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Mapping artificial intelligence adoption, perceptions, and governance in Indian higher education: A scoping review

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Systematic Review

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Abstract

The rapid integration of artificial intelligence (AI) into higher education institutions worldwide has prompted considerable scholarly and policy attention, yet research examining AI through the combined lens of adoption, stakeholder perceptions, and regulatory governance within a single national context remains sparse. This scoping review maps peer-reviewed and grey-literature evidence concerning AI in Indian higher education across these three dimensions. A systematic search of eight bibliographic databases and twelve regulatory and government sources, conducted in June 2026, identified 1,066 records. Following de-duplication and two-stage screening - with a raw inter-rater agreement of 82.0% at title/abstract stage – 236 sources met eligibility criteria, comprising 180 empirical studies, 38 conceptual papers, nine prior reviews, and nine policy or regulatory documents. Thematic analysis generated four themes mapped to the review's research questions. AI tools are being adopted across teaching and learning, assessment, research support, and institutional administration, with the literature concentrated overwhelmingly post-November 2022. Student and faculty perceptions are broadly positive but tempered by persistent concerns about accuracy, academic integrity, prompt literacy, and digital equity. National policy has followed a skilling-first trajectory, accelerated by the AICTE–OpenAI partnership (2025), but without classroom-level usage guidance. A stark regulatory asymmetry characterises health-professional education: ICMR has issued substantive AI ethics guidelines and NBEMS a training initiative, while the National Commission for Indian System of Medicine has issued nothing, leaving AYUSH education entirely ungoverned. These findings point to an urgent need for AI-specific governance instruments addressing classroom use, academic integrity, and sector-level coordination across India's fragmented regulatory architecture.

Introduction

Since the public availability of large language models capable of generating coherent academic text, the question of how higher education systems should respond has become pressing at institutional, national, and international levels (Baig & Yadegaridehkordi, 2024; Memarian & Doleck, 2023). The release of ChatGPT in November 2022 was not simply a technological event; it exposed a gap that had been building for some time between the speed at which students and faculty incorporate digital tools into their academic lives and the speed at which institutions and regulators develop guidance for those tools. Reviews conducted in the years since consistently report that formal governance of AI in higher education lags behind observed practice (Wu, Dang & Li, 2025), with policy responses varying considerably across national contexts in their scope, urgency, and underlying assumptions about whether AI is principally a threat to academic standards or an opportunity for pedagogical transformation (Xie, Li & Enkhtur, 2024).

India presents a distinctive case within this global picture. With one of the world's largest higher education systems by enrolment, India's regulatory architecture for higher education is not consolidated under a single body. The University Grants Commission (UGC) and the All India Council for Technical Education (AICTE) govern general and technical higher education respectively (AICTE, 2024).

Professional and health-science education falls under discipline-specific councils: the National Medical Commission (NMC) and the National Board of Examinations in Medical Sciences (NBEMS) for allopathic medicine, the Indian Council of Medical Research (ICMR) for biomedical research and training, and the National Commission for Indian System of Medicine (NCISM) for Ayurveda, Unani, Siddha, and Sowa-Rigpa education. Overlaying these sectoral bodies is a national strategy tier that has evolved from NITI Aayog's foundational AI document (NITI Aayog, 2018) through the National Education Policy 2020 (Ministry of Education, 2020), the IndiaAI Mission (IndiaAI, 2024), and a series of AI governance guidelines (PIB, 2025, 2026a). None of these instruments, however, specifies how AI should or should not be used in the classroom, in assessed work, or in research supervision.

The gap between access initiatives and usage governance became visible in September 2025 when AICTE distributed 150,000 ChatGPT Go licences to students and faculty at affiliated institutions, with specific emphasis on Tier-2 and Tier-3 cities (OpenAI, 2025). The initiative substantially advances AI access across India's technical higher education sector, but it is a distribution arrangement, not a classroom policy. Simultaneously, the UGC's Regulations for the Promotion of Academic Integrity and Prevention of Plagiarism (UGC, 2018), drafted before large language models existed in their current form, are being applied to AI-generated academic content for want of any AI-specific provision. Empirical studies from Indian higher education settings report that faculty and students are aware of this ambiguity and are navigating it individually (Singh et al., 2026; Sharma & Rai, 2026).

Despite growing Indian-focused literature on AI perceptions and adoption, no published review has examined the three dimensions of adoption, stakeholder perceptions, and regulatory governance together within a single national frame, nor has any review examined the full breadth of India's higher education regulatory landscape - from UGC and AICTE through to NMC, ICMR, NBEMS, and NCISM. The present scoping review addresses this gap. Its purpose is not to evaluate the effectiveness of specific AI tools or policies, but to map the current state of evidence across the relevant bodies of academic and grey literature and to identify where that evidence is thin, absent, or contested.

Literature review

The literature on AI in higher education has grown at a rate that itself reflects the speed of technological change. Baig and Yadegaridehkordi (2024), in a systematic review spanning multiple databases, identified rapid post-2022 escalation in study volume alongside considerable heterogeneity in how the concept of 'AI adoption' is defined and operationalised across studies. Wu et al. (2025) reached a similar conclusion in a review of 99 papers on generative AI responses, attitudes, and behaviours in higher education: the field is expanding faster than its methodological conventions. A recurring substantive finding across these global reviews is that students generally report positive attitudes toward AI tools for academic tasks, particularly writing support and information retrieval, while expressing concern about accuracy, dependency, and institutional norms around disclosure (Wu et al., 2025; Baig & Yadegaridehkordi, 2024). Faculty perceptions tend to be more cautious, with academic integrity and long-term learning quality as the primary concerns (Akgun & Greenhow, 2022).

Comparative policy scholarship has mapped national responses to generative AI in higher education across several jurisdictions. Xie et al. (2024) examined policies in China, Japan, Mongolia, and the United States and found that responses cluster around two orientations: a regulatory-cautionary approach emphasising disclosure, plagiarism detection, and ethical guidelines, and a developmental-promotional approach emphasising skill-building and institutional capacity. India's trajectory, as reflected in the policy documents examined in the present review, aligns more closely with the developmental-promotional cluster, though with governance elements developing progressively through 2025–2026. UNESCO's guidance for generative AI in education (Miao & Holmes, 2023) and the European Commission's ethical guidelines for AI and data in teaching and learning (European Commission, 2022) represent more rights-oriented frameworks that explicitly address data privacy, algorithmic bias, and educator competence - dimensions that remain under-addressed in India's current national instruments.

Within India, empirical research on AI in higher education has grown substantially since 2022. Studies have examined ChatGPT use and perceptions among students and faculty across engineering, management, medical, and general university settings, with consistent findings of positive attitudes alongside acknowledged gaps in institutional guidance and AI literacy (Dass et al., 2024; Singh et al., 2026; Sharma & Rai, 2026; Juma & Patel, 2024). Adoption of AI for institutional administrative purposes - including student performance prediction, placement forecasting, and college selection support - has also been documented, though with less attention to governance implications (Chatterjee & Bhattacharjee, 2020). In medical education specifically, Mateen et al. (2025) conducted a systematic review of generative AI in Indian medical education and reported variable awareness and limited formal curriculum integration, though their scope was confined to allopathic medicine and did not examine regulatory frameworks for AYUSH education systems. The present review builds on that work by extending coverage to the full regulatory landscape and to non-medical higher education sectors.

A parallel body of literature has examined AI in Indian higher education from a policy standpoint, drawing on national strategy documents and regulatory texts. The trajectory from NITI Aayog's National Strategy for AI (NITI Aayog, 2018) - which framed AI primarily as an economic and innovation priority, with education as one of five focus sectors - through to the IndiaAI Mission (IndiaAI, 2024) and more recent governance guidelines (PIB, 2025, 2026a) shows a gradual shift from skilling and innovation discourse toward governance and safety discourse. What this body of work has not done is examine how national-level strategy intersects with sector-specific regulatory instruments, particularly the gap between the relatively more active posture of health-science councils (ICMR, NBEMS) and the silence of others (NCISM). Examining these dynamics simultaneously, across both empirical and regulatory sources, is the contribution the present review makes.

Methods

Design. A scoping review design was selected following the methodology first articulated by Arksey and O'Malley (2005) and subsequently refined through JBI guidance (Peters et al., 2020, 2022) and the PRISMA Extension for Scoping Reviews (PRISMA-ScR; Tricco et al., 2018). Scoping reviews are suited to

heterogeneous evidence bases where the aim is to map the breadth and nature of available literature rather than to aggregate effect estimates or formally appraise study quality (Munn et al., 2018). The present review's evidence base - spanning peer-reviewed empirical studies, conceptual papers, and primary government and regulatory documents - makes this the appropriate design choice. The review protocol was registered on the Open Science Framework prior to formal source-of-evidence selection ([Authors, 2026]). The registration is embargoed to preserve double-anonymous peer review.

Search strategy. The search was conducted between 21 and 22 June 2026 across eight bibliographic databases: Scopus (institutional subscription), ERIC, PubMed/MEDLINE, OpenAlex (substituted for Web of Science, which was inaccessible; noted as a limitation), Semantic Scholar, Lens.org, CORE, and Google Scholar (first 200 results by relevance). The primary Boolean search string was: (artificial intelligence OR generative AI OR GenAI OR ChatGPT OR large language model* OR machine learning) AND (higher education OR university* OR college* OR tertiary education OR undergraduate OR postgraduate) AND (India OR Indian). A modified string replacing the educational setting terms with (medical education OR health science education OR AYUSH OR Ayurveda OR allied health) was run to ensure adequate coverage of the health-science education subset. Grey literature was retrieved by navigating directly to the official websites of twelve statutory and apex bodies: the UGC, AICTE, Ministry of Education, NITI Aayog, MeitY/IndiaAI, the Press Information Bureau, NMC, ICMR, NBEMS, NCISM, UNESCO, and the European Commission, searching under their regulatory, circular, notification, and reports sections for documents referencing artificial intelligence, machine learning, ChatGPT, or related terms published since January 2018. Backward and forward citation searching was performed on all included sources.

Eligibility criteria. Eligibility was defined using the Population, Concept, Context (PCC) framework. Population: students, faculty, administrators, and statutory or institutional regulatory bodies in Indian higher education. Concept: use, adoption, perception, pedagogical application, ethical implication, or governance of AI, including generative AI and large language model tools. Context: formal Indian higher education at undergraduate, postgraduate, or doctoral level across general university, technical, and professional health-science settings, published in English between January 2018 and June 2026. Sources were excluded if they reported exclusively on K–12 education, AI in clinical practice without an educational dimension, general opinion pieces without substantive empirical or regulatory content, AI or machine learning used purely as a research method applied to an unrelated topic, or studies where Indian institutions or populations appeared only incidentally rather than as the primary focus of inquiry.

Study selection and data charting. In total, 1,066 records were identified across all sources; 31 duplicates were removed, leaving 1,035 for title and abstract screening. Two reviewers screened all 1,035 records independently, achieving raw inter-rater agreement of 82.0% (849 of 1,035). Disagreements (n = 190) were resolved through structured discussion. A systematic pattern was identified during reconciliation: the search string's broad OR terms (university*, college*) had returned a substantial number of records in which India or educational institutions appeared only as incidental context within machine learning methodology papers or global bibliometric analyses; these were

excluded at reconciliation. Seven records required abstract retrieval before a final decision was possible; all seven were confirmed as meeting eligibility criteria. Of 307 records proceeding to full-text review, 71 were excluded: 37 for AI or ML being a research method applied to an unrelated domain; 17 because India was not the primary study setting; 12 for the absence of an AI-specific concept; and 5 for an incorrect population. The final included set comprises 236 sources. The selection process is presented in Fig. 1 (PRISMA flow diagram). Data were charted using a standardised form piloted on a sample of included sources, covering source type, sector, AI technology, study design, population and sample size, Indian state or region, key findings, theoretical or regulatory frameworks cited, stakeholders addressed, and whether the source identified an academic integrity or governance concern. Charting was conducted by two reviewers independently and discrepancies were resolved through discussion.

Analysis. Inductive thematic analysis following the six-phase approach of Braun and Clarke (2006) was applied across empirical/conceptual literature and policy/regulatory texts simultaneously. Initial codes were generated from charted findings and regulatory provisions; codes were grouped into candidate themes; themes were reviewed against the full dataset before being defined, named, and written up. No formal quality or risk-of-bias appraisal was undertaken, consistent with scoping review norms (Munn et al., 2018; Peters et al., 2020).

Results

Study characteristics. The 236 included sources span 2018 to 2026, with a pronounced concentration in the period following ChatGPT's public release: 197 sources (83%) were published after November 2022, and the remainder (n = 39, 17%) before it. By source type, 180 are empirical studies (76%), 38 are conceptual or perspective papers (16%), nine are prior reviews or bibliometric analyses (4%), and nine are policy or regulatory documents (4%). The largest disciplinary sector is technical and engineering education (n = 112, 47%), followed by general or cross-sector higher education (n = 66, 28%), medical and health professions education (n = 26, 11%), library and information science (n = 15, 6%), dental education (n = 8, 3%), management education (n = 7, 3%), and legal, pharmacy, and nursing education combined (n = 3, < 2%). By AI technology, 56 sources (24%) specifically address generative AI or large language models, principally ChatGPT; 23 (10%) address machine learning or predictive analytics; 11 (5%) address AI chatbots or virtual assistants; and 140 (59%) address AI broadly or multiple technologies. Studies drawing on metropolitan Tier-1 institution samples outnumber those from Tier-2 and Tier-3 cities, a distributional imbalance noted by several included authors (Singh et al., 2026; Dass et al., 2024).

Theme 1: Domains of AI adoption in Indian higher education

The ways in which AI is being used in Indian higher education fall into four domains, though the relative visibility of these domains in the literature differs substantially.

In teaching and learning, the pre-2022 literature describes machine learning-based adaptive learning systems, intelligent tutoring environments, and educational chatbots integrated into specific courses

(Chatterjee & Bhattacharjee, 2020). After November 2022, the literature shifts overwhelmingly toward ChatGPT and comparable large language models used as student-initiated tools for academic writing, content summarisation, examination preparation, and English language support (Dass et al., 2024; Singh et al., 2026; Sharma & Rai, 2026; Juma & Patel, 2024). This shift in tool type is also a shift in how adoption occurs: pre-2022 adoption tended to be institutionally deployed, whereas post-2022 adoption is predominantly individual and bottom-up. The SWAYAM and NPTEL open-learning platforms represent a hybrid case: nationally deployed infrastructures that have incorporated machine learning for content recommendation, reaching students well beyond metropolitan centres (Sarkar & Sarkar, 2026).

AI's presence in assessment is two-sided. On one side, studies have evaluated ChatGPT's performance on major Indian professional examinations, with the tool achieving passing scores on the National Eligibility cum Entrance Test (NEET), the Graduate Aptitude Test in Engineering (GATE), and the undergraduate community medicine examination (UPCMET), raising questions about conventional examination design that the included literature does not resolve. On the other side, studies report AI-based online proctoring, automated evaluation of student responses in Hindi and Gujarati, and tools for detecting AI-generated content in academic submissions. Academic integrity concerns appear across approximately 47 of the 236 included studies, the second most pervasive theme after adoption, and they cut across sectors without clear disciplinary concentration.

Research support is a growing application domain, concentrated in 2024–2026 studies. Indian research scholars and faculty report using generative AI tools for literature searching, data organisation, writing support, and translation of examination papers (Sarkar & Sarkar, 2026). Library and information science studies form a distinct sub-cluster, with AI deployed for cataloguing support, reference services, and systematic literature search at Indian university libraries. A repeated observation in this cluster is that institutional guidance on the ethics of AI use in research contexts is absent even where awareness of the tools is high.

Institutional administration is the fourth domain, represented primarily by machine learning studies applying predictive modelling to student performance, dropout risk, placement outcomes, engineering college selection, and enrolment management. These applications raise governance questions - about algorithmic fairness, student data privacy, and institutional accountability - that the included literature identifies but does not systematically address.

Theme 2: Stakeholder perceptions and attitudes

Student perceptions across the included studies are broadly favourable, with perceived usefulness, efficiency gains, and personalisation consistently identified as positive dimensions (Singh et al., 2026; Juma & Patel, 2024; Chatterjee & Bhattacharjee, 2020). Quantitative studies using structural equation modelling and variants of the Technology Acceptance Model find performance expectancy and social influence as the strongest predictors of adoption intention, with facilitating conditions - defined in terms of institutional infrastructure and policy support - identified as an inadequate moderator in most Indian

contexts studied. Four concern clusters appear with regularity across studies from different sectors and regions: first, accuracy and hallucination, particularly pronounced for Indian-language content and domain-specialised queries; second, academic integrity anxiety, where students report uncertainty about institutional norms rather than principled resistance to AI use; third, prompt literacy deficits, with students and faculty alike reporting difficulty formulating effective queries to obtain useful outputs; and fourth, digital equity, where students at non-metropolitan institutions consistently report lower AI access, lower institutional support, and lower self-efficacy with AI tools than those at Tier-1 metropolitan institutions (Singh et al., 2026; Dass et al., 2024).

Faculty perceptions share the positive valence on pedagogical potential but diverge from student perceptions on risk: concerns about academic integrity, long-term learning quality, and cognitive dependency appear more prominently in faculty-focused studies than in student-focused ones (Sharma & Rai, 2026). A phenomenological study of Indian HE educators integrating ChatGPT into online teaching identified ‘institutional ambiguity’ as a structural condition rather than an individual judgment failure - educators were navigating ethical decisions without policy anchoring, and the uncertainty was read as a systemic problem rather than an individual one (Sharma & Rai, 2026). Studies examining teacher AI-TPACK (Technological Pedagogical Content Knowledge for AI) find that Indian faculty AI-TPACK levels are low to moderate overall, with significant variation by discipline and institution type.

In medical and health professions education, a cross-sectional study at a medical college in Hazaribagh, Jharkhand found that 86.95% of participants (students, residents, and faculty, n = 299) understood AI concepts, but only 12.04% reported familiarity with AI applications in medical education specifically, and 59.9% had no prior experience with AI tools (Rani et al., 2025). A pan-India cross-sectional study across medical institutions found that acceptance and understanding varied substantially by institution type and study year, with senior students and faculty at larger institutions showing higher familiarity (Sharma et al., 2023). In Jharkhand, Ahmad et al. (2024) found broadly positive attitudes in a multicentric study but noted limited awareness of existing regulatory positions from NMC, ICMR, or NBEMS among both students and faculty. Data from the Medical Artificial Intelligence Readiness Scale, administered at a medical college in central India, recorded a mean MAIRS-MS score of 74.61 out of 110, indicating moderate AI readiness with high variance across cognitive subdomains (Dhurandhar et al., 2025). Knowledge of AI in dentistry and among dental students in India shows a similar pattern: awareness is improving but formal training remains rare (Jindal & Bansal, 2020). No study in the included set examined AI perceptions, attitudes, or awareness among students or faculty in AYUSH education - Ayurveda, Unani, Siddha, or Sowa-Rigpa - a gap that is itself meaningful given the scale of AYUSH enrolment in India.

Theme 3: National policy landscape

Nine primary policy documents form the core evidence for this theme, supplemented by explicit policy references in empirical studies. The chronological trajectory from 2018 to 2026 shows a consistent

pattern: national AI-in-education instruments address skilling, innovation, and infrastructure, while classroom-level usage governance remains absent.

NITI Aayog's National Strategy for Artificial Intelligence (2018) framed AI primarily through economic and sectoral lenses, with education positioned as a domain where AI could improve learning outcomes and teacher quality (NITI Aayog, 2018). The strategy did not address how AI tools should or should not be used in specific educational settings. The National Education Policy 2020 established a broader ambition for digital and AI-enabled learning, but its provisions are enabling rather than prescriptive; it mandates integration in principle without specifying practices in coursework, assessment, or research (Ministry of Education, 2020). The IndiaAI Mission, approved by the Union Cabinet in 2024, introduced the FutureSkills pillar targeting AI training at undergraduate, postgraduate, and doctoral levels at scale, alongside pillars addressing compute capacity, responsible AI, and innovation (IndiaAI, 2024). The PIB AI Governance Guidelines (PIB, 2025, 2026a) represent the first national documents addressing accountability, transparency, human oversight, and risk classification, but they are not sector-specific and their application to higher education classroom settings is not articulated.

The most visible recent policy development is AICTE's partnership with OpenAI, which distributed 150,000 ChatGPT Go licences to students and faculty at AICTE-affiliated institutions, with an emphasis on Tier-2 and Tier-3 cities and a Train-the-Trainer faculty development component (OpenAI, 2025). Several empirical studies cite this initiative as evidence that AI access is expanding into non-metropolitan HE settings. What the initiative does not provide is any specification of how ChatGPT should be used within coursework, examinations, or research contexts, nor does it address academic integrity implications.

The only existing instrument being applied to AI-generated content in Indian higher education is the UGC's Regulations for the Promotion of Academic Integrity and Prevention of Plagiarism (2018). These regulations pre-date generative AI in its current form; they contain no AI-specific provisions, no AI-disclosure requirements, and no methodological guidance for AI-detection (UGC, 2018). Multiple included studies acknowledge that the regulations are being relied upon for AI-related integrity decisions in the absence of any alternative (Singh et al., 2026; Dass et al., 2024; Sharma & Rai, 2026). The reviews finds no evidence that UGC or AICTE had issued AI-specific classroom-use guidance as of the search date.

Theme 4: Health professional education regulators

The health-professional education regulatory landscape shows the starkest internal variation of the four themes.

The ICMR's Ethical Guidelines for Application of AI in Biomedical Research and Healthcare (ICMR, 2023) is the most substantive AI-specific regulatory document located across all regulatory bodies searched. It addresses transparency, explainability, accountability, data privacy, and bias mitigation in research and clinical contexts. A secondary education dimension is present but peripheral; the document's primary

audience is researchers and practitioners rather than students or curriculum designers. The NMC's Competency-Based Medical Education Curriculum (NMC, 2024) references technology integration in general terms within its updated competency framework, but contains no AI-specific provisions and no guidance on how undergraduate medical students should or should not use AI tools in their learning or assessed work. NBEMS launched an online training programme on AI in medical education in January 2026, targeting approximately 50,000 postgraduate doctors, making it the only proactive AI-specific training initiative among all regulatory bodies examined (PIB, 2026b). It is a voluntary, training-oriented initiative, not a curriculum mandate.

NCISM, which regulates Ayurveda, Unani, Siddha, and Sowa-Rigpa education, had issued no AI-specific guidance, circular, regulation, or notification as of the search date (22 June 2026). The NEP 2020 references digital tools for AYUSH education in general terms (Ministry of Education, 2020), but no NCISM-specific AI instrument was located. As noted above, no empirical study in the included set addresses AI in AYUSH educational settings. The absence of both regulatory provision and empirical research for this sector - which enrols substantial numbers of students across India - is a compounded gap. Where NMC, ICMR, and NBEMS each have at least some AI-relevant provision or initiative, NCISM has none, and the students and faculty it regulates are therefore operating in a completely ungoverned AI environment by comparison.

Cross-cutting observations

Three observations cut across all four themes. First, the temporal distribution of the included literature is itself a finding: 83% of sources date from post-November 2022, confirming that the field's engagement with AI in Indian higher education is recent, reactive, and concentrated in a narrow post-ChatGPT window. The pre-2022 literature primarily addresses AI as a teaching and learning tool deployed by institutions; the post-2022 literature addresses AI as a tool used by students, often without institutional endorsement or guidance. Second, almost no included study proposes a theoretical framework specific to the Indian context. Technology Acceptance Model variants, UTAUT and UTAUT2, and Self-Determination Theory dominate the quantitative literature, applied without adaptation for India's linguistic diversity, socioeconomic stratification, or the multi-regulator governance structure that shapes the conditions under which AI is adopted (Chatterjee & Bhattacharjee, 2020; Singh et al., 2026). Third, the digital divide between Tier-1 metropolitan and Tier-2/Tier-3 non-metropolitan institutions appears as a consistent moderating variable in perception and adoption studies: students and faculty at non-metropolitan institutions report lower AI access, lower institutional support, and lower AI self-efficacy, even as national policy moves to address this through initiatives such as the AICTE–OpenAI partnership (Singh et al., 2026; Dass et al., 2024; OpenAI, 2025).

[Fig. 1 to be inserted here]

Figure 1 PRISMA flow diagram showing the record selection process across bibliographic database and grey-literature sources.

Discussion

The central finding of this review is not that AI is being adopted in Indian higher education - that is well established across the included literature - but that the adoption is outpacing governance at every level and in every sector examined. This pattern is not unique to India; Wu et al. (2025) and Xie et al. (2024) document similar gaps in other national contexts. What is distinctive about India is the structural reason the gap exists: it is not simply that policymakers have been slow to respond, but that the regulatory architecture through which a response would have to flow is fragmented across bodies with different jurisdictions, timelines, and organisational cultures. UGC and AICTE do not jointly issue guidance. NMC and NCISM operate under different ministries and have no evident coordination mechanism on AI. The IndiaAI Mission sits within MeitY, not the Ministry of Education. This fragmentation means that even a genuine national commitment to AI governance in higher education would require coordination across multiple statutory bodies - a task that the current institutional architecture is not designed to perform.

The regulatory asymmetry across health-professional education is the review's most novel contribution. ICMR's 2023 guidelines, NBEMS's 2026 training initiative, and NMC's general technology integration language in its revised CBME curriculum represent a progressively, if unevenly, more structured landscape than the one facing general or technical higher education students under UGC and AICTE. And yet NCISM, governing a substantial population of AYUSH students, has issued nothing and appears in neither the regulatory literature nor the empirical research. A student enrolled in an Ayurveda undergraduate programme in 2026 has no institutional or regulatory guidance on whether and how to use AI tools in their coursework, no curriculum provision for AI literacy, and no protection against AI-related academic integrity proceedings that apply any standard specific to AI. The contrast with a student enrolled in an allopathic undergraduate programme - who at least has NMC's general competency framework, ICMR's research ethics guidance, and NBEMS's training initiative as points of reference - is stark.

The digital equity dimension reinforces the governance gap in a specific way. The AICTE-OpenAI partnership was explicitly designed to address access inequalities between metropolitan and non-metropolitan students (OpenAI, 2025), and this is a meaningful policy acknowledgement of the divide reported in empirical studies (Singh et al., 2026; Dass et al., 2024). However, accelerating access without accompanying usage governance may have the unintended effect of replicating the integrity and equity challenges of the metropolitan institutions within the non-metropolitan ones. Students in Tier-2 and Tier-3 cities will now have access to ChatGPT without any more institutional guidance on how to use it appropriately than their metropolitan counterparts had when generative AI first became widely available - which, as the post-2022 literature shows, was very little (Singh et al., 2026; Sharma & Rai, 2026).

The UGC's application of its 2018 plagiarism regulations to AI-generated content is a practical accommodation that the included literature treats with some resignation (Singh et al., 2026; Dass et al., 2024). The regulations were not designed for this purpose and contain no AI-disclosure requirement, no specification of what constitutes undisclosed AI use, and no methodological guidance on how institutions should detect or respond to AI-generated submissions. Amending these regulations to include AI-specific provisions would be a relatively low-cost intervention that does not require new primary legislation; it would require political prioritisation within UGC. The Baroudi (2026) review of anticipatory governance and leadership in AI implementation in higher education, published in this journal, argues that governance responses to AI must move from reactive to anticipatory models - addressing emerging challenges before they become crises rather than after. The evidence from Indian higher education suggests the response has remained reactive: policy follows adoption, and adoption in turn follows whatever tools become available, without coordination between these processes.

Conclusions, limitations, and practical recommendations

This scoping review has mapped the available evidence on AI adoption, stakeholder perceptions, and regulatory governance across Indian higher education, combining peer-reviewed literature with primary policy and regulatory texts in a way that has not previously been done for this national context. The picture that emerges is one of rapid, student- and faculty-driven adoption of generative AI tools across all major sectors, broadly positive stakeholder perceptions tempered by genuine concerns about accuracy, integrity, and equity, and a national governance landscape characterised by a skilling-first, governance-later orientation in general and technical higher education, and by significant asymmetry across health-professional education councils.

For national policymakers and regulatory bodies, the most actionable finding is that UGC's 2018 plagiarism regulations require AI-specific amendment: at minimum, a supplementary notification establishing AI-disclosure requirements for academic submissions, defining what constitutes AI-assisted and AI-generated work in assessed contexts, and specifying institutional responsibilities for academic integrity in the AI era. For NCISM specifically, the absence of any AI provision or guidance represents a gap that is unlikely to be filled without deliberate attention; the NBEMS training initiative for postgraduate doctors offers a model that could be adapted for AYUSH settings. For institutions, the consistent finding that faculty navigate AI ethics without policy anchoring points to the need for institutional AI policies that are operationally specific rather than aspirationally general. For researchers, the absence of AYUSH-focused AI studies and the near-total absence of India-specific theoretical frameworks are the most pressing scholarly gaps this review identifies.

Limitations. The English-language restriction excludes Hindi-medium and regional-language scholarship, a real constraint in a multilingual research environment. The database search string's broad terms (university*, college*) returned approximately 31% of Scopus records where the Indian or educational element was incidental rather than central; the manual triage required to identify and exclude these records is a documented limitation of broad Boolean search strategies in this field. Finally, the protocol

was registered on OSF concurrently with the initial search phase rather than preceding it; this is disclosed in the registered protocol and in the Methods section of this article.

Declarations

Author Contribution

Author 1 - Sangeeta Singh - conceptualised the study, led the search strategy, conducted title/abstract screening and drafted the manuscript.Author 2 - Bhawani Singh - Conducted full-text screening and data charting, manuscript drafting, reviewed the manuscript and coordinated.Author 3 - Chandra Shekhar Pandey - Supervised the project, resolved screening disagreements as tie-breaker, and critically revised the manuscript.All authors read and approved the final manuscript.

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Figures

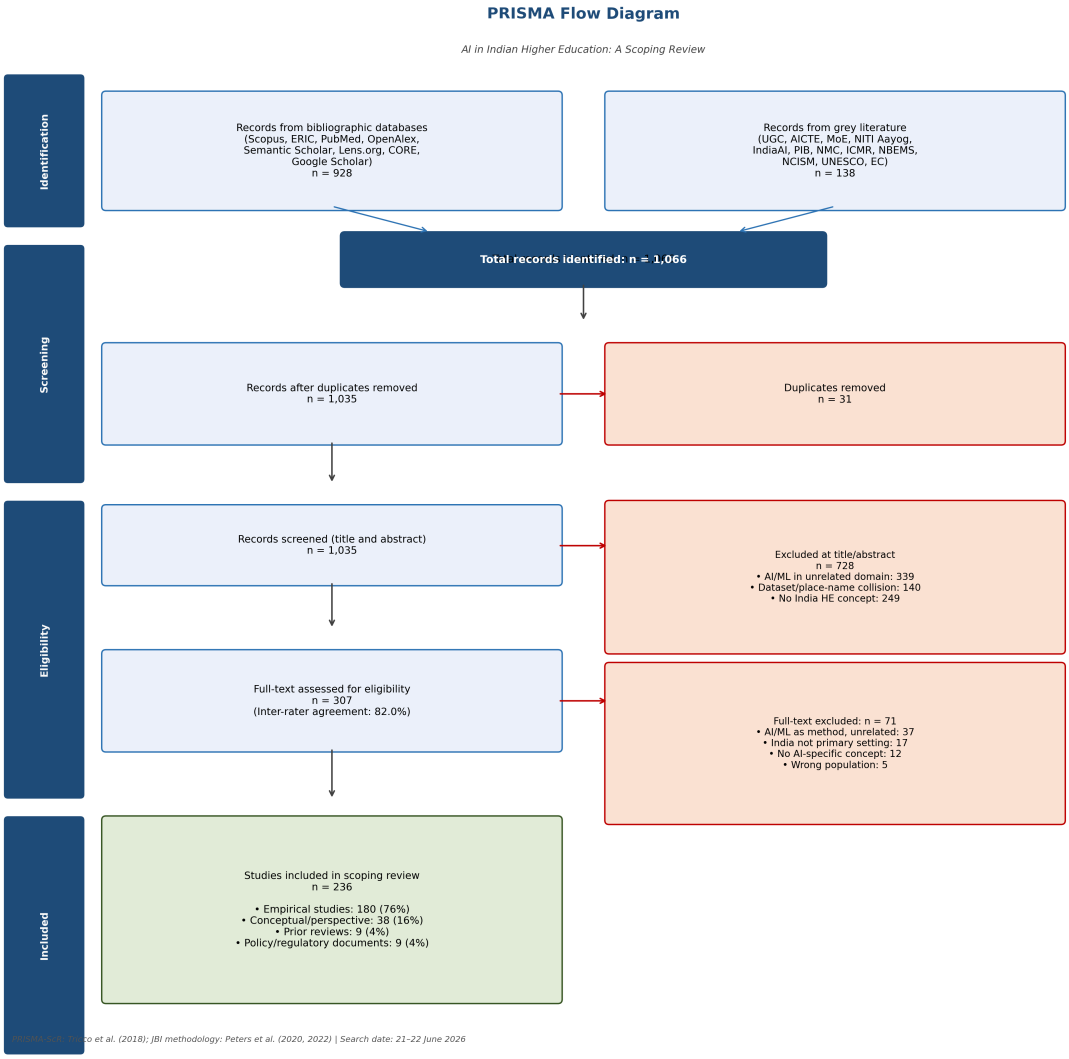


Figure 1

Figure 1. PRISMA flow diagram of the study identification, screening, eligibility assessment, and inclusion process. Records were identified through bibliographic databases and grey literature sources, followed by removal of duplicates, title and abstract screening, full-text assessment for eligibility, and final inclusion of studies in the scoping review. A total of 1,066 records were identified, 31 duplicates

were removed, 1,035 records were screened, 307 full-text articles were assessed for eligibility, and 236 studies were included in the review.

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- PRISMAScRCompletedChecklist.docx
- AdditionalFile1DataChartingDataset.xlsx
- AdditionalFile2ScreeningDecisions.xlsx