Thai Performing Arts and AI: Academic Applications

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Abstract

This research article aimed to study the relationship between Thai performing arts and artificial intelligence (AI) within academic contexts, focusing on the potential of AI for scholarly applications in the field of Thai performing arts. Using a mixed-methods approach with descriptive analysis. The result that the study identifies seven dimensions of this relationship: meaning, form, elements, content, essence, roles, and transformation. Academic applications of AI are categorized into three types: documentation, practical implementation, and presentation. AI serves as a tool for communication, research, processing, analysis, synthesis, recording, editing, presentation, creation, and dissemination. The study proposes four main approaches to AI usage: (1) preservation, (2) development, (3) transmission, and (4) restoration, along with two additional applications: (5) cross-disciplinary use in other professional fields and (6) evidence-based referencing. Challenges in AI application include limitations in data repositories, language barriers, issues with AI commands, and difficulties in selecting appropriate AI tools for specific tasks. The research highlights the importance of a foundational understanding of Thai performing arts, awareness of AI tool limitations, and rigorous verification of AI-generated results to enhance the effectiveness of AI in academic work related to Thai performing arts. This study emphasizes the role of AI in advancing scholarly research, improving educational practices, and preserving the cultural heritage of Thai performing arts. By addressing challenges and proposing viable applications, the research contributes to the ongoing integration of AI into the academic study and preservation of Thai performing arts.

Keywords: Thai performing arts, artificial intelligence, academic applications, academic integration, technological applications.

1. Introduction

Performing arts hold a profound role as a medium of communication that transcends verbal language, conveying cultural narratives, emotions, and values through movement, sound, and expression (Schechner, 2013). As an integral part of cultural heritage, performing arts have evolved alongside technological advancements, creating opportunities for innovation while preserving traditional forms (UNESCO, 2003). The integration of artificial intelligence (AI) into this domain marks a significant shift, offering transformative potential in the study, practice, and dissemination of performing arts (Kaplan & Haenlein, 2019).

AI, as a versatile communication tool, bridges the gap between tradition and modernity by facilitating the preservation and revitalization of intangible cultural heritage (Ch'ng, 2019).

It enables detailed analysis, documentation, and reproduction of complex elements such as choreography, musical compositions, and dramatic expressions. In the context of Thai performing arts, AI's role extends beyond preservation; it serves as an academic tool that enhances education, research, and cultural appreciation (Prompakping et al., 2021).

The academic application of AI in Thai performing arts underscores its significance in fostering innovation, sustaining cultural identity, and addressing societal challenges. AI not only supports the traditional purposes of communication within the performing arts but also integrates with other dimensions of utility, benefiting both practitioners and society at large (McCosker & Wilken, 2020). Through interdisciplinary collaboration and careful implementation, AI can act as a catalyst for the sustainable development of Thai performing arts, ensuring their relevance and accessibility in a rapidly changing world (Orpong, S., Chotpittayanon N., & Sriboonyaponrat P., 2024).

This paper explores the multifaceted relationship between Thai performing arts and AI, emphasizing its importance as a communicative and integrative tool within academic and cultural frameworks.

1.1 Research Objective

To study the relation of artificial intelligence (AI) and Thai performing arts in academic contexs.

2. Body of paper

Introduction

Thai performing arts serve as a crucial cultural heritage that reflects the values and identity of Thai society. In the digital era, where technology increasingly plays a dominant role, the challenge lies in preserving and modernizing these traditional arts. Artificial intelligence (AI) has emerged as a pivotal tool for data preservation, creative production, and enhancing academic research and education. This study aims to examine the relationship between Thai performing arts and AI, analyze its academic applications, and propose innovative approaches for integrating AI into the preservation and dissemination of cultural heritage.

Methodology

This research employed a qualitative approach, guided by the conceptual framework illustrated in Figure 1. The study focused on three primary components: (1) collecting data on Thai performing arts, (2) analyzing AI's capabilities in data processing and application, and (3) developing academic frameworks for AI integration. Data collection involved expert interviews, document analysis, and practical experiments with AI in various academic contexts. The findings were synthesized and categorized to propose actionable insights.

Results

The relationship between Thai performing arts and AI encompasses seven dimensions: meaning, form, elements, content, essence, roles, and transformation. AI functions as a tool for data storage, processing, and dissemination, such as motion recognition of traditional Thai dances through image processing, creating virtual models for educational purposes, and developing digital archives. These academic applications enhance learning, cultural

transmission, and the preservation of Thai performing arts in both traditional and contemporary contexts.

Figure 1: Performing arts and AI; academic contexs

Source: (Vasianrom M., 2025)

The 7 Dimensions of AI and Performing Arts: Bridging Tradition with Innovation

AI as a Tool for Academic Communication in Performing Arts : AI transforms how Thai performing arts are preserved, studied, and shared by enhancing efficiency, creativity, and accessibility in academic contexts.

The 7 Dimensions

1. **Meaning** : AI enhances the cultural significance of performing arts through deeper analysis and global dissemination.

2. **Form** : Supports both traditional and modern expressions by enabling digital and virtual representations.

3. **Elements**:Documents and analyzes components such as movements, music, and costumes with precision.

4. **Content**: Enriches narratives and performance content through data-driven insights and AI-generated creativity.

5. **Essence**: Preserves the cultural identity and authenticity of traditional arts while enabling modern adaptations.

6. **Roles**: AI acts as a bridge for creators, educators, and audiences, fostering collaboration and understanding.

7. **Transformation**: Bridges tradition and innovation by integrating cutting-edge technology into artistic practices.

Academic Applications

1. **Documentation:** Create detailed archives of movements, performances, and techniques.

2. **Teaching and Learning:** Use AI-driven tools for virtual learning, interactive tutorials, and performance simulations.

3. **Research:** Analyze historical patterns and predict trends in performing arts.

Figure 2: Performing arts and AI in academic contexts; Photo, video, audio editing
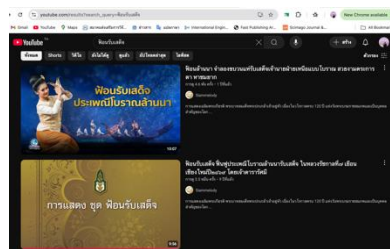
Source: (Vasianrom M., 2025)

Figure 3: Performing arts and AI in academic contexts; choreography, designing, recording
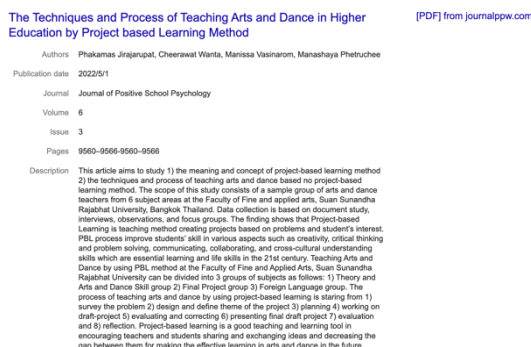

Source: (Khathawi W., 2018)

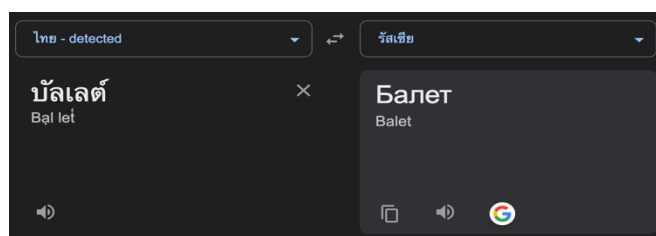*Figure 4: Performing arts and AI in academic contexts; documentary, article, book, research*

Source: (Vasianrom M., 2015)

Figure 5: Performing arts and AI in academic contexts; teaching and learning

Source: (Jirajarupat P., Wanta C., Vasinarom M., Phetruchee M., 2022)

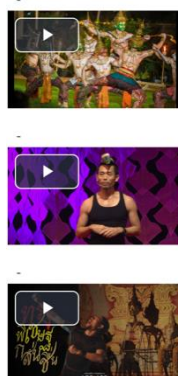*Figure 6: Performing arts and AI in academic contexts; translate language*

Source: (Vasinarom M., 2025)

Figure 7: Performing arts and AI in academic contexts; slide, video, oral presentation

Source: (Siripong R., 2025)

Figure 8: Performing arts and AI in academic contexts; publication, on air, live

Source: (Iamkrasin S., 2025)

The study identified three primary forms of AI application in Thai performing arts: (1) digital documentation, such as databases of dance movements; (2) development of practical tools, such as AI-assisted assessment of dance performances; and (3) presentation tools, including virtual performances. Additionally, AI improves accuracy in data preservation and significantly enhances the efficiency of disseminating Thai performing arts to a global audience.

The findings reveal that AI not only enhances the accuracy and efficiency of preserving Thai performing arts but also opens new opportunities for research and education. However, challenges remain, including the complexity of processing nuanced cultural data, the need for comprehensive foundational datasets, and ensuring cultural authenticity in AI applications. This study highlights the importance of interdisciplinary collaboration between performing arts experts and technologists to maximize AI's potential in this domain.

Discussion

This research confirms that AI holds significant potential as a tool for preserving and advancing Thai performing arts. It offers transformative applications in academic research, education, and cultural dissemination. Promoting collaboration among stakeholders and fostering AI literacy within cultural contexts are essential for sustaining and innovating Thai performing arts in the future.

3. Conclusion

This research explores the integration of artificial intelligence (AI) into Thai performing arts with a focus on its academic applications. Thai performing arts, as a significant cultural heritage, face challenges in preservation and modernization in the digital era. AI emerges as a powerful tool to address these challenges by facilitating data collection, analysis, preservation, and dissemination.

The study adopts a qualitative methodology, guided by a conceptual framework encompassing three main components: data collection on Thai performing arts, analysis of AI's capabilities, and the development of academic applications. The research reveals seven dimensions of the relationship between Thai performing arts and AI: meaning, form, elements, content, essence, roles, and transformation. These dimensions highlight AI's capacity to support documentation, practice, and presentation, enhancing learning, cultural transmission, and preservation.

Key findings indicate that AI can be applied in three primary forms: digital documentation, practical tools, and virtual presentations. AI contributes to the precision and efficiency of preserving and promoting Thai performing arts globally. However, challenges remain, including data complexity, the need for foundational datasets, and ensuring authenticity in AI applications.

The research emphasizes the transformative potential of AI in advancing academic research and preserving cultural heritage. By fostering interdisciplinary collaboration and promoting AI literacy in cultural contexts, stakeholders can effectively integrate AI into Thai performing arts, ensuring their sustainability and relevance in the modern era.

This study highlights the importance of leveraging technology not only to preserve traditional arts but also to innovate within the academic and cultural spheres, ensuring the continued vibrancy of Thai performing arts for future generations.

4. Acknowledgment

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