedback reaffirmed its effectiveness, and participants confirmed that structured exercises helped bridge the theory and its application. Such findings align with previous studies into jazz pedagogy that highlight the significance of learning harmonic progressions in improving improvisational and compositional abilities (Hashim, 2012; Ismail & Loo, 2023; Mazlan, 2021b; Mazlan, Abdullah, Sulong, et al., 2025).

5.2 Cultural Pedagogy and Jazz Theory Integration

This study demonstrates how culturally responsive and decolonial frameworks can recontextualize jazz pedagogy by integrating Western jazz theory with Malay Asli traditions. By using Malay Asli songs to introduce concepts such as modes, chord inversions, and jazz reharmonization, the work challenges the Eurocentric dominance in jazz education (Keller-Tuberg, 2025). It empowers learners to engage with theoretical concepts through their cultural identities (Alam & Mohanty, 2023). This structured pedagogical approach incorporates QR codes, diagrams, and lessons organized at the analytical level. It provides scaffolding for student understanding and aligns with multimodal learning theories (Arteaga et al., 2024). Participants reported increased technical mastery and creative confidence, enabling them to reinterpret melodies within both jazz and Malay traditions.

However, the study's focus on Malay Asli risks oversimplifying the diverse musical heritage of Southeast Asia by overlooking regional styles such as *Zapin*, *Inang*, *Joget*, *Masri* and other sub genres in Malay Asli music (I. Ahmed & Kechot, 2015; Alimi & Kassin, 2018b; Arshad, Mazlan, et al., 2022; Arshad, Sulong, et al., 2022; Hashim, 2012; Hassim & Karim, 2023; Hassim & Mazlan, 2023; Mazlan, 2021a). Future editions should incorporate these variations to enhance cultural engagement and balance rhythmic

complexity within this framework. Additionally, the lack of collaborative exercises, which are essential to jazz improvisation, limits communal creativity '(Keller-Tuberg, 2025). Introducing ensemble-based tasks and graphical guides could help address this gap. This work serves as a powerful example of how jazz pedagogy can become more inclusive by shifting away from Western norms and amplifying marginalized voices. Its significance lies in inspiring similar initiatives that integrate jazz with other global traditions such as Indian raga (Panikker, 2010) and Afrobeat (Ajiola & Williams, 2020). This approach transforms jazz into a cross-cultural dialogue rather than a Eurocentric practice.

5.3 Cognitive and Creative Expansion in Reharmonization

One of the study's key findings was that participants developed a broader cognitive framework for understanding reharmonization. During the pre-test phase, most participants exhibited discomfort with harmonic variations, as reflected in their limited use of chordal elements. However, structured exposure to drop-2 and drop-3 inversions, chromatic reharmonization, and modal interchange techniques led to a significant shift in their harmonic approach. Students began to perceive chord progressions as fluid and adaptable rather than rigid structures. These findings align with research on jazz improvisation pedagogy, which suggests that early exposure to structured harmonic variation fosters lifelong adaptability and improvisational dexterity (Jarvis, 2024; Suwannabhum & Fyr, 2022). Real-world applications, such as QR-coded demonstrations integrated into the instructional book, played a crucial role in reinforcing conceptual learning. These tools helped bridge the gap between passive knowledge and active musical decision-making, enhancing students' ability to apply harmonic concepts in practical settings (Pope, 2020).

5.4 Decolonizing Music Education

Incorporating Malay Asli songs into jazz harmonization exemplifies decolonial creativity '(Bennett et al., 2022; Hess, 2015; Lise et al., 2023), reclaiming local musical narratives and challenging the dominance of Western musical traditions in education. By integrating jazz techniques into familiar melodies, participants disrupt Eurocentric hierarchies and assert Southeast Asian music as a legitimate theoretical and creative foundation. This approach aligns with global decolonial efforts. In Norway, scholars critique the colonial roots of canonical works while maintaining them in curricula. In Canada, Indigenous pedagogies emphasize community-building and reciprocity over top-down instruction. Similarly, participants in this study embody the call to “decenter the score” (Lise et al., 2023) and prioritize lived experiences in music education (Collins,

2021), ensuring diverse identities are represented beyond Western norms. Decolonization is not about erasure but expansion. Just as Norway challenges racial stereotypes in opera and Canada integrates Inuit throat singing, this study highlights how marginalized voices can redefine "excellence" and "innovation" in music. Achieving this vision requires educators to adopt critical pedagogies, collaborate with Indigenous communities, and dismantle systemic biases in curricula. By doing so, music education can become a vehicle for cultural renaissance, where Malay Asli, Sámi folk music, and African polyrhythms stand alongside Beethoven and Ellington as equals, fueling new global conversations. Because decolonization is about people. It is about reimagining the future, one melody, one classroom, and one canon at a time (L. Bradley, 2023; Shahjahan et al., 2022).

5.5 Multimodal Learning and Cognitive Retention

The integration of multimodal learning tools in this study, including QR codes, interactive diagrams, and audiovisual examples, aligns with cognitive theories such as Mayer's (2024) multimedia learning principles. Mayer's work demonstrates that learners retain information more effectively when content is presented through both visual and auditory channels, reducing cognitive load and improving schema construction. Participants in this study confirmed that these interactive tools enhanced their learning experience, particularly by providing real-time harmonic demonstrations that facilitated faster conceptualization of complex reharmonization techniques. One participant stated, *"Being able to hear and see the reharmonization process in real time through QR-coded examples made a huge difference. It helped me internalize the sound of harmonic substitutions without second-guessing my choices."* The findings of this study align with the e-satisfaction framework proposed by Mohammadi Zenouzagh et al. (2023), which categorizes online learning satisfaction into four key dimensions: learner, teacher, curriculum, and internet. This suggests that future instructional materials should further explore interactive AI-driven harmonic training, incorporating adaptive feedback and real-time reharmonization exercises to support deeper engagement and learning.

5.6 Usability and Pedagogical Implications

The usability evaluation, based on ISO 9241-11 metrics of efficiency, effectiveness, and satisfaction, demonstrated that the instructional book played a crucial role in supporting the learning process. Participants found it accessible, well-structured, and highly applicable beyond guitar studies. Many noted that its concepts naturally extended to keyboard and vocal reharmonization, deepening their understanding of

harmonic applications across different musical contexts. The method book's usability was evident in how quickly participants internalized complex harmonic concepts. Its effectiveness was reflected in their improved ability to construct reharmonized chord progressions with confidence. Additionally, the high satisfaction levels reported suggest that structured harmonic lessons can enhance motivation and engagement, especially when combined with interactive and multimodal learning approaches (Bevan et al., 2015; Dietlein & Bock, 2019)

5.7 Bridging the Gap Between Jazz and Malay Asli Music

This study contributes to the conversation on cross-cultural jazz pedagogy by demonstrating that cultural authenticity is preserved when applying jazz reharmonization techniques to traditional Malay Asli music. Unlike earlier research that focused on Western harmonic applications, this study emphasizes harmonic reinterpretation to enhance non-Western musical traditions. The findings align with 'Rodulfo (2013) research on jazz integration in Venezuelan folk music and Runkun (2020) study on incorporating jazz into Chinese traditional music, highlighting reharmonization as a key approach to musical hybridization. Participants' qualitative reflections further reinforced that jazz techniques deepened their appreciation of the harmonic spectrum and creative potential of Malay Asli music. Ultimately, the results suggest that cross-genre pedagogy can both preserve and expand musical traditions, supporting the idea that creativity thrives through cultural exchange (Crawford, 2020; Jehwae, 2024; Jia Lu, 2022; Sani et al., 2024).

5.8 Limitations and Future Directions

While this study offers valuable contributions, it also has limitations. The small sample size of five participants, though consistent with qualitative case study research, may limit the generalizability of the findings. Future research should involve a larger and more diverse group of participants, including musicians from different instrumental backgrounds such as keyboardists, vocalists, and multi-instrumentalists. This would help determine whether the pedagogical benefits observed in this study extend to various musical contexts. Additionally, this study opens avenues for further exploration of rhythmic and melodic elements in jazz reharmonization within Malay Asli music. Future research could examine jazz band accompaniment techniques and other forms of cross-genre musical fusion. The assessment framework used in this study, particularly the practical pre- and post-test, can be applied in future research to evaluate participants' progression in jazz reharmonization techniques. Moreover, the ISO 9241-11 usability concept can serve as a standardized framework for assessing

the effectiveness, efficiency, and satisfaction of instructional materials in music education (Mazlan, 2021a; Xiao & Mazlan, 2024). Furthermore, future studies can integrate a qualitative approach, such as an experimental case study, to gain deeper insights into the learning experiences and outcomes of participants. This mixed-methods approach would enhance the understanding of how jazz reharmonization techniques influence musicians' creative and technical development. Technological advancements in education also present exciting opportunities. The integration of IT-based teaching tools, such as interactive software and AI-assisted harmonic analysis, could enhance jazz pedagogy by making instructional materials more accessible, adaptable, and engaging for a wider range of learners.

5. Conclusion

This study explored the application of jazz reharmonization techniques within the context of Malay Asli music, assessing the usability and pedagogical impact of jazz guitar reharmonization techniques method book using Malay Asli songs. The findings confirmed that structured training in jazz reharmonization enhances learners' harmonic fluency, cognitive adaptability, and creative confidence. It was shown in the study that musicians could broaden their harmonic vocabulary through the practical analysis of pre-and post-test chords, participant qualitative feedback and ISO usability evaluation of chord inversions, modal interchange, and harmonic substitutions whilst maintaining cultural authenticity. These findings lend themselves to broader conversations within jazz education and cross-cultural music pedagogy on effective means of teaching harmonic structures to promote the genesis of creative musical practices. Although the study's findings are somewhat encouraging, further research with more extensive and diverse participant groups will help determine additional and more advanced pedagogical applications. In the end, this study would solidify the idea that reharmonization can be much more than an intellectual proposal; it is a process that allows musicians to rethink tradition, connect genres, and create a new harmonic sensitivity.

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