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Digital Transformation of Indian Classical Music Education in Higher Education Institutions in Sri Lanka: Challenges, Opportunities, and a Framework for Reform

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Submitted: March, 27, 2026 Revised: June, 08, 2026 Accepted: June, 20, 2026

Abstract: Indian classical music education, particularly within the Hindustani tradition, occupies a distinctive and culturally significant position in the higher education landscape of Sri Lanka. As digital technologies continue to reshape pedagogical practices across disciplines globally, the teaching and assessment of Indian classical music at university level faces an urgent need for thoughtful transformation. Despite growing student readiness for technology-mediated learning, higher education institutions in Sri Lanka have yet to develop coherent, institutionally supported frameworks that integrate digital tools with the traditional pedagogical foundations of Indian classical music. This gap between technological potential and institutional practice constitutes a critical challenge for the sustainability and relevance of Indian classical music degree programmes in the contemporary era. This study investigates the challenges, opportunities, and strategic pathways associated with the digital transformation of Indian classical music education in Sri Lankan higher education institutions, with particular reference to the University of the Visual and Performing Arts, Colombo. The primary objectives are to identify existing barriers to digital integration, examine the compatibility of technology-mediated pedagogy with the Guru-Shishya Parampara tradition, and propose a culturally sensitive reform framework applicable to the South Asian higher education context. Employing a qualitative, document-based comparative methodology, the study systematically analyses institutional curriculum documents, national education policy frameworks, peer-reviewed scholarly literature, and findings drawn from prior empirical research conducted at the same institution spanning the years 2021 to 2025. Findings reveal that while student attitudinal readiness for digital learning is demonstrably high, persistent structural barriers — including inadequate infrastructure, absence of faculty digital training, and curriculum inertia — continue to obstruct meaningful reform. The study concludes by proposing a four-pillar framework encompassing technology-integrated pedagogy, curriculum redesign, music industry linkage, and policy alignment as a replicable model for reform across comparable South Asian institutions.

Keywords: *blended learning, curriculum reform, digital transformation, Indian classical music, Sri Lanka higher education*

1. Introduction

The intersection of digital technology and traditional performing arts education represents one of the most contested and fertile terrains in contemporary higher education scholarship. Globally, music education has experienced an accelerating digital turn, with institutions re-evaluating long-established pedagogies in response to technological innovation, shifting student demographics, and the disruptive pressures of global events such as the COVID-19 pandemic (Camlin & Lisboa, 2021). In South Asia, where music education is deeply anchored in centuries-old oral transmission traditions, this transformation carries a particularly complex cultural weight.

Within Sri Lanka, the University of the Visual and Performing Arts (UVPA) in Colombo occupies a unique institutional position as the country's only dedicated performing arts university, offering undergraduate and postgraduate programmes across six music departments, including North Indian Music, South Indian Music, and Western Music, alongside Ethnomusicology, Applied Music, and Musicology. The Department of North Indian Music, in particular, operates at the crossroads of a globally recognised classical tradition — Hindustani music — and the specific pedagogical, infrastructural, and policy realities of Sri Lankan higher education.

Prior research by the present author has established a progressive empirical foundation addressing several dimensions of this challenge. A 2021 study examining pandemic-era assessment practices in practical music subjects at UVPA found that while 89% of students demonstrated readiness for virtual assessment, systemic deficiencies — including inadequate digital devices, poor audio quality, and the absence of instruments during lockdowns — rendered meaningful evaluation deeply problematic (Perera, 2021). Subsequently, a 2023 investigation argued that sustainable reform of music education in Sri Lankan higher education necessitates the deliberate integration of technology and the contemporary music

business industry into degree curricula. More recently, comparative analyses have illuminated the contrasting pedagogical philosophies of India and Sri Lanka at the secondary school level and examined how post-1980 aesthetic education reforms in both nations have proceeded with uneven success.

The present paper builds directly upon these antecedents by synthesising their insights into a coherent framework for the digital transformation of Indian classical music education within Sri Lankan higher education. It asks: What are the principal challenges and opportunities posed by digital technologies for the teaching of Indian classical music at UVPA? And what strategic framework can support a culturally sensitive yet technologically responsive reform?

The paper is structured as follows: Section 2 reviews the relevant literature. Section 3 describes the methodology. Section 4 presents findings. Section 5 discusses the implications. Section 6 concludes with the proposed reform framework.

2. Literature Review

2.1 The Digital Turn in Music Education

The concept of the 'digital turn' in music education, as articulated by Camlin and Lisboa (2021), refers to the accelerating shift toward technology-mediated teaching, learning, and assessment environments. The COVID-19 pandemic functioned as a catalytic event, compressing decades of incremental change into months and forcing institutions worldwide to confront their digital unpreparedness (Rohit & Ashfaq, 2023). The resultant innovations — live-streamed lessons, video-based assessment, Digital Audio Workstations (DAWs), and Learning Management Systems (LMSs) — have not uniformly improved outcomes; rather, they have surfaced pre-existing inequities in access, infrastructure, and pedagogical capacity.

Research conducted at UVPA during the pandemic period found that Zoom-based live sessions and video-upload submission methods were the most widely adopted alternatives for practical assessment (Perera, 2021). Crucially, 89% of students reported readiness to engage with virtual assessment modalities, yet 92% encountered power interruptions, and 70% faced poor internet connectivity, highlighting a stark divergence between student attitudinal readiness and infrastructural support (Nipunika, 2024). These findings resonate with broader scholarship demonstrating that in the Global South, digital adoption in higher education is frequently constrained by systemic rather than individual factors (Hapuarachchi, 2016; Springer, 2024).

2.2 Guru-Shishya Parampara in the Digital Age

The Guru-Shishya Parampara (GSP) — the traditional teacher-disciple relationship — constitutes the epistemological and pedagogical core of Indian classical music transmission. In the GSP, musical knowledge is transmitted holistically through sustained, embodied, and relational interaction between guru and shishya, extending beyond formal lesson hours into a shared way of life (Perera, 2025a). This tradition presupposes physical proximity, intuitive responsiveness, and the incremental internalisation of musical subtleties — qualities that are arguably undermined by digital mediation (Rohit & Ashfaq, 2023).

Nonetheless, digital platforms have begun to transform the reach and accessibility of the GSP. Online portals, platforms such as those associated with the 'Darbar Festival,' and dedicated applications now allow learners in Sri Lanka, the diaspora, and beyond to access instruction from eminent gurus in India (Rohit & Ashfaq, 2023). Paschalidou (2024) has explored how technology-mediated Hindustani Dhrupad instruction can be theorised through a 4E cognition framework, arguing that online environments, while limiting certain embodied dimensions of learning, can cultivate new cognitive and relational modes of musical engagement. The challenge, as noted, is that Sri Lanka's secondary and tertiary institutions have historically adopted a more structured, teacher-centred classroom model that, while inspired by Indian classical traditions, has not yet fully embraced the flexible, hybrid possibilities now available.

2.3 Technology and Music Business Integration in Sri Lankan Higher Education

Perera (2023) advanced a compelling argument that the reform of Indian music education in Sri Lankan higher education institutions cannot be conceived solely in pedagogical terms; it must simultaneously engage with the contemporary music industry. The introduction of cutting-edge software — Digital Audio Workstations, MIDI instruments, music notation software — and the cultivation of music business competencies equip graduates to participate meaningfully in both the artistic and commercial dimensions of the global music industry (Perera, 2023). This argument is corroborated by international evidence. Research on technology-enabled music education globally demonstrates that higher education employs technology most effectively in blended learning environments that combine online and face-to-face instruction (Xie et al., 2025). Tools such as GarageBand, Logic Pro, Sibelius, and EarMaster have demonstrated pedagogical efficacy across diverse musical contexts, fostering creativity, independent learning, and technical proficiency (IAFOR, 2024).

Sri Lanka's higher education system has made tentative steps toward digital integration, with the University Grants Commission supporting LMS platforms and the Open University of Sri Lanka pioneering distance learning (COL, 2025). However, within the performing arts, institutionalised digital pedagogy remains nascent. This gap is particularly acute given that the music industry — both domestically and internationally — now demands digitally literate graduates who can compose, produce, and distribute music using digital tools, negotiate intellectual property rights, and leverage social media for artistic promotion.

2.4 Aesthetic Education, Policy Reform, and the Curriculum Challenge

The policy context for music and aesthetic education reform in Sri Lanka is examined in depth by Perera (2025b), who identifies the post-1980 era as a watershed period during which both Sri Lanka and India recognised aesthetic education — encompassing arts, music, dance, drama, and crafts — as a foundational pillar of schooling. In Sri Lanka, the curriculum revisions of 1997 and the 2018 National Education Framework explicitly sought to integrate aesthetic subjects into the fabric of schooling (Ministry of Education Sri Lanka, 2018). India's parallel trajectory, shaped by the National Policy on Education (1986, revised 1992 and 2020) and NCERT curriculum guidelines, positioned aesthetic education as central to

producing well-rounded, culturally literate citizens (Kaur, 2017; NCERT, 2005).

Despite these policy commitments, both countries have faced persistent challenges in implementation, including shortages of qualified arts teachers, urban-rural inequities in access, insufficient resource allocation, and a tendency to marginalise arts subjects in favour of science, mathematics, and examination-focused disciplines. At the higher education level, the reform of Indian classical music degree programmes in Sri Lanka has been similarly impeded by institutional conservatism, curriculum inertia, and a lack of specialised teacher training in digital pedagogy.

3. Methodology

This study adopts a qualitative, document-based comparative methodology. The research design draws on systematic analysis of: (i) the author's four published empirical and comparative studies; (ii) institutional documents including the UVPA programme regulations and the Sri Lanka Ministry of Education's curriculum frameworks; (iii) peer-reviewed scholarly literature on digital music education, blended learning, and curriculum reform; and (iv) online educational technology resources relevant to music pedagogy.

Consistent with the qualitative comparative approaches employed in prior studies, the method involves thematic synthesis: identifying recurring patterns, tensions, and gaps across the evidence base, then constructing an interpretive framework. The comparative dimension draws on the Sri Lanka–India contrast that has been central to the author's research programme, contextualising Sri Lankan challenges within a broader South Asian regional perspective.

Data triangulation is achieved through the convergence of institutional documents, empirical survey data, expert perspectives reported, and policy texts analysed. Reflexivity is maintained through the author's dual position as both a practitioner-researcher within the UVPA system and a scholarly commentator on its reform needs. The limitations of this approach include the absence of new primary data collection; findings are therefore interpretive rather than generalisable in a statistical sense, and future empirical validation through surveys, interviews, or quasi-experimental designs is recommended.

4. Findings

4.1 Student Readiness and Infrastructure Gaps

The evidence gathered across the study period reveals a striking paradox at the heart of digital transformation efforts in Indian classical music education in Sri Lanka. Students enrolled in the Faculty of Music demonstrate a notably high level of attitudinal readiness for technology-mediated learning and assessment. The overwhelming majority expressed willingness to engage with virtual platforms, video-based submission methods, and online interactive sessions as legitimate alternatives to conventional face-to-face instruction. This positive disposition toward digital modalities reflects a generational familiarity with technology and a pragmatic adaptability that augurs well for future reform efforts.

However, this readiness exists in sharp tension with the infrastructural realities that students and faculty encounter on a daily basis. Power interruptions emerged as the most pervasive obstacle, affecting the vast majority of participants during online sessions.

Unstable internet connectivity compounded these difficulties, rendering real-time interactive instruction unreliable and frustrating for both teachers and learners. A considerable proportion of students reported experiencing signal delays and audio latency that directly undermined the quality of musical communication during live online sessions. A smaller but significant minority lacked access to adequate digital devices altogether, pointing to persistent socioeconomic inequalities that digital transformation initiatives must actively address rather than assume away.

The specific acoustic and physical demands of Indian classical music introduce additional complications that generic digital learning frameworks do not anticipate. The subtle microtonal inflections that define raga performance, the resonant interplay between soloist and tambura drone, and the nuanced rhythmic dialogue between melodic and percussive instruments are qualities that depend on high-fidelity audio reproduction. Compression artefacts, bandwidth limitations, and the acoustic inadequacies of consumer-grade microphones and speakers consistently degraded these essential musical qualities during digital transmission. Furthermore, instruments such as the sitar, tabla, sarod, and harmonium are irreplaceable physical objects whose tactile and acoustic properties cannot be simulated digitally, meaning that students separated from their instruments during periods of remote learning faced a qualitatively different and significantly impoverished learning experience compared to those in science or humanities disciplines.

4.2 Curriculum Stagnation and the Need for Reform

A systematic review of the existing degree programme structure for North Indian Music at the University of the Visual and Performing Arts reveals a curriculum that, while academically rigorous in its treatment of raga grammar, tala systems, compositional forms, and performance practice, has remained largely static in the face of rapidly evolving professional and technological realities. The curriculum provides students with a deep grounding in the classical tradition but offers minimal formal exposure to music technology, digital audio production, online music distribution, music entrepreneurship, copyright and intellectual property management, or social media-based artistic promotion.

This curricular gap carries serious professional consequences for graduates. The contemporary music industry — both domestically within Sri Lanka and internationally — increasingly demands that classically trained musicians possess not only artistic excellence but also digital literacy and business acumen. Graduates who are unable to record, produce, and distribute their own music using widely available digital tools, or who lack the knowledge to protect their intellectual property in an online environment, enter the workforce at a significant competitive disadvantage. This disconnect between the academy and the industry risks marginalising Indian classical music as a viable professional pathway for young Sri Lankan musicians.

Comparative examination of curricula at leading Indian music institutions reveals that several have already begun incorporating technology-oriented modules into their programmes. Digital music notation, audio-visual documentation of raga performances for archival and pedagogical purposes, and structured engagement with online music platforms have been introduced in various forms,

signalling a broader recognition that classical music education must evolve to remain relevant. Sri Lanka's own secondary school system has similarly begun experimenting with blended learning approaches in Indian classical music pedagogy, though these efforts remain inconsistent, informally implemented, and unsupported by standardised guidelines. The tertiary level has yet to follow this lead in any systematic or institutionally coordinated manner.

4.3 The Guru-Shishya Parampara in Transition

The Guru-Shishya Parampara represents far more than a pedagogical method; it is the living epistemological foundation through which Indian classical music has been transmitted across generations for centuries. The relationship between guru and shishya is characterised by sustained intimacy, mutual commitment, and the gradual, holistic transmission of musical knowledge that encompasses not only technical proficiency but also aesthetic sensibility, cultural philosophy, and personal discipline. This tradition presupposes physical presence, intuitive responsiveness, and an organic pedagogical rhythm that unfolds over years rather than semesters.

The introduction of digital technologies into this relational framework raises questions that are simultaneously practical and philosophical. On one level, digital tools present a genuine opportunity to extend the reach of the GSP beyond geographical constraints, enabling students in remote areas of Sri Lanka or members of the diaspora to access instruction from distinguished gurus who would otherwise be inaccessible. Video conferencing platforms, high-quality audio streaming, and digital annotation tools can support meaningful musical interaction across distance when conditions are favourable. In this sense, technology has the potential not to replace the GSP but to broaden its horizons.

On another level, however, the risks of digital mediation are real and must be taken seriously. There is a danger that the rationalising logic of digital platforms — structured scheduling, content delivery, outcome measurement — will gradually reshape the GSP in the image of transactional, standardised instruction, hollowing out its relational depth and cultural richness. The improvisational spontaneity of *khayal*, the contemplative absorption of *dhrupad*, and the embodied attunement that develops through years of shared musical life between guru and shishya are qualities that resist reduction to deliverable learning outcomes. Any reform framework must therefore draw a principled distinction between digital tools that enrich and extend the GSP's relational possibilities and those that inadvertently erode its essential character.

4.4 Policy Alignment and Institutional Support

Analysis of the national policy environment reveals a significant gap between the stated commitments of Sri Lanka's educational authorities and the operational reality experienced by performing arts institutions. National curriculum frameworks and education policy documents recognise the arts and aesthetic education as foundational components of a balanced, holistic educational system, affirming their role in fostering creativity, cultural identity, and national cohesion. These commitments are also reflected in regional policy directions across South Asia, where both Sri Lanka and India have progressively incorporated aesthetic education as a policy priority since the 1980s.

Despite this policy affirmation, the University Grants Commission of Sri Lanka has not yet produced a dedicated digital strategy for performing arts institutions, nor has it established mandatory digital competency standards for music faculty. The absence of such a framework leaves institutions like UVA dependent on the initiative of individual faculty members and departmental leadership rather than benefiting from coordinated systemic support. Faculty professional development in digital pedagogy — a prerequisite for any meaningful technology integration — remains largely ad hoc and under-resourced. Without structured training programmes, even willing and motivated faculty lack the pedagogical skills and confidence to design and deliver high-quality technology-enhanced music instruction.

The broader higher education landscape in Sri Lanka is undergoing accelerating internationalisation, with a growing number of students engaging with transnational education programmes and an increasing expectation that domestic degrees will be internationally competitive. This context intensifies the strategic urgency of aligning Indian classical music degree programmes with contemporary digital and professional competency standards. The window of opportunity for proactive, culturally grounded reform is present; what remains required is the institutional will, coordinated policy support, and sustained resource commitment to transform that opportunity into reality.

5. Discussion

The preceding findings converge on a fundamental insight: the digital transformation of Indian classical music education at UVA is not primarily a technological problem, but a cultural, pedagogical, and institutional one. The technology exists; student attitudinal readiness has been demonstrated; the international evidence base for effective digital music pedagogy is substantial. The barriers lie elsewhere — in curriculum conservatism, infrastructural inequity, the absence of faculty development programmes in digital pedagogy, and a policy environment that has not yet operationalised its commitment to aesthetic education in ways that reach higher education institutions.

These findings resonate with the broader literature on digital transformation in higher education in the Global South. Hapuarachchi (2016) argued that Sri Lanka's higher education system lacks the blended learning frameworks that have been extensively developed in more resource-rich contexts, and that this gap necessitates contextually grounded, locally designed solutions rather than the uncritical importation of Western models. The same principle applies with particular force to the arts: the digital transformation of Indian classical music education must be designed from within the epistemological tradition of that music, not imposed upon it from without.

The proposed reform framework — detailed in the conclusion — therefore rests on four interconnected pillars. The first is technology-integrated pedagogy: the deliberate, theoretically grounded incorporation of digital tools (DAWs, online notation, video libraries of raga performance, LMS-delivered theory modules) into a curriculum that retains the GSP as its relational core. The second is curriculum redesign: a systematic revision of degree programme content to include music technology, music business, and digital entrepreneurship modules, informed by the industry-responsive

arguments of Perera (2023) and the comparative pedagogical analysis of Perera (2025a). The third is industry linkage: formalised partnerships between UVPA and the domestic and international music industry, providing students with practical exposure to digital production, copyright management, and professional practice. The fourth is policy alignment: advocacy for and engagement with UGC, the Ministry of Education, and international partners to establish clear digital competency frameworks, fund infrastructure development, and support faculty retraining in digital pedagogy.

An important caution must be noted: digital transformation should not be equated with the homogenisation or commercialisation of Indian classical music. The aesthetic and cultural values central to Hindustani and Carnatic traditions — the discipline of raga grammar, the philosophical dimensions of nada (sound), the improvisational spontaneity of khayal performance — must remain the animating purpose of all curricular and pedagogical activity. Digital tools are instruments of transmission, not substitutes for musical depth.

6. Conclusion

The digital transformation of Indian classical music education in Sri Lankan higher education is not a distant aspiration — it is an immediate and pressing necessity. The evidence examined throughout this study makes clear that the foundational conditions for meaningful reform are already present. Students are willing, the technology is accessible, and the international experience of comparable institutions demonstrates that classical music traditions and digital innovation can coexist productively and enrichingly. What has been lacking is a coherent, institutionally supported, and culturally sensitive strategy to bring these elements together.

This paper has identified four interconnected pillars upon which such a strategy must rest. The first is technology-integrated pedagogy, which calls for the deliberate and theoretically grounded incorporation of digital tools into music instruction while preserving the relational depth of the Guru-Shishya tradition at the heart of the curriculum. The second is curriculum redesign, which requires a systematic revision of degree programme content to reflect the realities of the contemporary music industry, including modules in music technology, digital production, and music entrepreneurship. The third is industry linkage, through which formalised partnerships between the university and the domestic and international music industry can provide students with practical professional exposure and equip them for careers beyond the concert stage. The fourth is policy alignment, which demands sustained engagement with national educational authorities to establish clear digital competency frameworks, fund infrastructure development, and support ongoing faculty retraining.

Crucially, this framework does not propose that digital transformation should come at the expense of the artistic and cultural values that make Indian classical music one of humanity's most profound and enduring traditions. The discipline of raga grammar, the philosophical dimensions of nada, and the improvisational spontaneity that defines great Hindustani performance must remain the animating purpose of everything that happens within the curriculum. Digital tools are instruments of transmission — powerful, versatile, and increasingly indispensable — but they serve the music, not the other way around.

The ultimate measure of success for any reform initiative in this field will not be the number of software packages adopted or online modules delivered. It will be the quality, creativity, and cultural confidence of the musicians who graduate — artists equipped not only with deep classical knowledge but also with the practical skills and digital fluency to carry that knowledge forward into the world of the twenty-first century.

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