

Performance as Knowledge: Rethinking the Role of Performance in Music Research Paradigms

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ABSTRACT

Music performance has traditionally been conceptualized as the execution of musical works; however, contemporary research increasingly recognizes it as a multidimensional phenomenon encompassing cognitive, embodied, cultural, and interpretive processes. This conceptual paper critically examines how “performance” is understood across music research paradigms, highlighting fragmentation in definitions and methodological approaches. Drawing on interdisciplinary literature from musicology, psychology, education, and performance science, the paper reconceptualizes performance as a form of knowledge production rather than merely an outcome of technical execution. A four-dimensional framework is proposed, positioning performance as (1) technical execution, (2) interpretive act, (3) cultural practice, and (4) embodied knowledge. The discussion further situates these dimensions within positivist, interpretivist, and practice-based research paradigms, revealing tensions between measurable performance outcomes and experiential, context-dependent meaning-making. The paper argues that recognizing performance as knowledge can bridge disciplinary divides, inform more holistic pedagogical and assessment practices, and support emerging interdisciplinary methodologies. Implications for music education, performance evaluation, and future research directions are discussed.

Keywords: music performance, embodied knowledge, performativity, music research paradigms, music education

INTRODUCTION

Music performance occupies a central yet contested position within music research. Traditionally, performance has been understood as the realization of a musical work through technical execution. However, contemporary scholarship increasingly recognizes that performance extends beyond sound production, encompassing cognitive, motor, emotional, and social processes that shape artistic meaning and audience experience (Williamon et al., 2021; Stevens, 2012). This shift reflects the growing recognition of performance as a complex, interdisciplinary phenomenon spanning musicology, psychology, education, and technology. Despite this expansion, a critical issue remains: the lack of a unified conceptualization of performance. Existing research conceptualizes performance differently depending on disciplinary orientation. For instance, music psychology often examines performance through measurable constructs such as cognition, motor coordination, and emotional processing (Wang et al., 2023), while philosophical and musicological perspectives emphasize performativity, interpretation, and the inseparability of musical works from their performance (Janz, 2011; Krawiec, 2025). In music education, performance is frequently treated as an outcome subject to evaluation through structured assessment frameworks and rubrics (Parkes, 2020).

This fragmentation leads to conceptual ambiguity and methodological inconsistency across the field. Studies in music performance research demonstrate that performance is inherently complex, involving the integration of technical skill, interpretive decision-making, embodied action, and cultural context (Williamon et al., 2021). Furthermore, emerging technological developments, including artificial intelligence, real-time audio modeling, and digital performance systems, have expanded the ways in which performance can be analyzed, evaluated,

and experienced (Plozza et al., 2022; Qian, 2023). Recent conceptual work in vocal music studies has highlighted the fragmentation of research across domains such as vocal pedagogy, acoustics, and cultural analysis, often treating these dimensions in isolation (Zhang & Yap, 2026). Such fragmentation reflects a broader issue within music research, where performance is examined through disconnected disciplinary lenses.

These developments challenge traditional definitions of performance by introducing hybrid forms that blur the boundaries between human expression and technological mediation. Given these complexities, there is a need to reconceptualize performance not merely as an outcome or product but as a form of knowledge that emerges through practice, interaction, and embodiment. This paper addresses this gap by proposing a complex framework that integrates technical, interpretive, cultural, and embodied perspectives of performance within broader music research paradigms.

Conceptual Foundations of Music Performance

Defining Music Performance Across Disciplines

The concept of music performance has been approached from multiple disciplinary perspectives, each emphasizing different dimensions of the phenomenon. Traditionally, performance has been defined as the transformation of musical notation into sound through physical execution. However, contemporary research expands this view by conceptualizing performance as a multidimensional process involving cognitive, motor, emotional, and social components (Williamon et al., 2021; Stevens, 2012). From a psychological perspective, music performance is understood as a complex interaction between cognitive planning, motor coordination, and emotional regulation. Empirical studies demonstrate that performance involves hierarchical processes in which performers draw upon memory, anticipation, and expressive intention to guide motor actions (Wang et al., 2023). This perspective positions performance as a measurable and observable phenomenon, aligning with positivist research traditions that prioritize objectivity and quantification.

In contrast, musicological and philosophical approaches challenge the reduction of performance to technical execution. Scholars argue that performance is not merely a reproduction of a musical work but an essential component of the work itself, emphasizing its temporal, interpretive, and contextual nature (Janz, 2011). Similarly, philosophical musicology highlights the need to understand performance as an interpretive act that shapes meaning, rather than as a secondary realization of a pre-existing composition (Krawiec, 2025). These perspectives foreground the inseparability of performance, interpretation, and artistic identity. Within music education, performance is frequently framed as an outcome of learning and instruction, often assessed through structured criteria such as accuracy, expression, and stylistic awareness (Parkes, 2020). While such approaches provide practical tools for evaluation, they tend to privilege technical and observable aspects of performance, potentially overlooking its experiential and contextual dimensions. Similar patterns of disciplinary fragmentation have been identified in studies of vocal performance, where technical, cultural, and interpretive dimensions are frequently examined independently rather than as an integrated whole (Zhang & Yap, 2026). This highlights a tension between performance as an assessable product and performance as a dynamic, evolving process.

Performance and Performativity

A significant development in contemporary scholarship is the distinction between performance and performativity. While performance generally refers to the act of musical execution, performativity encompasses the broader processes through which meaning, identity, and social interaction are constructed within performance contexts. Performativity, rooted in philosophical and linguistic theory, conceptualizes performance as an active process of meaning-making rather than a static event. In music, this includes the performer's engagement with audience, space, and cultural context, as well as the construction of artistic identity through expressive actions (Pennisi, 2020). This perspective challenges traditional views that separate the musical work from its performance, instead emphasizing their interdependence.

Furthermore, performance can be understood as an interactional phenomenon. It is not solely produced by the performer but emerges through the relationship between performer, audience, and environment (Schmidt, 2013). This interactional view aligns with contemporary research on live performance, which demonstrates that

audience presence and spatial context significantly influence both performer behavior and audience experience (Becker et al., 2026). The distinction between performance and performativity is crucial for understanding the limitations of purely technical or product-oriented definitions. While performance focuses on what is done, performativity emphasizes how meaning is produced, thereby expanding the analytical scope of music research.

Modalities of Performance: Live, Recorded, and Hybrid Forms

Music performance research also differentiates between various modalities of performance, particularly live, recorded, and hybrid forms. Each modality carries distinct implications for interpretation, audience engagement, and research methodology. Live performance is characterized by real-time interaction, co-presence, and immediacy. Empirical evidence suggests that live performances generate stronger emotional and physiological responses compared to recorded formats, highlighting the importance of physical presence and shared experience (Becker et al., 2026). This reinforces the idea that performance is not solely an auditory phenomenon but also a social and embodied event.

Recorded performance, on the other hand, allows for reproducibility and broader accessibility but lacks the dynamic interaction inherent in live contexts. The absence of co-presence alters both performer intention and audience perception, often shifting the focus toward technical precision and production quality. Contemporary developments in technology have led to the emergence of hybrid performance forms that combine live and digital elements. These include live coding, sensor-based performance systems, and AI-enhanced musical environments, which expand the possibilities of musical expression and interaction (Plozza et al., 2022). Such innovations challenge traditional boundaries between performer and instrument, as well as between human and technological agency.

Additionally, improvisation represents a critical modality of performance that highlights spontaneity, creativity, and real-time decision-making. Research in jazz and other improvisational traditions demonstrates that performance is not purely spontaneous but grounded in learned structures, stylistic conventions, and contextual awareness (Watson, 2015; Kingscott & Durrant, 2010). This further supports the view of performance as a dynamic interplay between structure and freedom.

Challenges in Performance Evaluation

One of the most persistent challenges in music performance research is the evaluation of performance. Assessment practices often rely on subjective judgments, raising concerns about reliability, validity, and bias. In educational contexts, performance assessment typically employs rubrics and rating scales designed to standardize evaluation criteria. These tools aim to enhance transparency and consistency by defining specific performance domains such as technique, expression, and musicality (Parkes, 2020). However, research indicates that such criteria may not fully capture the complexity of performance, particularly its cultural and contextual dimensions.

Moreover, evaluation is susceptible to various forms of bias, including cultural bias and perceptual bias. Studies have shown that factors such as visual cues and performer identity can influence evaluative judgments, even when auditory content remains constant (Moloney & Durrant, 2022). This raises important questions about fairness and objectivity in performance assessment. Technological advancements, particularly in artificial intelligence, have introduced new possibilities for performance evaluation. AI-based systems can analyze acoustic features, emotional expression, and technical accuracy, offering more objective and data-driven approaches (Qian, 2023). Nevertheless, these systems remain limited in their ability to interpret cultural nuance, artistic intention, and contextual meaning.

These challenges highlight the need for more holistic and integrative approaches to performance evaluation that move beyond purely technical metrics. Recognizing performance as a multidimensional construct requires assessment frameworks that account for its cognitive, embodied, cultural, and interpretive dimensions.

Problematizing “Performance” in Music Research

Performance as Product or Process

A fundamental tension in music research lies in whether performance is conceptualized as a product or a process. In many educational and evaluative contexts, performance is treated as an observable outcome assessed through criteria such as technical accuracy, tone quality, and expressive control (Parkes, 2020). This product-oriented perspective aligns with positivist traditions that prioritize measurable and standardized indicators of achievement. However, it risks reducing performance to a static endpoint, overlooking the dynamic processes through which it is constructed.

Research in performance science and music psychology indicates that performance emerges through complex interactions among cognitive planning, motor execution, and emotional regulation (Williamson et al., 2021; Wang et al., 2023). From this perspective, performance is not merely a final output but the culmination of an iterative process involving rehearsal, decision-making, and adaptation. Improvisational practices further complicate this distinction. Studies in jazz and related traditions show that performance unfolds in real time, shaped by contextual constraints, prior knowledge, and spontaneous creativity (Watson, 2015; Kingscott & Durrant, 2010). Rather than a fixed product, performance can therefore be understood as an evolving and emergent process.

This tension reveals a limitation in product-oriented models: while they facilitate assessment, they often fail to capture the temporal and experiential nature of performance. When viewed relationally, performance becomes a dynamic event in which meaning emerges through the interaction between performer, audience, and context. In this sense, music does not exist independently of performance but becomes perceptible through it (Schmidt, 2013).

Performance as Measurable Output or Experiential Meaning

A second tension concerns whether performance can be adequately understood as a measurable output or whether it should be approached as an experiential and interpretive phenomenon. Empirical approaches in music research frequently operationalize performance through quantifiable indicators such as timing accuracy, pitch precision, and acoustic features. Advances in computational modeling and artificial intelligence have further reinforced this orientation by enabling detailed analysis of performance data, including emotional expression and technical proficiency (Plozza et al., 2022; Qian, 2023). These developments contribute to greater objectivity and reliability in performance evaluation.

However, the reliance on measurable indicators raises important concerns. Performance is inherently expressive and context-dependent, involving subjective interpretation and aesthetic judgment that cannot be fully captured through quantitative metrics. Philosophical and musicological perspectives emphasize that performance is an interpretive act through which meaning is created, rather than merely reproduced (Janz, 2011; Krawiec, 2025). Furthermore, research on embodied cognition suggests that musical meaning is experienced through bodily engagement, sensory perception, and emotional resonance (Stevens, 2012). This reveals the limitations of approaches that prioritize measurable output while overlooking the lived, embodied experience of performance. The tension between measurement and experience suggests that performance cannot be reduced to either objective data or subjective interpretation alone. Instead, it calls for a more holistic approach that acknowledges both dimensions and recognizes performance as a relational phenomenon emerging through the dynamic engagement between performer, audience, and context (Schmidt, 2013).

Performance as Universal or Culturally Situated Practice

A third critical issue concerns whether performance can be conceptualized as a universal phenomenon or as a culturally situated practice. Much of the existing literature, particularly in Western classical traditions, assumes that performance standards such as technical proficiency, expressive phrasing, and tonal quality are universally applicable. This assumption underpins many pedagogical models and assessment frameworks in music education (Parkes, 2020). However, cross-cultural research challenges this universality by demonstrating that performance practices are deeply embedded in cultural, historical, and social contexts. Musical expression, interpretive norms,

and aesthetic values vary significantly across traditions, reflecting different conceptions of sound, meaning, and artistic intention (Stevens, 2012). For example, improvisational practices in jazz emphasize spontaneity and interaction, while other traditions may prioritize fidelity to established forms or symbolic expression.

Ethnomusicological perspectives further emphasize that performance is a site of cultural identity and social meaning. It is shaped by traditions, community practices, and historical narratives, making it inseparable from its cultural context (Ciantar, 2016). For instance, in many Asian vocal traditions, expressive nuance is closely tied to linguistic tone and poetic meaning, which may not align with Western criteria of tonal purity or projection. Such differences illustrate the limitations of universalized assessment frameworks and highlight the need for culturally responsive approaches. This challenges the applicability of standardized evaluation criteria across diverse musical traditions. The assumption of universality therefore risks imposing culturally specific frameworks onto diverse performance practices, leading to bias and misinterpretation. Recognizing performance as culturally situated necessitates more context-sensitive approaches to research and evaluation.

Performance as Execution or Knowledge Production

The most significant conceptual gap in music research lies in the tendency to treat performance as execution rather than as a form of knowledge production. In traditional frameworks, performance is often positioned as the application of pre-existing knowledge, such as technical skills or theoretical understanding. This view separates knowledge (as abstract and conceptual) from performance (as practical and applied). However, recent developments in performance studies and embodied cognition challenge this dichotomy.

Performance involves tacit, embodied knowledge that is developed through practice and cannot be fully articulated through verbal or theoretical means. This includes skills such as phrasing, timing, expressive nuance, and interpretive decision-making, which are acquired through experiential learning and embodied engagement (Pennisi, 2020). Furthermore, performance generates new knowledge through interaction, experimentation, and interpretation. Improvisational practices, for example, produce knowledge in real time, as performers navigate uncertainty and create novel musical ideas (Eisenberg, 2020). Similarly, hybrid and technology-mediated performances expand the boundaries of musical knowledge by integrating new forms of interaction and expression (Howell & Sellwood, 2026).

Conceptualizing performance as knowledge production has significant implications for research and pedagogy. It challenges traditional hierarchies that privilege theoretical knowledge over practical expertise and calls for greater recognition of practice-based and artistic research methodologies.

Synthesis: Toward a Reconceptualization of Performance

The tensions identified in this section between product and process, measurement and experience, universality and cultural specificity, and execution and knowledge, expose the limitations of existing conceptualizations of performance. These issues are not merely theoretical but are reflected in specific domains of music research. For example, studies of Chinese vocal performance often separate technical, cultural, and linguistic dimensions, limiting a more integrated understanding of performance (Zhang & Yap, 2026).

Such fragmentation suggests that performance cannot be adequately understood through a single perspective or disciplinary framework. Instead, it requires a reconceptualization as a complex construct that integrates technical, interpretive, cultural, and embodied dimensions. This perspective forms the foundation for the framework proposed in the following section, positioning performance not merely as an outcome or activity but as a form of knowledge emerging through practice, interaction, and context.

Reconceptualising Performance: A Four-Dimensional Framework

Rationale for a Multidimensional Framework

The preceding discussion has demonstrated that existing conceptualizations of music performance are fragmented across disciplinary boundaries and constrained by unresolved tensions. These include the treatment of performance as product versus process, measurable output versus experiential meaning, universal construct

versus culturally situated practice, and execution versus knowledge production. Such tensions indicate that performance cannot be adequately understood through a single theoretical lens. While previous research has identified key dimensions such as cultural hybridity, vocal technique, and linguistic interpretation in specific contexts of vocal performance (Zhang & Yap, 2026), the present framework extends this perspective by reconceptualizing performance as a broader conceptual construct applicable across music research paradigms.

To address this gap, this paper proposes a four-dimensional framework of music performance, which reconceptualizes performance as an integrative model comprising technical, interpretive, cultural, and embodied dimensions. This framework builds upon interdisciplinary insights from musicology, psychology, education, and performance studies, synthesizing them into a unified conceptual model. Rather than treating these dimensions as discrete or hierarchical, the framework emphasizes their interdependence and dynamic interaction. Performance is thus understood as a holistic phenomenon in which multiple dimensions co-exist and influence one another in practice. The proposed four-dimensional framework is illustrated in Figure 1, which conceptualizes performance as a relational and multidimensional construct integrating technical, interpretive, cultural, and embodied dimensions.

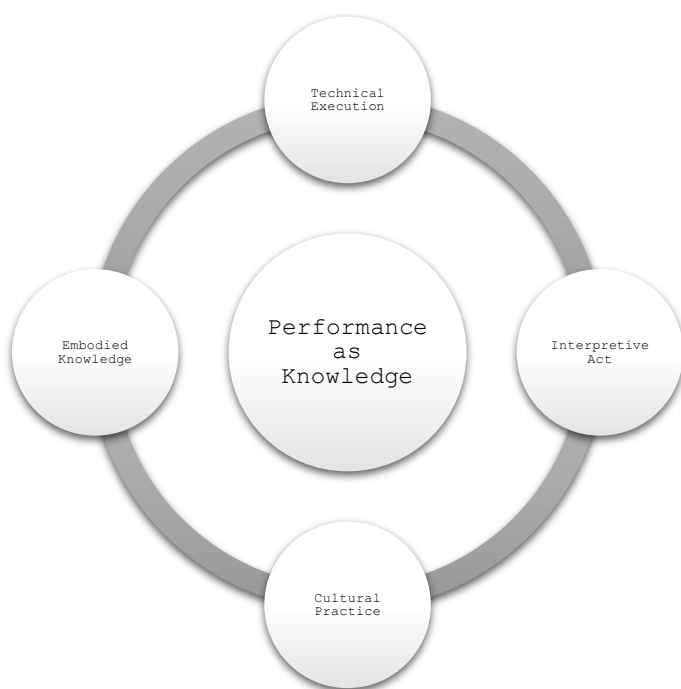


Figure 1. A multidimensional framework of music performance integrating technical execution, interpretive act, cultural practice, and embodied knowledge. The circular structure represents the interactional and relational nature of performance.

As illustrated in Figure 1, performance is conceptualized as a multidimensional and interactional construct in which technical execution, interpretive act, cultural practice, and embodied knowledge are not independent components but are dynamically interconnected. The circular structure of the framework reflects the relational nature of performance, emphasizing that musical meaning emerges through the continuous interaction among these dimensions rather than through a linear or hierarchical process.

Dimension 1: Performance as Technical Execution

The first dimension conceptualizes performance as technical execution, focusing on the observable and measurable aspects of musical performance. This includes elements such as pitch accuracy, rhythmic precision, tone production, articulation, and control of instrumental or vocal technique. This dimension aligns with positivist approaches in music research, which emphasize objectivity, measurement, and standardization. In music education, technical execution forms the basis of many assessment frameworks, where performance quality is evaluated using rubrics and rating scales (Parkes, 2020). Similarly, advances in artificial intelligence and computational analysis have enabled detailed examination of performance features, further reinforcing the

importance of technical metrics (Plozza et al., 2022; Qian, 2023). However, while technical execution is essential for performance competence, it represents only one aspect of performance. Overemphasis on technical precision risks neglecting expressive, cultural, and experiential dimensions, thereby reducing performance to a mechanical activity. This limitation underscores the need to situate technical execution within a broader conceptual framework.

Dimension 2: Performance as Interpretive Act

The second dimension conceptualizes performance as an interpretive act, emphasizing the role of the performer in shaping musical meaning. Performance is not merely the reproduction of a musical score but an active process of interpretation involving phrasing, dynamics, timing, and expressive nuance. This perspective is rooted in interpretivist traditions, which view performance as a site of meaning-making rather than objective reproduction. Philosophical and musicological studies argue that the musical work is inseparable from its performance, as interpretation constitutes the realization of its aesthetic and expressive potential (Janz, 2011; Krawiec, 2025). Interpretation also involves artistic intention and communicative engagement with the audience. Performers make decisions that reflect stylistic understanding, historical awareness, and personal expression. These decisions are shaped by both individual agency and contextual factors, highlighting the dynamic and subjective nature of performance. By recognizing performance as an interpretive act, this dimension expands the understanding of performance beyond technical execution, emphasizing its expressive and creative aspects.

Dimension 3: Performance as Cultural Practice

The third dimension conceptualizes performance as a cultural practice, embedded within specific social, historical, and cultural contexts. Performance is not a universal or neutral activity but is shaped by cultural norms, traditions, and values. Ethnomusicological research demonstrates that performance practices vary significantly across musical traditions, reflecting diverse conceptions of sound, expression, and meaning (Ciantar, 2016). These differences challenge the applicability of standardized performance criteria and highlight the importance of context-sensitive approaches. Performance also functions as a medium of cultural identity and social interaction. It reflects collective practices, historical narratives, and community values, positioning performance as a socially situated activity rather than an individual act. Furthermore, cross-cultural studies indicate that perception, interpretation, and evaluation of performance are influenced by cultural familiarity and exposure (Stevens, 2012). This dimension underscores the need to move beyond Western-centric frameworks and adopt more inclusive perspectives that acknowledge the diversity of performance practices. It also highlights the importance of cultural sensitivity in both research and pedagogy.

Dimension 4: Performance as Embodied Knowledge

The fourth and most critical dimension conceptualizes performance as embodied knowledge, positioning performance as a form of knowing rather than merely doing. This perspective draws on theories of embodiment and practice-based research, which emphasize the role of the body in cognition and learning. Performance involves tacit knowledge that is acquired through practice and cannot be fully articulated through verbal or theoretical means. This includes skills such as timing, phrasing, expressive nuance, and coordination, which are developed through experiential engagement (Pennisi, 2020). Such knowledge is often described as “knowing-in-action,” highlighting its dynamic and situated nature. Empirical research further supports the embodied nature of performance, demonstrating the integration of cognitive, motor, and emotional processes in musical activity (Wang et al., 2023). Additionally, improvisational practices illustrate how knowledge is generated in real time, as performers respond to evolving musical and social contexts (Eisenberg, 2020). Understanding performance as embodied knowledge challenges traditional distinctions between theory and practice, positioning performance as a legitimate site of knowledge production. This has important implications for research methodologies, supporting the inclusion of practice-based and artistic research approaches.

Integrating the Four Dimensions

The proposed framework conceptualizes music performance as the interaction of four interrelated dimensions:

- Technical Execution (objective, measurable)
- Interpretive Act (expressive, meaning-making)
- Cultural Practice (contextual, socially embedded)
- Embodied Knowledge (experiential, tacit)

These dimensions are not independent; rather, they operate simultaneously within performance. For example, technical execution enables interpretive expression, while cultural context shapes both interpretation and embodied practice. Similarly, embodied knowledge informs technical control and interpretive decision-making. This integrative perspective addresses the limitations identified in previous sections by:

- bridging product and process orientations
- combining measurement and experience
- acknowledging both universal and culturally specific elements
- positioning performance as both execution and knowledge

This interactional perspective further reinforces that performance emerges as a relational process in which these dimensions are co-constituted within the performance event (Schmidt, 2013).

Implications for Music Research Paradigms

The proposed four-dimensional framework provides a basis for rethinking dominant paradigms in music research by clarifying how different epistemological orientations engage with distinct aspects of performance. Positivist approaches primarily align with the dimension of technical execution, emphasizing objectivity, measurement, and the analysis of observable performance features. In contrast, interpretivist perspectives foreground performance as an interpretive and culturally situated act, focusing on meaning-making, context, and subjective experience.

Practice-based research further extends this understanding by positioning embodied knowledge at the center of inquiry, recognizing performance itself as a form of knowledge production. Rather than privileging a single paradigm, the framework supports a pluralistic and integrative approach in which these perspectives are understood as complementary rather than competing. Such an orientation enables more comprehensive and nuanced accounts of performance and supports the development of flexible research designs that can accommodate its multidimensional nature. To further clarify how these dimensions operate in practice, the following section provides an illustrative application of the proposed framework.

Illustrative Application of the Framework

To demonstrate the applicability of the proposed framework, this section presents an illustrative example drawn from the performance of a Chinese folk song within an educational context. Such performances integrate stylistic conventions, linguistic nuance, and expressive interpretation, making them particularly suitable for examining the multidimensional nature of performance. At the level of technical execution, the performer demonstrates control over pitch accuracy, vocal tone, breath management, and stylistically appropriate ornamentation. These elements align with measurable aspects commonly emphasized in formal training and assessment.

As an interpretive act, performance involves shaping musical meaning through phrasing, dynamics, and expressive timing. These decisions are informed by the emotional content of the lyrics and stylistic conventions, reflecting both individual artistic intention and contextual awareness. Viewed as a cultural practice, the performance is embedded within specific linguistic and aesthetic traditions. The articulation of tonal language and culturally situated ornamentation highlights the importance of contextual knowledge and challenges the applicability of standardized Western evaluation criteria.

From the perspective of embodied knowledge, the performer engages in tacit processes such as breath control, vocal placement, gesture, and expressive movement. These forms of knowing are developed through practice and cannot be fully articulated through theoretical instruction, reflecting the notion of “knowing-in-action.” This example illustrates how the four dimensions operate simultaneously and interactively, reinforcing the framework’s capacity to conceptualize performance as an integrated and knowledge-generating phenomenon.

Synthesis

Reconceptualizing performance as a multidimensional construct, this framework offers a unified approach that addresses fragmentation in music research. It positions performance not as a singular activity but as a complex phenomenon emerging from the interaction of technical, interpretive, cultural, and embodied dimensions. This reconceptualization lays the foundation for more holistic approaches to research, pedagogy, and assessment, which are further discussed in the following section.

Implications for Music Research, Pedagogy, and Assessment

Implications for Music Research

The reconceptualization of performance as a multidimensional construct has significant implications for music research. First, it challenges the dominance of single-paradigm approaches by highlighting the limitations of studying performance solely through technical or measurable indicators. While positivist methodologies have contributed to understanding performance through objective data, they often fail to capture the interpretive, cultural, and embodied dimensions that are central to musical meaning (Williamon et al., 2021). The proposed framework supports a methodological pluralism, encouraging the integration of quantitative, qualitative, and practice-based approaches. For example, empirical methods can be used to analyze technical and cognitive aspects of performance, while qualitative approaches such as interviews and ethnography can explore interpretive and cultural dimensions. Practice-based research, in turn, allows performance itself to function as a form of inquiry, generating knowledge through artistic practice.

Furthermore, the framework encourages interdisciplinary collaboration across musicology, psychology, education, and technology. Advances in artificial intelligence and digital systems have expanded the scope of performance research, enabling new forms of analysis and interaction (Qian, 2023). However, these developments must be critically examined to ensure that technological approaches do not overshadow the cultural and experiential aspects of performance. Importantly, the framework also highlights the need for context-sensitive research designs. Given that performance is culturally situated, research methodologies must account for diverse musical traditions and avoid imposing universalized standards that may not be applicable across contexts (Stevens, 2012). This calls for greater inclusion of cross-cultural and decolonizing perspectives in music research. Expanding research beyond Western paradigms is particularly important for capturing diverse epistemologies of performance, including oral traditions, improvisational practices, and community-based musical knowledge systems.

Implications for Music Pedagogy

In music education, the reconceptualization of performance has important implications for teaching and learning practices. Traditional pedagogical approaches often prioritize technical proficiency as the primary indicator of performance competence. While technical training remains essential, an overemphasis on this dimension may limit students’ development in interpretive, cultural, and expressive aspects of performance. The four-dimensional framework supports a holistic pedagogical approach that integrates technical, interpretive, cultural, and embodied learning. This suggests that music instruction should not only focus on skill acquisition but also foster students’ ability to interpret, contextualize, and embody musical meaning.

For example, incorporating cultural context into teaching can enhance students’ understanding of stylistic and expressive nuances, particularly in diverse or non-Western repertoires. Similarly, encouraging reflective and experiential learning can help students develop embodied knowledge, enabling them to internalize musical concepts through practice rather than relying solely on theoretical instruction. Additionally, improvisation and

creative exploration can play a significant role in pedagogy by allowing students to engage with performance as a process of knowledge creation. Research on improvisational practices indicates that such approaches promote creativity, adaptability, and deeper musical understanding (Watson, 2015). Technological tools also offer new possibilities for pedagogy, including AI-driven feedback systems and interactive learning environments. However, as highlighted in recent studies, these technologies should be implemented within a human-centered framework that preserves the artistic and cultural dimensions of music learning (Qian, 2023). Educators must therefore balance technological innovation with pedagogical sensitivity.

Implications for Performance Assessment

One of the most critical areas impacted by this reconceptualization is performance assessment. Traditional assessment practices in music education often rely on standardized rubrics that emphasize technical accuracy and observable criteria. While such tools improve reliability and transparency, they may inadequately capture the multidimensional nature of performance. The proposed framework suggests that performance assessment should be expanded to include multiple dimensions, reflecting technical, interpretive, cultural, and embodied aspects. This requires the development of more flexible and context-sensitive assessment models. For instance, assessment criteria could be broadened to include:

- interpretive depth and expressive communication
- cultural and stylistic understanding
- originality and creativity in performance
- embodied engagement and stage presence

Such an approach aligns with calls for more authentic and holistic assessment practices in music education (Parkes, 2020). However, implementing multidimensional assessment also presents challenges, particularly in ensuring reliability and minimizing bias. Research indicates that performance evaluation is susceptible to perceptual and cultural biases, which can influence judgments even when standardized criteria are used (Moloney & Durrant, 2022). To address this, assessment practices should incorporate strategies such as:

- rater training and calibration
- use of multiple evaluators
- inclusion of self- and peer-assessment
- integration of qualitative feedback

Technological tools, including AI-based assessment systems, offer potential solutions for enhancing objectivity. These systems can analyze technical and acoustic features with high precision (Plozza et al., 2022). However, they remain limited in their ability to evaluate interpretive and cultural dimensions, reinforcing the need for hybrid assessment approaches that combine human judgment with technological support.

Implications for Future Research Directions

The framework also points toward several directions for future research. First, empirical studies are needed to examine how the four dimensions of performance interact in different contexts, such as various musical genres, educational settings, and cultural traditions. Such studies could adopt mixed method approaches to capture both measurable and experiential aspects of performance. Second, there is a need to develop and validate multidimensional assessment models that reflect the complexity of performance. This includes designing rubrics and evaluation tools that are adaptable to different contexts and sensitive to cultural diversity. Third, future research should explore the role of emerging technologies in shaping performance practices.

While AI and digital systems offer new opportunities for analysis and creativity, their impact on artistic expression, cultural authenticity, and performer agency requires further investigation. Finally, there is a growing need to expand research beyond Western-centric perspectives. Incorporating diverse musical traditions and contexts will contribute to a more inclusive and comprehensive understanding of performance, addressing existing gaps in the literature. Future research should move beyond conceptual development by empirically testing the proposed framework. Mixed-method designs could be employed to examine how the four dimensions manifest in different performance contexts. For example, quantitative measures may capture technical execution, while qualitative approaches such as interviews, reflective journals, and performance ethnography can explore interpretive, cultural, and embodied dimensions. Additionally, pilot studies involving performance assessment rubrics derived from the framework could provide preliminary validation of its applicability in educational settings.

Synthesis

The reconceptualization of performance as a multidimensional construct has far-reaching implications across music research, pedagogy, and assessment. By integrating technical, interpretive, cultural, and embodied dimensions, the proposed framework supports more holistic and inclusive approaches to understanding and evaluating performance. These implications highlight the importance of moving beyond reductionist models toward more integrative and context-sensitive practices, ultimately contributing to the advancement of music research and education.

CONCLUSION

This paper sets out to reconceptualize the notion of performance in music research by addressing its conceptual fragmentation across disciplines. Through critical analysis, it has been demonstrated that performance is often inconsistently defined as product or process, measurable output or experiential phenomenon, universal construct or culturally situated practice, and execution or knowledge. These tensions reveal the limitations of existing approaches and highlight the need for a more integrative conceptualization. In response, this paper proposed a four-dimensional framework that positions performance as (1) technical execution, (2) interpretive act, (3) cultural practice, and (4) embodied knowledge. This framework moves beyond reductionist perspectives by emphasizing the dynamic interaction among these dimensions. It also situates performance within multiple research paradigms: positivist, interpretivist, and practice-based, thereby supporting a pluralistic and interdisciplinary approach to music research.

A key contribution of this paper is the positioning of performance as a form of knowledge production. By recognizing the embodied, experiential, and context-dependent nature of performance, the study challenges traditional hierarchies that privilege theoretical knowledge over practical expertise. This perspective aligns with emerging developments in artistic and practice-based research, where performance is not merely an outcome but a site of inquiry. The implications of this reconceptualization are significant. For research, it calls for methodological pluralism and greater integration of interdisciplinary perspectives. For pedagogy, it supports holistic approaches that balance technical skill with interpretive, cultural, and embodied learning. For assessment, it highlights the need for multidimensional frameworks that move beyond purely technical evaluation.

Nevertheless, this study is conceptual in nature and therefore limited in its empirical validation. Future research should examine how the proposed dimensions interact in real-world contexts, particularly across diverse musical traditions and educational settings. Additionally, further work is needed to develop practical tools, such as assessment models and pedagogical frameworks, that operationalize this multidimensional understanding of performance. In conclusion, reconceptualizing performance as a multidimensional and knowledge-generating phenomenon provides a more comprehensive foundation for music research. It enables scholars and educators to better capture the complexity of musical practice and supports more inclusive, reflective, and innovative approaches in the evolving landscape of music studies.

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