



Comparative Analysis of Digital Platforms for Preserving and Promoting Indian Traditional Arts in Teacher Education

Suchita C Bujurge

Assistant Professor

Karmyogi Babasaheb Apotikar Adhyapak

Anusandhan Mahavidyalaya,

Apoti Kd, Tq & Dist Akola

Abstract

Indian traditional arts constitute a vital dimension of the nation's cultural heritage and Indian Knowledge Systems. In the digital era, numerous online platforms have emerged to document, disseminate, and teach these art forms. This study undertakes a comparative analysis of five digital platforms Indian Culture Portal, Museums of India Portal, DIKSHA, SWAYAM, and Educational YouTube Channels selected by purposive sample method to examine their potential for preserving and promoting Indian traditional arts and their relevance to teacher education. Employing a descriptive design and content analysis of secondary data, the platforms were evaluated on five criteria: accessibility, content quality, multimedia support, user engagement, and educational relevance, using a pre-defined five-point rubric. A single-coder evaluation was conducted, with explicit recognition of this limitation. The analysis reveals that while all platforms contribute meaningfully, they do so with different strengths: the Indian Culture Portal excels in archival preservation and content depth, whereas YouTube channels and DIKSHA offer high engagement and curricular alignment. The study also highlights persistent challenges, including limited interactive pedagogies, uneven regional representation, and the digital divide. Concrete recommendations are offered for integrating these platforms into teacher education programmes in alignment with NEP 2020's emphasis on art-integrated learning. The paper concludes that digital platforms, when critically curated and pedagogically integrated, can support both cultural preservation and transformative teacher education.

Keywords: Indian traditional arts, digital platforms, teacher education, cultural heritage, Indian Knowledge Systems, content analysis

Introduction

India's cultural landscape is distinguished by an extraordinary range of traditional arts, folk paintings, classical dance-drama, devotional music, crafts, and ritual performances that have evolved over millennia. These art forms are not merely aesthetic expressions; they are living repositories of indigenous knowledge, social memory, and community identity (Devy, 2014). However, rapid socio-economic change, urbanisation, and the homogenising pressures of global media have placed many art forms at risk of dilution or disappearance. The preservation and revitalisation of this intangible heritage is therefore an urgent cultural and educational priority.

Digital technologies now offer unprecedented possibilities for documenting, archiving, and transmitting traditional arts (Cameron & Kenderdine, 2007). High-resolution imaging, 3D modelling, virtual walkthroughs, and online repositories can capture the nuances of performance and craft that are otherwise lost. At the same time, the internet enables these digital artefacts to reach learners anywhere, breaking down barriers of geography and access. Platforms such as virtual museums, Massive Open Online Courses (MOOCs), national cultural portals, and video-sharing sites have begun to reshape how cultural heritage is encountered and learned.

The educational dimension of this transformation is particularly significant for teacher education. The National Education Policy 2020 foregrounds Indian Knowledge Systems, experiential learning, and art-integrated pedagogy as foundational to holistic education (Ministry of Education, 2020). Student-teachers must therefore not only be aware of India's artistic traditions but also be equipped to weave them into their future classrooms. Digital platforms can serve as bridges, providing authentic multimedia resources, lesson examples, and interactive content that can enrich teacher preparation programmes.

Yet, the sheer variety of available platforms raises an important question: how do these platforms compare in their capacity to preserve and promote traditional arts, and which ones offer genuine educational value for teacher education? While previous studies have examined individual digital archives or art portals (Rana, 2024; Singh, 2025), few have undertaken a systematic cross-platform comparison grounded in criteria relevant to education. This study addresses that gap by comparing five widely accessible Indian digital platforms. It seeks not only to describe their features but to critically assess their strengths, limitations, and readiness for classroom integration.

Need and Significance of the Study

The preservation of Indian traditional arts is both a cultural and constitutional imperative (Article 51A of the Constitution of India). In the digital age, the medium of preservation and dissemination is shifting from physical sites, museums, performance venues, apprenticeship settings to digital repositories and learning platforms. Teacher educators and student-teachers require guidance on which platforms offer reliable, pedagogically sound, and culturally authentic resources. Without such guidance, there is a risk of superficial engagement or misuse of materials that strip art forms of their context. This study is significant because it provides a structured, criterion-based comparison that can inform curriculum design, resource selection, and policy-making in teacher education. It also contributes to the growing discourse on digital cultural heritage and education, particularly within the framework of NEP 2020.

Review of Related Literature

The intersection of digital technology and cultural heritage has been extensively explored in the last decade. Singh (2025), in a study of next-generation art practices, found that digital tools and AI are enabling artists to create hybrid forms that preserve the essence of tradition while reaching global audiences. Rana (2024) documented the role of 3D scanning and virtual reality in the digital preservation of traditional crafts, emphasising that such technologies aid both conservation and skills transmission. Similarly, Gulati and Mathur (2017) demonstrated that digital manufacturing techniques can revitalise traditional handicrafts by enabling customisation and scaling without loss of cultural identity.

In the educational domain, Mishra and Joshi (2023) evaluated the use of digital cultural archives in Indian school curricula and found that teacher-mediated access to high-quality digital artefacts significantly improved students' cultural awareness and critical thinking. Kamal Srivastava (2024) discussed the growing influence of digital media in contemporary Indian art, noting that platforms like YouTube and Instagram have become vital spaces for artistic dialogue and learning.

However, these studies largely focus on individual platforms or technologies. Systematic comparative analyses that map platform features onto educational needs are rare. Furthermore, much of the literature does not differentiate between preservation (archiving, documenting, restoring) and promotion (disseminating, teaching, popularising). This conflation can obscure important differences in platform design and purpose. The present study fills these gaps by comparing platforms explicitly on preservation and promotion dimensions and linking the findings to teacher education outcomes.

Objectives of the Study

To identify and select major digital platforms that preserve and promote Indian traditional arts.

To develop and apply a transparent evaluation rubric for comparing the platforms on accessibility, content quality, multimedia support, user engagement, and educational relevance.

To analyse how each platform contributes to the preservation function (archival depth, authenticity, completeness) and the promotion function (reach, pedagogy, learner engagement).

To assess the educational value of these platforms for teacher education, particularly in the context of art-integrated learning and Indian Knowledge Systems.

To propose concrete strategies for integrating digital cultural resources into teacher education curricula.

Methodology

The study employed a descriptive research design using qualitative and quantitative content analysis of secondary data.

Platform Selection

Five platforms were purposely selected based on three criteria: (a) national or pan-Indian scope, (b) significant repository of Indian traditional art content, and (c) potential for educational use. The platforms are:

Indian Culture Portal (indianculture.gov.in) – Government of India's digital cultural repository.

Museums of India Portal (museumsindia.gov.in) – A virtual aggregation of Indian museums.

DIKSHA (diksha.gov.in) – National digital infrastructure for school and teacher education.

SWAYAM (swayam.gov.in) – National MOOCs platform offering courses on Indian art and culture.

Educational YouTube Channels – Channels such as CCRT e-learning, NCERT Official, and others dedicated to art and heritage education.

Evaluation Framework

A five-point rating scale (1=Very Low, 2=Low, 3=Average, 4=High, 5=Excellent) was applied to five criteria, each operationally defined with sub-indicators:

Accessibility: Free access; mobile-friendly design; multiple Indian language support; compatibility with assistive technologies; offline download options.

Content Quality: Accuracy and scholarly credibility; depth and breadth of traditional arts coverage; representation of diverse regions and art forms; proper attribution and metadata.

Multimedia Support: Availability of high-resolution images, audio, video; virtual tours or 3D objects; interactive timelines; adaptive streaming quality.

User Engagement: Interactive features (quizzes, forums, feedback); personalisation (playlists, bookmarks); social sharing; user-generated content or community participation.

Educational Relevance: Alignment with NEP 2020 and curriculum frameworks; availability of lesson plans, teacher guides, or activity banks; clear learning objectives; suitability for art-integrated pedagogy.

Data Collection and Analysis

The researcher conducted the evaluation over a three-week period, browsing each platform systematically using a structured observation checklist. Scores were recorded on a spreadsheet and cross-checked against operational definitions to enhance consistency. To mitigate single-coder bias, detailed descriptors for each score level were developed a priori (e.g., for Content Quality: 5 = curated by subject experts, regularly updated, covers 10+ art forms across multiple states). Nevertheless, the findings must be interpreted cautiously as they reflect a single evaluator's judgement. No user-generated analytics or backend data were accessed. Simple descriptive statistics total scores, ranks, and mean criterion scores were computed. A limitation of equal weighting across criteria is acknowledged; future studies may assign differential weights based on stakeholder input.

Data Analysis and Interpretation

Table 1: Comparative Analysis of Selected Digital Platforms

(Scores on a 1–5 scale for each criterion; max total = 25)

Sr No	Digital Platform	Accessibility	Content Quality	Multimedia Support	User Engagement	Educational Relevance	Total Score
1	Indian Culture Portal	5	5	4	3	4	21
2	Museums of India Portal	4	5	5	3	3	20
3	DIKSHA	5	4	4	4	5	22

EduInspire-An International E-Journal

An International Peer Reviewed and Referred Journal (www.ctegujarat.org)Council for Teacher Education Foundation (CTEF, Gujarat Chapter) Email:- ctefeduinspire@gmail.com

4	SWAYAM	4	4	4	3	5	20
5	Educational YouTube Channels	5	3	5	5	4	22

Note: Scores revised after applying the operational rubric. For example, Indian Culture Portal's User Engagement was lowered to 3 because it lacks interactive learner activities; its Educational Relevance was lowered to 4 because it does not offer ready-made lesson plans. YouTube's Content Quality is 3 due to variable credibility, but User Engagement is 5 due to comments, live streams, and community features.

Interpretation:

DIKSHA and Educational YouTube Channels jointly attained the highest total (22), excelling in educational relevance and user engagement respectively. This highlights their strength as teaching-learning tools rather than archival repositories.

Indian Culture Portal scored 21, driven by its authoritative content and scholarly curation. It is best suited for preservation and in-depth cultural study.

Museums of India Portal's strength in multimedia (virtual tours) positions it well for visual appreciation but it lacks structured pedagogical pathways.

SWAYAM, while offering high-quality courses, was rated slightly lower on accessibility (requires registration for courses) and engagement (limited peer interaction outside discussion forums).

Table 2: Preservation vs. Promotion Dimension (Qualitative Summary)
(Derived from descriptive analysis of platform features)

Platform	Preservative Function	Promotion Function
Indian Culture Portal	Strong: high-quality archival images, manuscripts, documented histories	static content, limited instructional design
Museums of India Portal	Strong: virtual museum collections, artefact metadata	Moderate: basic search, minimal educational scaffolding
DIKSHA	Limited: some heritage modules but not archival depth	Strong: curriculum-aligned lesson plans, teacher training
SWAYAM	Limited: course-focused, not a digital museum	Strong: structured MOOCs, assessments, certification
Educational		Strong: high reach, informal

YouTube Channels	Varied: some channels document rare performances	learning, visual appeal
------------------	--	-------------------------

Table 2 reveals a clear functional divide among platforms. The Indian Culture Portal and Museums of India Portal are engineered primarily for preservation; they house digitised manuscripts, high-resolution imagery, and meticulous metadata that serve as permanent, authoritative records of tangible and intangible heritage. Their content is structured for browsing and research rather than for structured learning sequences. In contrast, DIKSHA, SWAYAM, and Educational YouTube Channels foreground promotion; they disseminate knowledge through courses, video lessons, and interactive modules designed to attract, motivate, and instruct learners. This dualism indicates that no single platform can serve as a one-stop solution for teacher education; instead, a curated ecosystem is required where preservational depth and promotional pedagogy complement each other.

Furthermore, the table highlights the under-representation of “living heritage” elements such as oral narratives, performance contexts, and craftspeople’s own voices. While preservation-focused portals capture the form of an art object, promotion-oriented platforms rarely incorporate community participation or live documentation of practice. For teacher education, this suggests a need for hybrid models for instance, pairing a DIKSHA course on Warli art with a virtual tour from Museums of India and a recorded interview with a Warli artist on YouTube.

Table 3: Mean Criterion Scores Across Platforms

Sr No	Criterion	Mean Score
1	Accessibility	4.6
2	Content Quality	4.2
3	Multimedia Support	4.4
4	User Engagement	3.6
5	Educational Relevance	4.2

The mean scores across the five evaluation criteria paint a macro-level picture of platform readiness for educational use. Accessibility, with the highest mean (4.6), reflects a deliberate policy effort by government and open-access platforms to provide content without paywalls

and with mobile-friendly interfaces. This is encouraging for widespread adoption in government teacher training colleges that may have limited resources.

Educational Relevance and Content Quality (both 4.2) indicate that, overall, the platforms maintain a standard of credible information and align loosely with curricular expectations. However, this average masks significant variation: YouTube channels, for instance, offer high relevance but uneven quality, while the Indian Culture Portal boasts impeccable quality but lower direct curricular mapping. The mean thus calls for cautious optimism content exists, but educators must still act as critical filters.

Multimedia Support (4.4) shows that virtual tours, image galleries, and video content are relatively well developed. Yet the score is not a perfect 5 because interactivity within media annotated timelines, clickable glossaries, or 360° performance recordings remains scarce.

The lowest mean, User Engagement (3.6), is the most instructive finding. It underscores a fundamental gap: platforms are good at delivering cultural artefacts and lessons but poor at enabling dialogue, co-creation, and reflection. Most platforms lack discussion forums, peer review, learner portfolios, or opportunities for student-teachers to remix and share content. For teacher education, where constructivist, collaborative learning is paramount, this low engagement score signals a design flaw that needs urgent attention from platform developers. Without meaningful engagement tools, these platforms risk becoming digital museums or lecture repositories rather than vibrant, participatory learning environments.

The hierarchy of mean scores (Accessibility > Multimedia > Content Quality = Educational Relevance > User Engagement) thus outlines a roadmap for improvement: future iterations should invest in interactive pedagogical features while maintaining their current strengths in open access and rich media.

Findings and Discussion

Platforms serve complementary roles. No single platform excels across all dimensions. The Indian Culture Portal is the strongest archival instrument, whereas DIKSHA and YouTube-based channels are more effective for pedagogical engagement. This suggests that teacher education programmes should adopt a blended approach, curating resources from multiple platforms rather than relying on any single source.

Preservation is advancing, but promotion lags. As the qualitative dimension table shows, most government portals invest heavily in digitising and cataloguing artefacts (preservation) but do not invest equivalently in designing learning pathways (promotion). Museums of India Portal, for instance, offers stunning virtual galleries but no discussion prompts or activity templates.

Conversely, platforms strong in promotion (e.g., YouTube) often fall short on content accuracy and contextual depth.

Educational relevance is high but underutilised. DIKSHA and SWAYAM already align with teacher education curricula, yet their heritage modules are often peripheral, not core. Student-teachers are rarely systematically trained to locate, evaluate, and pedagogically adapt these resources.

The digital divide and cultural authenticity remain challenges. No evaluated platform fully addresses the barriers of low-bandwidth connectivity in rural teacher-training institutions or the need for content in all 22 scheduled languages. Moreover, digital representation can sometimes decontextualise sacred or ritual art forms. For example, a Warli painting digitised and displayed without its accompanying oral narrative may convey form but not meaning. Critical media literacy must therefore accompany digital resource use.

Platforms support NEP 2020 but require institutional scaffolding. All five platforms can advance art-integrated learning, but their impact depends on teacher educators modelling effective use. Standalone access is insufficient; integration into syllabi, micro-teaching activities, and internship projects is essential.

Limitations of the Study

Single-coder bias: Although a rubric was used, the scores reflect one individual's assessment. Future studies should employ multiple raters and compute inter-coder reliability (e.g., Cohen's kappa).

Equal weighting: The five criteria were weighted equally, which may not reflect the relative importance stakeholders place on, say, educational relevance over multimedia support.

Static evaluation: The study captured platform features at one point in time. Digital platforms evolve rapidly; a longitudinal tracking would be more accurate.

Omission of user perspectives: No surveys, interviews, or focus groups with teacher educators, student-teachers, or artists were conducted. The study thus cannot claim actual user impact.

Limited platform sample: Only five national-level platforms were included; state-level initiatives, private repositories, and international platforms (e.g., Google Arts & Culture) were excluded.

Recommendations for Teacher Education

Based on the findings, the following concrete strategies are proposed for integrating digital platforms into teacher education:

Curate platform-specific resource kits: Teacher education institutions should develop curated playlists or “digital heritage kits” that align with B.Ed. and D.El.Ed. syllabi. For example, a kit for “Art and Craft in Education” could include high-resolution images from Indian Culture Portal, a virtual tour link from Museums of India, and a DIKSHA quiz module on tribal art.

Embed digital heritage literacy in curriculum: A dedicated module on “Digital Tools for Cultural Heritage Education” can be introduced in existing pedagogy courses. It should cover search strategies, evaluation of authenticity, attribution ethics, and adaptation for diverse classrooms.

Promote student-teacher-created digital artefacts: Trainees can be assigned to use platform resources to create short educational videos, digital storybooks, or virtual mini-exhibitions that contextualise an art form for a specific grade level.

Address the digital divide: Where internet access is unreliable, teacher educators can pre-download content from DIKSHA (which allows offline saving) or create offline digital libraries on pen drives. State SCERTs could develop low-bandwidth versions of key heritage resources.

Foster artist-teacher collaboration: Platforms like YouTube can be used to connect classrooms with traditional artists through live sessions or pre-recorded interviews. Teacher education programmes should facilitate such interactions, bridging the gap between living tradition bearers and future teachers.

Advocate for platform enhancements: Feedback from teacher educators should be channelled to platform developers, requesting features such as simplified language versions, regional language subtitles, and ready-to-use lesson plans around specific artefacts.

Conclusion

Indian traditional arts, as repositories of knowledge and identity, deserve robust preservation and dynamic promotion. This comparative analysis of five digital platforms demonstrates that significant infrastructure now exists to support both aims. The Indian Culture Portal and Museums of India Portal offer scholarly, archivable depth; DIKSHA, SWAYAM, and curated YouTube channels provide the pedagogical energy to bring these traditions into twenty-first-century classrooms. However, the study also reveals a persistent gap between the “warehousing” of cultural artefacts and their meaningful educational deployment.

Bridging this gap requires intentional curriculum design in teacher education. Student-teachers must not only be passive consumers of digital content but active, critical curators and adaptors. With NEP 2020 providing a policy mandate, the moment is opportune for teacher education institutions to systematically integrate these platforms. Doing so will not only help

preserve India's artistic heritage but also cultivate a generation of educators who can make traditional arts a living, breathing part of children's learning. Future research should build on this work by incorporating user studies, longitudinal platform analyses, and co-design of pedagogical tools with practising artists and teachers.

References

- Cameron, F., & Kenderdine, S. (Eds.). (2007). Theorizing digital cultural heritage: A critical discourse. MIT Press.
- Devy, G. N. (2014). The crisis within: On knowledge and education in India. Aleph Book Company.
- Gulati, S., & Mathur, P. (2017). Digital manufacturing of Indian traditional handicrafts. *International Journal of Computer Applications*, 160(8), 1–5.
- Kamal Srivastava, A. (2024). The growing influence of the digital medium in contemporary Indian art. *Journal of Arts and Cultural Studies*, 12(2), 45–58.
- Ministry of Education, Government of India. (2020). National Education Policy 2020. <https://www.education.gov.in>
- Mishra, S., & Joshi, R. (2023). Digital cultural archives in Indian classrooms: Impact on cultural awareness and critical thinking. *International Journal of Heritage Education*, 5(1), 30–47.
- Rana, P. (2024). Digital preservation of traditional crafts: Technologies and challenges. *Heritage Science Review*, 18, 102–118.
- Singh, M. (2025). Next generation art: A new way to redefine traditional art practices in India. *Digital Creativity*, 36(1), 12–28.