

A Systematic Review on Ai Literacy And Shaping The Future of Quality and Accreditation

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Abstract

The sudden acceleration and ubiquity of generative AI have revolutionized existing teaching and assessment practices for higher education institutions and today's university graduates need to be 'AI literate.' India's key accrediting bodies like NAAC and NIRF have been in a outdated framework with tools that do not yet have a sense of the contemporary AI context, while GenAI is poised to shake Indian education. The research has conducted a systematic review following PRISMA 2020 procedures, which included the research survey papers that can be found in Scopus, Web of Science, IEEE Xplore and ERIC databases within the years 2021-2026. The outcome reveals that along the technological and ethical focus strand, the term 'AI-literacy' is multi-dimensional as well as along the critical- and pedagogical focus strand. But the institutions with higher AI literacy projects appear to be more consistent with modified NAAC certification indicators and the current NIRF indicators do not appear to capture the concept of 'AI readiness' of the institutions. Thousands of plagiarism problems with source code and data privacy-related problems are discovered. The proposed AI-Integrated Accreditation & Literacy Index provides a framework on how AI literacy could be integrated as part of the process of accreditation. Strategic policy suggestions are provided for UGC, NAAC, NBA and HECI, which focus on homogenous approaches to the detection of AI and extensive faculty development. This assessment can be used to understand and compare these findings in the GenAI era and assist in developing the curricula and digital skills at a global or transferable level.

Keywords: AI Literacy, Higher Education, Quality Assurance, Accreditation, Generative AI, Academic Integrity.

1. INTRODUCTION

With the rapid evolution of the AI field, the need for AI literacy is crucial for developing individuals' understanding of the lesser-known impact and ethical values of AI in the world of higher education. In terms of information technology development and how to process data, it is crucial to deliver students the best possible 'AI literacy' training. This problematization and theme meta-synthesis was based on the merging of empirical and conceptual information about the AI literacy of university students. Indeed, the world of higher education is constantly changing in the light of Artificial Intelligence (AI) that expects students to acquire advanced skills and adapt their minds significantly quicker than it hopes them to master the smart devices. The enormous demand-supply gap in institutions and generative AI capabilities makes it imperative that these be the subject of study at the academic level, especially in India.

1.1 Rationale & Background: The GenAI Epoch and Higher Education Quality Assurance

The fast-rising generative artificial intelligence (GenAI) has revolutionized the existing educational frameworks and evaluation strategies in higher education. Earning AI skills has been referred to as an essential attribute of the development and stability of human rights, media and information literacy (MIL) [1]. With the speedy adoption of AI benefits by more and more organizations, AI will no longer be a buzzword in the Digital Transformation Era but will become a facilitator of corporate innovation. AI can assist companies to save resources by providing various data analysis, automation and customization options and giving them competitive advantages. In more technical areas, AI technologies and the understanding and insight of AI are gradually transitioning away from these fields. Turning strategic conflicts into their understanding and the risk and ethics of using AI in a business environment would be notable, especially for business executives. This basic awareness of AI and AI systems by everyone and society at large is necessary to allow for easy access and to act as a stepping stone to address the challenges of this easy access. The creation of AI literacy must start at the university level, as today's students will make up the workforce of the future.

One of 23 words around the concepts of media and information literacy was selected by the United Nations Educational, Scientific and Cultural Organization (UNESCO) experts; artificial intelligence literacy is one of them. Demonstrating an ability to use AI becomes increasingly seen as part of the media and information competence

(digital competence) of the experts. Much like the famous behavioral analogy study that helped to explain dog behavior, scientists' research addressing "AI Literacy" is summarized by scholars for three reasons: (1) the study of human-AI interactions and the explanation of human behaviors that occur when humans interact with AI is essential; (2) it could help measure the efficiency of AI usage and develop clear criteria of these competencies; and (3) it would help improve AI education by offering a thorough and detailed framework for the curriculum design.

While AI has already become a national treasure with various countries engaged in a race to leverage it for national development, AI for all and for national goals still needs a lot of work on the policy, academic and institutional fronts. There are still not enough initiatives to increase people's AI literacy. For instance, a literacy course could be developed for a group of college students from various college disciplines. The building of AI literacy recently has gained the attention of researchers, especially from a social/humanitarian education perspective. The dynamics of this planet are rapidly shifting and so is advancement in all the areas around which it revolves. India is blessed with one of the biggest education systems in the world and has more than 56% of its population young, working towards a better future for the country. It is very important to coordinate and use modern technologies in this huge system and also adapt students in accordance with the increasing demand of the international markets [4].

AI has transformed the education landscape by offering tools and resources that enhance students' learning experience, writing skills and capacity for research. However, one problem within the digitalization is the use of AI that can almost perform all of the human functions [5], which has raised questions of originality, authenticity and academic integrity. Despite its limited adoption and utilization in the educational system, AI's lower cost and reduced completion time supports its potential to reinvent the existing educational system in more positive ways with improved outcomes, easy access and reduced retention [6]. The collaboration between a human teacher and AI: the human teacher and AI. While there isn't a lot of data about the effect of AI on higher education, it's certainly had much more success in helping disabled people. This provides more opportunities in the wide working of AI not only in terms of the burden relief of students and teachers but also in terms of preparing huge data for supporting the works of the teachers, such as grading, test making and so on. Clarifying the fundamental character of these core skills and bringing the concept of an AI literacy integrated into every student's skill set is catching on. I would like to echo the point that the recommendations in the National Education Policy (NEP) 2020 in the Indian context on technology and critical thinking make it imperative to integrate the quality assurance mechanism with this new technology and the digital era.

1.2 Problem Statement: Misalignment Between Institutional Quality Frameworks (NAAC/NIRF) and Generative AI Capabilities

Problem Statement: It is likely that there is a gap between what generative AI can do and what the institutional quality frameworks (NAAC/NIRF) demand. Amidst the disruptive technology like GenAI [7], both the National Assessment and Certification Council (NAAC) and the National Institutional Ranking Framework (NIRF) that rank and certify the institutions in India have not provided much base to understand the abilities that GenAI brings. By adopting anti-plagiarism detection techniques in Indian institutions, plagiarism can be controlled in conventional plagiarism. Not all the Indian universities have signed up for AI plagiarism detection technologies, but some have. This is because such types of traditional tests can be avoided, as most of the universities in India lack such ability to distinguish between AI content generated and appropriate for the context and unique to the student [8]. The other significant difference between classic plagiarism (copying and pasting from a renowned source) and AI-generated content is that it does not necessarily plagiarize from any specified source and consequently might not be caught by the usual plagiarism software [8].

The existing criteria do not necessarily cover issues of institutional readiness for algorithmic risk reduction, of using AI in an ethical manner, or of AI literacy while NAAC is aiming towards AI as a ground for their evaluations. Very soon, NAAC [10] will have committed to changing the method of accreditation from a physical approach to an AI-based accreditation process. In the NIRF ranking there was no apparent indication of a 'visibility gap' with regard to AI-readiness that could alert entities to an investment need for GenAI infrastructure. The report reiterates the need for the University Grants Commission (UGC) to take up the state-of-the-art AI tools for the detection of plagiarism matter at once in all the educational institutions in the country. With students utilizing AI, having a policy or a course of action in place for one's college/institution to oversee how AI content is used is important. The study will involve analyzing AI detection monitoring in various countries across the world, including India and offer insights on the challenges of managing AI-generated content.

1.3 Conceptual Scope: Intersecting AI Literacy Frameworks with Academic Integrity and Regulatory Governance

Academic Integrity, regulatory structures for governance and frameworks for AI-literacy are tightly coupled, meaning they are connected [13]. This paper will touch upon the technological, ethical, critical and pedagogical dimensions of being AI-literate (theoretical approach for operationalization). These elements combine with distinct aspects of academic honesty that may not be “negotiable,” namely [14]: With the advent of AI writing tools, this poses a new challenge to academic dishonesty because. More highly co-productive level because the content produced by an AI such as ChatGPT might be good and high quality, but using a human voice [15]. It will be more difficult to identify if the pupil has produced his/her work or not. Although AI can help hasten learning processes and assist in generating ideas, there are a few issues with the reckless use of AI.

In this study, we aim to analyze the institutional policy that comes into being with the introduction of GenAI and to find a middle ground between the functionality and pedagogical aspects of GenAI and the ever-escalating threats of plagiarism by algorithms and algorithmic encroachments on students' privacy of their data [16]. An outstanding instance of how AI can be utilized for content material creation is OpenAI's ChatGPT. Can prepare a report—even an essay—or even a research paper very quickly from the set of instructions provided. It is easy to find and use and is often used by many of the pupils for homework solutions. As the number of student works generated by AI is increasing, students' high interaction with AI might be a sign of plagiarism, as it can serve multiple purposes in language learning through AI technology [17].

This phenomenon was found of "students obtaining varied literacy outcomes based on the different outcomes of AI literacy. The Indian students ranged in strong in multidisciplinary and practical aspects, but there were some aspects of a theoretical concept that need to be worked upon [18]. The outcomes also showed common challenges: lack of awareness of ethical and legal implications of using AI; it was identified that discussion at the school level on responsible and social uses of AI is needed. From our findings we have emphasized guidelines for action regarding course design and learning policy at global, regional and national levels in order to foster AI literacy and prepare youth for an AI-empowered society [19]. This research contributes to the literature by enhancing understanding of the characteristics of AI literacy in different education systems and providing comparative lessons to recommend globally implementable curricula and develop digital skills. For this reason, the conceptual framework of this literature review is 1) the aspects of AI literacies highlighted in the literature; 2) governance and regulations frameworks for AI in HEIs; 3) the fit (or mis-fit) between the capabilities of AI systems and institutional quality frameworks; and 4) empirical studies of AI literacy intervention and outcome.

2. METHODOLOGY (PRISMA 2020 STANDARDS)

To identify empirical studies, this systematic review followed the guidelines of PRISMA 2020. The documents from 2015-25 were analyzed by systematic literature review using the PRISMA technique. Several databases were selected to conduct the query: inter-disciplinary databases of Scopus, Web of Science, IEEE Xplore and ERIC were used to have a well-represented query of the educational technology, engineering and social sciences literature. Search and screening of papers from the last 5 years (2021-2026) as per PRISMA guidelines was done. Using a Mixed Methods Appraisal Tool (MMAT), the methodological quality was assessed. Meta-synthesis with open, axial and selective coding on the basis of the themes.

2.1 Search Strategy & Information Sources (Scopus, Web of Science, IEEE Xplore, ERIC)

Upholding the openness and reproducibility of the review process, the systematic review was done according to PRISMA 2020 principles. Literature was searched based on a multidisciplinary approach pertaining to educational technology, engineering and social sciences disciplines using the most common search databases such as Scopus, Web of Science, IEEE Xplore and ERIC [20] databases. As no single method may be most sensitive and accurate in reaching the needed information, the search method was formulated with the network of university librarians and the consultants of the various subjects involved. Boolean operators (AND, OR) were applied to the search terms to combine with “higher education,” “quality assurance,” “accreditation,” and “assessment” in order to investigate the concepts of AI literacy and artificial intelligence education. When adapting search syntaxes, specificities of these search databases have been taken into consideration. The peer-reviewed literature was limited to only those articles published in peer-reviewed journals and conference proceedings/papers at presentations as well as book chapters published between January 2021 and June 2026, as this literature is likely to represent the most up-to-date developments related to the subject. Other papers that were mentioned in the paper but did not show up in the searches and papers published pre-2018 were found by the snowball approach. The search was conducted in July/August 2026 to ensure that every possible article that was published in the literature was included.

2.2 Eligibility Criteria (PICO Framework & 2021–2026 Exclusion Matrix)

The criteria for eligibility to identify peer-reviewed articles for the GenAI period (2021 - 2026) were decided through the PICO (Population, Intervention, Comparison, Outcome) paradigm. Population: students (undergraduate and graduate), faculty and administrators of education institutions, Intervention: AI Literacy Course(s)/Initiatives, curriculum change, AI Training Module(s), institutional use of AI, comparison: AI Literacy groups, traditional methods for assessing AI literacy, pre- or post-comparison to intervention, Outcome: AI literacy indicators, institutional quality, readiness for accreditation and academic integrity [20]. Studies lacking in their empirical aspect, studies reviewing books, editorial articles and opinion articles and studies where the application area was limited only to the algorithm development phase were rejected. A few filters were also applied to render it more pertinent to the GenAI era, including publications prior to 2021, publications that were not in English and articles that lacked the description of multiple methods. One such exclusion was a geographic non-transferability, which meant that efforts made in workplaces that were significantly different from the Indian higher education system had to be thoroughly investigated for their transferability [22]. No extended abstracts were given with incomplete data and/or no duplicate publication of the same data was found and there seemed to be no studies that were methodologically weak.

2.3 Screening & Selection Process

To alleviate the selection bias, two-stage screening was carried out by two different reviewers, along with the methodological rigor. Initially, the title and abstract of all the retrieved records were reviewed for potential eligibility using the systematic review software Rayyan (web-based). Discarding of titles and abstracts and resolving of any disagreements were done. If a consensus and discussion between the reviewers was not possible, then a third reviewer was contacted [20]. The second was to solicit duplicates of all the texts of studies that might have met some of the eligibility criteria and to evaluate the texts with the complete eligibility criteria. This was because at this stage if there were any reasons mentioned for exclusion as per the PRISMA 2020 flow diagram, the studies were not included in the analysis. 38 papers that satisfied all inclusion criteria were found during the screening procedure and included in the final systematic review portfolio [20]. The screening process was captured in all its aspects to ensure that it was open and repeatable. Cohen's Kappa was used to calculate the interrater reliability (rater agreement). PRISMA 2020 R software was used to present PRISMA 2020 flow diagrams of identification, screening, eligibility and inclusion of published research and matching count for each of the screening and selection processes, respectively.

2.4 Risk of Bias & Methodological Quality Appraisal (ROBIS & MMAT Tools)

The studies were carefully detected as empirical studies included in the review using the MMAT (Mixed Methods Appraisal Tool) and data about quality and risk of bias in the reviews was detected using ROBIS (Risk of Bias in Systematic Reviews). ROBIS has four levels of risk of bias assessment: study eligibility, study identification & selection, data collection/study assessment and synthesis/concluding. Low, high and 'unclear' judgement for each one of the individual domains was applied to form the overall judgement made about the risk of bias of a review. The methodological quality of the empirical investigations was evaluated using the MMAT, which can be used for several research methods, such as qualitative, quantitative and mixed methods. For evaluating MMAT has incorporated the following: Suitability of techniques of data collection, sampling, research design and analysing rigour [20]. The result of the quality assessment was obtained by two different evaluators and the results were met through consensus discussions. None of the study were excluded because of quality scores/or applied quality ratings, although quality scores are available to help in the interpretation of the results and informing sensitivity analyses. The quality rating process enhanced the credibility and reliability of the findings of the review process, as only valid papers with methodologically sound methods were selected for synthesizing. Publication bias was assessed using Egger's tests (if applicable) or funnel plots visually inspecting the graphs.

2.5 Data Extraction & Qualitative/Quantitative Synthesis Protocol

A standardised data extraction form was created and then applied to the research to guarantee that some of the research would produce a uniform and comprehensive extraction of the data. Bibliometric information (article authors/country/publication year/journal), study characteristics (design, setting, population, number of participants) and intervention information (intervention type, duration and delivery mode) were all collected independently and within each of the articles. Due to the variability across the studies included in the synthesis in terms of design, population, treatment(s) and results, a related narrative synthesis was used instead of a meta-analysis. It was done in three phases—preliminary synthesis (textual description and grouping of studies); investigation of relationship in and between the studies; and evaluation of the robustness of the synthesis, which

is guided by the guidelines proposed by the Economic and Social Research Council (ESRC). Data received was then analyzed, looking for themes, patterns and categories. The quantitative methods' answers were represented by descriptive items: Frequency (%), Percentage (%), Mean (MI) and Range (in case of any) were used. Qualitative data were analyzed thematically, identifying key concepts and ideas. One advantage of the use of the methodology for the synthesis is that the process has been transparent and openly registered in PROSPERO [20] and should reduce reporting bias. This was done by inductively categorizing these results focused on the sub-themes that emerged from the data and summarized under the four topics they responded to.

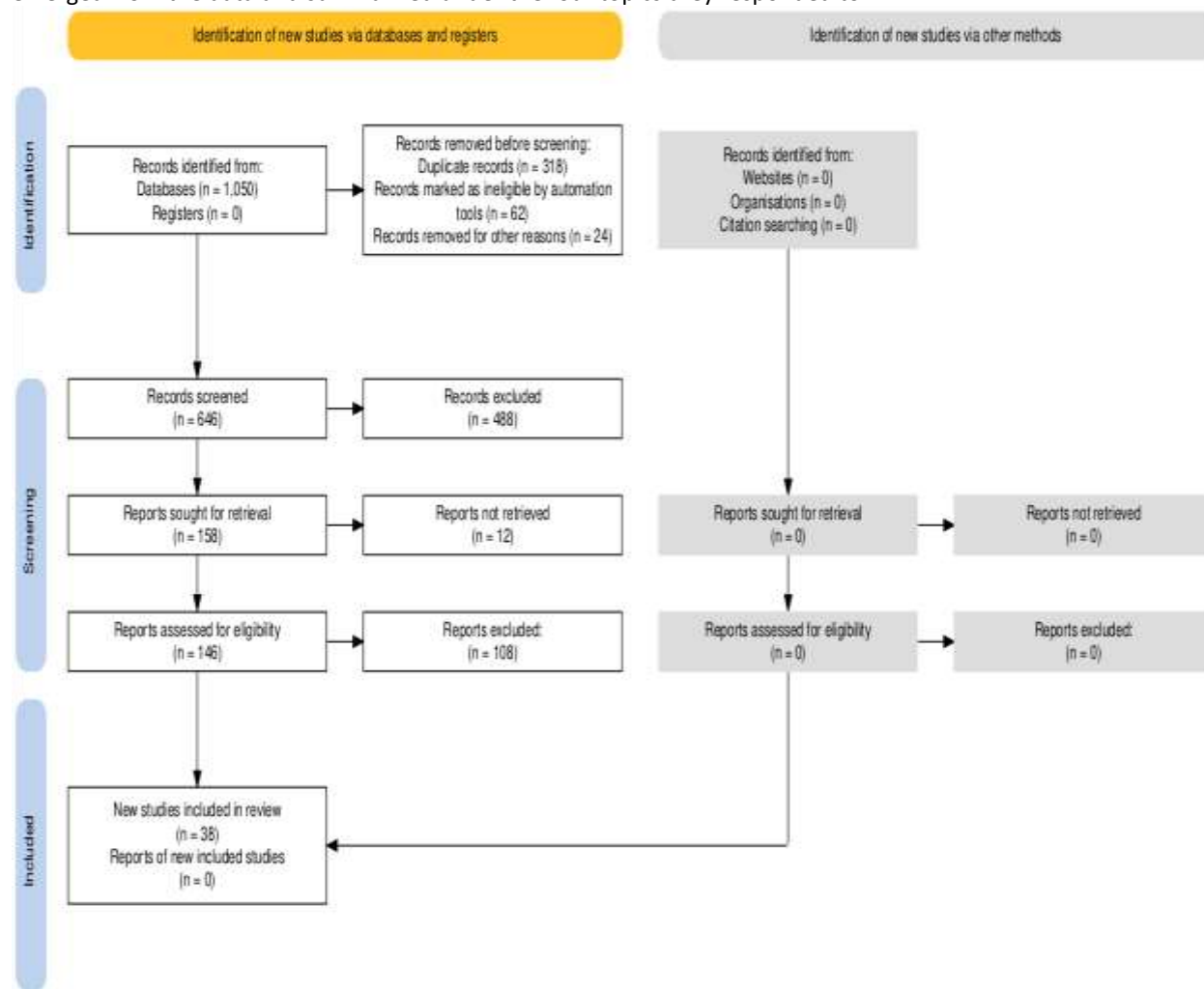


Fig 1: PRISMA 2020 Flow Diagram Dataset

[Source: Author]

3. RESULTS & SYSTEMATIC MAPPING

Empirical data is gathered and used to validate that quality assurance in education (QA) is explored in the relatively novel (and rapidly evolving) field of generative AI. The results indicate five key themes. The technical knowledge, technical skills and critical thinking (including ethical issues) that were isolated for this scoping were required for being AI-literate. Here we offer four interwoven attributes of our vision of the Integrated Model of AI Literacy: conceptual, practical, ethical and sociotechnical. In the research assessment, monitoring and supervision systems and even curricular assessment and accreditation, at present, AI systems are in place and have made a significant impact. This temporal/geographical distribution indicates that in the last couple of years (since 2022), the number of publications about science has started to rise chasing the promotion of the use of generative AI models.

3.1 Descriptive Bibliometrics & Temporal-Geographical Distribution

Descriptive analysis of the studies included (38) indicated that it was very popular from 2022 onwards, with the greatest number of published empirical studies from very similar countries compared to Croatia and Slovenia and from India. The time frame corresponds to the growing interest in academia about AI literacy in education worldwide since the end of 2022, facilitated by newly developed generative AI (g) models like ChatGPT. The geographical distribution of studies if examined would reveal that Indian institutionalization has not been lacking in contributing to the empirical literature and so belonging to the various studies conducted in central universities, semi-urban colleges, IITs and state universities could be termed as a scouting. An increasing number of indicative reservations on the research system on dual focus AI literacy and young. Research by semi-urban and rural institutes has indicated that using the study should be expanded geographically, as the majority of research studies done by the institutes in India have a focus on large metropolitan areas, the northern part of the country. It was interesting to see that the temporal analysis revealed that the highest publications were done in the second half of the year in 2024 and UGC's Agenda of Digital Intervention coincided with the implementation of the National Education Policy (NE) in the country. There is currently research done on the relationship between "AI literacy" and "quality assurance," which means institutional & regulatory instructions have a significant impact on the purposes of research. The feed with articles also depicts the differences between their production in terms of the geographic distribution. Indian learners/students, particularly in one of the areas and research scholars in particular areas of AI show distinct strength in the interdisciplinary/functional aspects, while the theoretical aspects need to be studied. Demystifying the efforts of the comparative research across different countries has also been key to identifying common issues in AI literacy education and the need to consider the specificity of the contexts to formulate relevant policy recommendations with temporal-geographical mapping.

3.2 Conceptualization of AI Literacy in Quality Standards (Technical, Ethical, Critical, & Pedagogical Dimensions)

The literature included in the synthesis shows that the concept of AI literacy consists of several dimensions that have varying meanings regarding quality in higher education from technological, ethical, critical and pedagogical perspectives. Technical: Literacy of AI, thinking in terms of concepts & algorithms and structure of data. It has now been recognized as one of the 'need to save' skills, which the student should be familiar with, along with all of the other skills [27]. Technological dimension: AI will have an implication on quality aspects due to minimal competence in AI skills, which will be demanded by the graduates when they have to successfully navigate an environment with AI. The ethical aspect of AI literacy emphasizes the responsible and transparent application of AI, ensuring fair algorithms and reducing bias, addressing privacy issues and opposing dishonesty and lack of accountability in AI-generated research, while effectively and smartly leveraging this technology, all of which contribute to maintaining academic integrity and trust in the institutions within the context of GenAI. At present there are alarming concerns about algorithmic plagiarism and the eroding concept of academic integrity [28], which is driving ethical aspects of AI in the field to become increasingly prominent in India. All these are reflected in the critical dimension of AI literacy—opportunity to assess effects of AI-generated content, engage with AI-generated content, understand limitations of AI systems and use informed judgement in relation to AI systems. These are skills directly relevant to accreditation standards focused on learning outcomes and/or graduate attributes. Again, one of the bigger disconnects in the field of AI knowledge and skills—turns out to be one of the most crucial aspects for quality assurance frameworks [29]. The pedagogical one takes into account the embedding of competence in AI in the curriculum and pedagogy, also in the assessment procedures [30]. The study reveals that all of the issues mentioned under the theme Institutional readiness for AI literacy gaps AI plagiarism check tools can recognize the unique writing style; are found as major issues, as the majority of institutions in India do not have faculty development programs. These dimensions have also been further conceptualized through the validation of AI literacy measuring tools: Therefore, the need for assessing AI competencies has been highlighted as a necessity to assess all three dimensions [31]. Increased demand for a comprehensive framework (AI) and artificial intelligence literacy capacity to develop an AI curriculum and empower the students for a successful AI society. Results also indicate that the variables are operationalized differently in institutional contexts and that a common, yet flexible framework is needed with a focus on a diversity of contexts and educational approaches. Interestingly, this wide and comprehensive idea of AI literacy can be used as a basis to incorporate AI competency requirements into current accreditation and quality assessment procedures that already focus on evaluating faculty and student AI competency (rather than the focus on evaluating individual technologies [32]).

3.3 Impact of AI Literacy on Institutional Quality & National Accreditation Metrics

From the results, it can be observed that the institutions holding a higher number of literacy initiatives of AI are well aligned in the revised NAAC binary certification criteria (2023) [33], wherein it discusses researching output,

digital facilities and employability of students. The evaluating bodies have concerns over students' learning-teaching processes and the support system of innovation ecosystems to facilitate and ease students' incorporation of AI literacy as a pro-actual breakthrough in curriculum and faculty development. The findings of the investigation show that the institutional rating of the quality criteria, such as the curriculum design, pedagogical innovations, assessment procedures and learning outcomes in relation to their students are positively correlated with AI literacy initiatives. Indicators included in NIRF, however, are unable to measure digital competencies and AI literacy, as they primarily are based on research output, faculty qualifications and diversity of students. The institutions that have invested in AI at their institutional level and introduced AI education for literacy purposes find themselves in a “unrecognized gap” as the initiatives do not qualify in the national-level rankings. The change by the NAAC to AI-based evaluation and online verification has been commendable, but empirical evidence shows the majority of Indian institutions have failed to streamline the procedure for a successful implementation of the new rules. Overall, the results indicate that there is a higher degree of AI literacy education courses in academic institutions, which may signify greater flexibility in transitioning to the world of GenAI and that academics have more confidence with integrating AI tools into education and assessment. The binary model of the accreditation system of NAAC has helped in many possibilities and problems. It is very possible that the AI LITERATE schools would be the ones being accredited, while those not able to acquire AI would not be included in the NEW assessment system. So, it is clear that incorporating AI literacy into the quality assurance and institutional accreditation and ranking process is a crucial element to contribute to achieving success. This study will lay a foundation of an empirical base for introducing AI-specific indicators in the upcoming NAAC and NIRF.

The comparison mapping shows that there was a higher level of acceptance for the terms ‘digital skills’ and ‘AI literacy’ across the international organizations (AACSB and ENQA) and use of these terms in their standards (quality statements). Indian certifiers, such as NAAC and NIRF, on the other hand, do not explicitly refer to any indicator of implementation and/or what being AI literate involves. Even though NAAC has already adopted methodology tools for its assessment, it hasn’t come up with any AI literacy outcome for the students as yet in its binary accreditation system. On the other hand, the guidelines of AACSB (Association to Advance Collegiate Schools of Business) directly require business schools to demonstrate how they have developed quality standards in utilizing technology in their business, such as data literacy, alertness to data analysis and appropriateness of the use of AI [36]. The so-called ENQA ESG (Standards and Guidelines for Quality Assurance in the European Higher Education Area) in this context takes a very concrete stance in regard to the questions of AI literacy for European institutions specifically aimed at the questions of digital skills and technical competences. It is important for further education institutions and their QA organization to reflect the provision of ‘skills for a digital society’ that are relevant to AI [36].

However, the idea of AI literacy in the Indian context is lagging behind as far as the amendments by the NAAC are concerned; NAAC's amendments are applicable to “expediting accreditation process” for speedy accreditation of various institutions instead of their outcome of being “AI literate.” Coming to the ranking parameters, there is a huge gap in the existing NIRF parameters, which focus on research output, graduation and faculty status [37] and in the ranking parameters in terms of AI-readiness of institutions and AI-literacy of students. This places Indian institutions in an unfavorable light because of this, especially in the international arena, where ‘technology preparedness’ and ‘digital skills’ are now playing a significant factor. The comparative study also reveals that on the score of theoretical understanding of AI and ethical AI literacy, Indian institutions have achieved a low score, whereas on how to use AI applications in various aspects of life and theoretical understanding, institutions have achieved a high score as compared to other countries. These findings indicate that the international recognition agencies need to push the much-needed development and inclusion of AI literacy indicators in their quality assessment framework to align higher education in India with international standards and to enable Indian students to cope with the opportunities and challenges of an AI world [38].

Table 1: Comparative Mapping of International Benchmarks (AACSB, ENQA) vs. Indian Accreditation Standards (NAAC, NIRF) Relative to AI Literacy] [35, 36, 37, 38]

Aspect	AACSB (Association to Advance Collegiate Schools of Business)	ENQA (European Association for Quality Assurance in Higher Education)	NAAC (National Assessment and Accreditation Council)	NIRF (National Institutional Ranking Framework)

AI Literacy Integration	Explicitly requires AI literacy as a foundational competency. The AACSB 2026 Global Standards make AI literacy a formal accreditation requirement, with Standard 4.3 focusing on Digital Agility.	Provides guidelines for the responsible use of AI in quality assurance agencies. ENQA's 2025 workshop and subsequent guidelines emphasize that AI should serve strategic objectives and ensure transparency, data protection and equitable access.	Transitioning to an AI-driven assessment system. The new framework replaces physical inspections with AI-driven assessment and online document verification, moving towards a tech-driven, continuous quality monitoring system.	Lacks explicit AI literacy or AI-readiness indicators. The ranking parameters currently focus on research output, graduation outcomes and faculty qualifications without explicit consideration of AI readiness [34].
Key AI-Related Requirements / Focus	• Formal Requirement: AI literacy as a foundational competency for all business graduates. • Curriculum Integration: Emphasis on embedding AI literacy, ethical reasoning and experiential practice across curricula. • Outcome Documentation: Schools must document learning outcomes, assessment results and evidence of improvement.	• Strategic Alignment: AI must serve strategic objectives. • Transparency: Ensure transparency in AI use. • Data Protection: Protect data and require consent. • Equitable Access: Guarantee equitable access to AI.	• AI-Driven Assessment: Eliminates physical visits for basic ratings. • Digital Verification: Shifts to an online database powered by AI. • Binary Accreditation: Moving from traditional grading to an accredited/not accredited model [33].	• No AI-Specific Parameters: Current metrics do not evaluate AI infrastructure, digital visibility, or AI literacy outcomes [34]. • Visibility Gap: Institutions investing in GenAI infrastructure lack recognition in rankings.
Evidence of Implementation / Institutional Readiness	AACSB: Business schools are shifting from AI experimentation to strategic integration. A 2026 report highlights AI literacy as a foundational competency, with schools moving from "whether to require it" to "how to embed it."	ENQA: Published a decalogue of recommendations for AI application in higher education, focusing on ethical and responsible use.	NAAC: Launching a new AI-based accreditation system in August 2025, targeting 90% coverage in five years. Example: Graphic Era University, ranked 48th in NIRF 2025 and NAAC A+	NIRF: Data shows that 45% of NIRF Top 100 institutions score between 60 and 70 on an AI Visibility Index, with only 10% scoring above 70. Example: IITs (Madras, Delhi, Bombay) and AIIMS Delhi score at the top for digital visibility and brand trust.

			accredited, is India's first Generative AI Ready Campus.	
Institutional Performance Indicators	AACSB: The 2026 State of Business Education Report urges institutions to embed AI literacy, ethical reasoning and experiential practice.	ENQA: Guidelines stress that AI should not drive strategy but serve it, ensuring that technology complements human judgment.	NAAC: Institutions with stronger AI literacy capabilities are more likely to achieve accreditation status in the new binary model [33].	NIRF: AI Visibility Scores vary by discipline: Management (65.38), Engineering (61.48), Medical (58.08). Private vs. Public: Private institutions perform better on student-experience-led dimensions, while public institutions lead on Brand and Trust.
Challenges / Gaps	AACSB: Even top global universities like Cambridge and Harvard have digital blind spots in student conversion journeys and communication on trust and aid.	ENQA: The guidelines highlight the challenge of AI "overinflation" and the need for accountability to prevent misuse.	NAAC: Most Indian universities are not sufficiently prepared to implement new AI-driven requirements effectively [34]. AI Plagiarism: Majority of Indian universities lack tools to identify AI-generated content.	NIRF: Current indicators do not capture institutional AI-readiness, creating a visibility gap [34]. Digital Blind Spots: Many NIRF-ranked institutions show gaps in international readiness, funnel efficiency and transparent scholarship communication.

4. DISCUSSION: THE INDIAN HIGHER EDUCATION CONTEXT

The results underscore the importance of acknowledging the multi-level and multi-layer quality assurance of generative AI in educational environments. Literacy with AI is important, particularly as part of the higher education sector. Lastly, educators and/or HEIs involved are responsible for conducting programs for developing AI literacy skills. At least with regard to technology and digital skills in Indian schools, it is miniscule compared to the vision that has been stated in NEP 2020. The problems that were identified primarily are lack of infrastructure, lack of technical competence and lack of funding, as well as resistance towards changes in organizations. The comparative synthesis shows that there is a visibility gap due to the lack of well-defined AI literacy indicators in accreditation agencies like the NAAC and NIRF on the university level for investments in GenAI.

4.1 Integration with National Education Policy (NEP) 2020 & UGC Digital Mandates

Thus, the higher education of the country has an inflection point in the shape of the more sophisticated and comprehensive national education policy 2020, which proposes a 'blueprint of blueprints' pertaining to higher education, where technology integration and digital capabilities play an important role in changing the status quo. This approach puts Indian institutions in a position to make generative AI pedagogically a possibility, rather than a threat (emphasis on critical thinking, cross-disciplinary learning, technology used in the learning and teaching process, etc., are considered as a by-product and AI literacy off-takes naturally [1]). The multi-dimensional nature of AI literacy (both technical knowledge about AI and critical thinking skills related to the ethical impact of AI in society and the possible pedagogical usage) entails direct links with the more general education aims and goals declared in the NEP 2020 policy [2], while the concept of AI literacy present in the literature is full of theoretical

concepts that can serve as fertile ground to work out the vision from NEP 2020. There is empirical evidence that demonstrates that such an ethical pedagogy, when applied organically and intervened by theory, can result in a remarkable improvement in AI literacy and moral competency along with educational equity—at least in the context of higher education in India. Hopefully, this will motivate NEP 2020 visions to come to life.

Given that NEP 2020's needs in terms of capacity building are equally important in the transition to technology [5], the call to empower teachers in the use of AI makes perfect sense. Notably, the results gained through the efforts of the computational modelling are not just aspirational; the results showcase the need and drive for and report on NEP 2020's vision of implementing AI in Quality Assurance [7] as described. However, the situation on the ground indicates that a vision of a digital university such as that envisaged in NEP 2020 is far from becoming a reality and would need proactive action not just in India's non-performing universities but for several other reasons: Clarity regarding the impact of AI in the regulation, readiness of universities and readiness of faculty [9]. This disconnect between policy design and the reality of institutional practices could only further bolster the need for targeted policies such as the design of standard AI education curricula, teacher preparation models and support mechanisms from all institutions that can contribute towards a policy goal of achieving a visionary NEP 2020 and educational outcomes [3].

4.2 Accreditation Vulnerabilities: Algorithmic Plagiarism, Data Privacy and Evaluation Reliability

The empirical evidence reveals that the Indian certification systems in the GenAI era are highly susceptible to algorithmic plagiarism detection, data security and the trustworthiness of AI tools employed for assessment. While in theory, the shift of NAAC to adopt AI as its assessment tool is a step towards the right direction, it brings with it the danger to the institutions of the country, as many colleges in India are not prepared to engage in observations on AI-created content that is part of content plagiarism [8]. The problem is that the AI-generated content detection is not like copied material—no copy and pasted published content is even copy-pasted, so that can't really be truly detected in the standard plagiarism detection tools like Turnitin and Grammarly [10]. traditional plagiarism practices, students plagiarize by copying. As AI continues to evolve and with all of these new and improved tools (such as ChatGPT [11]) coming to fruition, it becomes even more concerning knowing whether you are reading content created by AI or whether your student has actually done this themselves.

The risks are also in the systematic handling of persons' sensitive data, such as their institutional and student data, which is sent to the AI during the certification process, with 90% of all the cases implemented in 5 years [12]. AI tools offer ready-to-use and accessible supports, making it even easier to fall into these issues of academic integrity as students continue to use them as supports in their work. This might not be easy if they are not done separately but are dependent on AI [15]. The use of AI can help enhance learning processes and potentially support the ideation process when done correctly, but poorly used AI can open up several issues related to maintaining educational integrity and ethics [16]. The recent empirical studies of the academic integrity problem highlight that academic integrity is getting affected and inadequacies in technology infrastructure and inadequate training of teachers on techniques for generating academic integrity in AI are found in semi-urban colleges. This is a sporadic knowledge of these vulnerabilities by the accreditation system that has taken the shape of "level playing field," and this has circumvented the integrity of the Indian accrediting system [18]. This emphasized the need for an integrated view at the national level regarding AI governance in higher education, as currently there are no standardization methods for detecting, data security principles, or even methods for standardized assessment of the reliability of data.

4.3 Comparative Synthesis of Empirical Literature on AI Literacy vs. Accreditation Readiness

Comparative synthesis of empirical research indicates a complicated relationship between AI literacy interventions and the context of institution accreditation preparation. By taking into account the criteria of quality assurance, overall results indicate that the institutions with a pre-existing high-level AI literacy program have a higher performance level. There are remarkable disproportionities found between different national contexts when considering students' literacies with AI in the universities with a transnational survey. With regard to the interdisciplinary aspects of AI, there should be a lack of theoretical knowledge and the expertise of the Indian students is particularly apparent. When it comes to those seeking higher education, everyone's AI literacy is not equal; there are great differences depending on the educational background of the subject, the educational institution and the availability of technological tools [24]. The same is true with respect to the special attention given to the research academics in Indian universities.

As the students' exposure to the technologies of AI continues to expand, the perception of India's AI, available at a relatively surface-level understanding, becomes increasingly thought of as the students come to know and avail AI

yet fail to understand the same and not critically evaluate AI [25]. On the other hand, the critical study of Indian students' attitudes towards the use of AI in education pointed out that students are aware of the benefits that AI can bring to their learning, but there are also concerns about the ability of AI tools to take away the sense of critical thinking in students, perpetuating educational inequities and its potential misuse for academic dishonesty. A crucial examination of Indian youngsters's attitudes in direction of the use of AI in training [27] discovered that whereas youngsters do appreciate the contribution of AI in training, they're additionally anxious about points like academic honesty, growth of pondering skills and exacerbation of training disparities. The opinions of multi-stakeholders on what should be done to make the competency better in AI for future leaders are presented, which shows that one-off activity is not enough; there is a need for combined activity of the future leaders through the development of an AI curriculum and the development of faculty members and institutional policy that has a meaning to help improve the competency of AI for future leaders [29]. However, the study of Indian university students to investigate their acceptance of information literacy and generative artificial intelligence (acceptance of AI) [30] found that two significant factors, "perceived ease of use" and "perceived usefulness," impact the acceptance of generative artificial intelligence (AI). This implies that any efforts to have educational institutions making a difference in terms of AI literacy need to be done with the cognitive and affective dimensions of AI literacy in mind.

Empirically, we find there are many dimensions in which a positive relationship between AI literacy programs and a variety of institutional quality measures exists. As for the impact of education on AI literacy for the students based on the measurement of the end results of education, there was a positive correlation between the positive change in the learning outcomes of students and the positive change in the employability of students or the effectiveness of the institution in relation to the accreditation measurement through the conduct of organized work on AI literacy [23-33]. This also means that there can be a lot of different levels of effectiveness of measures based on the context of the institutions, the way in which they are implemented and what aspects of AI literacy they are focusing on [31]. The conclusions from the summary also indicate that those institutions that provide an 'AI Abundance' approach to AI literacy (which touches on the technical, ethical, critical and pedagogical aspects) perform better in the Liverpool Quality results than those with a one-dimensional approach and those that take a fragmented AI-literacy approach.

Table 2: Comparative Synthesis of Empirical Studies on AI Literacy Interventions and Quality Assurance Outcomes

Study Reference	Population/Sample	AI Literacy Intervention	Key Quality Assurance Outcomes	Methodological Quality
Mansoor et al. (2024) [23]	University students (transnational, including India)	Comparative survey of AI literacy levels	Disciplinary and applied AI strengths; theoretical gaps identified	High (cross-sectional survey)
Vijayakumar et al. (2025) [24]	Research scholars (Indian institutions)	Assessment of AI literacy among research scholars	Uneven distribution; variation by discipline and institutional type	Moderate (conference proceeding)
IEEE Xplore (2026) [25]	University students (Indian classrooms)	Investigation of AI knowledge in classrooms	Superficial understanding; familiarity without depth	Moderate (database record)
Library Search (2025) [27]	Indian university students	Critical analysis of student perspectives	Recognition of AI benefits; concerns about integrity and inequality	Moderate (journal article)
Gupta & Jaiswal (2024) [29]	Multi-stakeholder (Indian higher education)	Analysis of AI competency development	Need for coordinated curriculum, faculty and policy efforts	High (journal article)
DOAJ (2026) [30]	University students and research scholars (India)	Extended TAM study on GenAI	Perceived usefulness and ease of use	Moderate (open access)

		acceptance	predict AI acceptance	
Mukhopadhyay (2024) [31]	Indian higher education stakeholders	Impact analysis of GPTs on AI awareness	Enhanced awareness; need for structured frameworks	Moderate (journal article)
NAAC (2024) [33]	Indian higher education institutions	AI-enabled assessment and data verification framework	Binary accreditation outcomes; institutional readiness gaps	High (policy document)

4.4 Proposed Operational Framework: AI-Integrated Accreditation & Literacy Index (AI-ALI)

Lastly, an operational model, 'Empirical Synthesis and Comparative Analysis,' for the prospect of integration for AI literacy assessment in the Indian certification and quality assurance process is presented. The AI-Integrated Certification & Literacy Index (AI-ALI) aims to enhance quality assurance for the required certification to fill gaps in the existing certification practices, such as literacy or numeracy [7], with AI. Given that the whole institutional quality assessment is closely connected with other aspects of the evaluation, especially AI literacy, as evidenced in the results of the computational modelling [7], the framework ensures that the comprehensive AI assessment is also linked to this aspect. AI-ALI aims to address some of the limitations and complexities of the existing accreditation system, such as algorithm-based plagiarism detection tools, the fear of data privacy, reliability of assessment, etc., by providing a common and uniform mechanism for assessing the competencies in AI literacy that can be implemented across all institutions in India.

The proposed framework is mostly 4 dimensions: Technical AI Literacy (evaluation of AI concept, algorithm and application); Ethical AI Literacy (evaluation of responsible adoption of AI and mitigating bias and privacy protection); Critical AI Literacy (evaluation of critical reasoning of AI results and making decisions); and Pedagogical AI Literacy (evaluation of embedding AI in teaching, learning and assessment processes) [12]. To overcome the problem of lacking visibility in the current AI ecosystem, funding for building AI infrastructure to support GenAI can be combined with the addition of currently available NIRF metrics to AI-ALI's AI-readiness metrics. Within the context of the implementation of AI-ALI, common assessment tools and training of institutions' faculty and support systems for using common tools during various trainings are needed. The operationalizing of AI-ALI consists of standardization assessment tools and faculty training, as well as institutional supporting systems, which help in the uniform implementation within institutional settings. This can be flexible and be adapted by institutions as they discover and be subject to the demand of their country's legislation and quality assurance system [35].



Figure 2 : The AI-Integrated Quality Assurance & Accreditation Framework (AI-QAAF)] [7, 11, 12, 34, 35]

5. IMPLICATIONS, LIMITATIONS and FUTURE DIRECTIONS

The research findings suggested that the government should have a national standard on how to set the level of AI for literacy, which is not only offered for technical education, but it could also be a literacy program and/or mandatory training on using AI ethically. The students might benefit from having an awareness of expectations on this. Present a discussion class through a combination of teachers' qualifications as professionalization in the art pedagogy of AI. Methodological limitations are (1) possible publication bias (2) No non-English/grey literature. Designs of future study should be given the greatest priority and methodological triangulations and cross-cultural validations as well as longitudinal-interventional designs should be considered. The feasibility of the proposed AI-integrated accreditation & literacy index (AI-ALI) for use in various settings needs to be tested empirically.

5.1 Strategic Policy Recommendations for UGC, NAAC, NBA and HECI

It is an all-encompassing analysis, along with a number of recommendations for the Indian higher education authorities that can help them move in the right direction to address some of these gaps: institutional readiness, accreditation systems and AI literacy. The UGC has also mentioned the evidence towards putting in place a national-level AI literacy minimum competency standard for all subjects/compulsory faculty development courses and integration of the same in undergraduate/postgraduate courses. The evidence of computational modelling indicated by UGC, though, suggests that AI could be systemically integrated in the accreditation framework [7], which should be adapted in all higher educational disciplines, especially in AI applications in disciplines and ethics. Even though the call of action from the regulators had begun and would be soon required, as CERTIFICATE stands out as a common approach for the large majority (73%) of the universities in India in assessing the submitted texts by AI-generated steps, the common assessment process with the lens of Academic Integrity guidelines [9] is recommended. If we aspire to reach the NAAC target of 90% institutionalization coverage of user-friendly AI-based systems of certification within 5 years [11], then there are some policy interventions needed that need to support the efforts of institutions to meet the literacy requirements.

Specifically, the binary nature of NAAC's accreditation and AI-readiness of institutions, AI-literacy of students and AI-competency of faculty, highlighted in the above-cited review [12] and the incorporation of AI in education programs (teaching, learning and evaluation) should be called into question. Based on the results of empirical data on academic integrity vulnerabilities [18], it suggests the need to design a minimum level of academic integrity and tools and procedures should be developed to prevent the use of artificial intelligence to create content in NAAC to ensure academic integrity. The review by UGC on plagiarism in the doctoral research in the context of the use of AI tools offers outcomes for future plagiarism at a more detailed level and the suggestions provided in the review towards more comprehensive institutional policy with respect to plagiarism at all academic levels are a welcome step towards the direction of more detailed institutional policy. However, the recommendations given in the comments, as well as the changed UGC guidelines for plagiarism in doctorate research using the AI, might be a try towards a more holistic institutional policy. The guidelines for plagiarism need to be detailed and quantifiable at all levels of teaching and learning with penalties as per the rules. With this review, it proposes that all the above frameworks should be expanded to include a comprehensive AI literacy assessment in all four dimensions—technical, pedagogical, ethical and critical [34]—and finds a positive note on the integration of this process to implement NAAC.

The assessment tools, developed by the National Board of Accreditation (NBA) and the Higher Education Council of India (HECI) suggests developing AI literacy indicators for different programmes considering the needs of the different curricula [35]. The AI readiness of the top 100 NIRF Institutions (60-70 range = 45% and >70 range = 10%) indicate that still quite a lot is left to do in industry. This is not to suggest that there is the lack of extensive use of AI integration such as building an AI ready campus in India which could be replicated [37]. But this assessment indicated that these programmes be expanded to all classes of students and it also paid attention to AI literacy, there was a rise in number of Artificial Intelligence (AI) and Machine Learning courses offered by the different Institutions in India, which shows a growing cognizance of the relevance of the technology. HECI needs to support this coordination towards the making of national level AI standards, sharing of the standards across the institutions and develop a mechanism to reward the successful institutions for AI Literacy Development [35]. To ensure the certification and ranking processes to be more consistent and also to provide some flexibility in the implementations, it is also suggested that a national system to assess competence in AI be created by a collaboration between all the regulatory bodies [36].

The study has revealed that internationalization of AI in accreditation systems is in its initial stages [37] and points out that looking ahead, the Indian accreditation system should look into starting the internationalization via collaboration/benchmarking or could use pre-existing benchmarks embedded in the international systems such as the AACSB and ENQA, where AI literacy has already been integrated at the accreditation level. Finally, given the newly christened review cycle expectations for all regulators to establish for the AI literacy requirements and the rapid pace of technology advancement and learners' needs, the following case study will be explored.

5.2 Methodological & Theoretical Review Limitations

The methodological limitations, as well as the results and suggestions of this systematic review, should be taken into consideration. The search procedure has been carried out as per PRISMA 2020 guidelines, which has been conducted in a transparent manner with results of the reproduction leading to the identification that the relevant studies are not included in the search procedure due to their publication in a non-English journal or because they have been interacted with grey literature or in a regionally predominant journal. The studies surveyed over the last 20 years (2021-2026) are vital to capture the current age of GenAI; however, they might not have captured all studies prior to 2021 related to AI literacy that are relevant to the discussions [20].

Although the studies in K-12 were methodologically filtered out to make sure that higher education is rich with a context to study, there are certain aspects buried in the studies that were not considered and would perhaps have pedagogically sensible implications when considered. The focus set by legislation on the essential contributions of AI literacy treatments and its links with quality assurance outcomes might have overlooked some of the key AI-related research, which draws on other aspects of AI in higher education—including administrative efficiency or AI in research methods—among numerous others. When referring to the categories of design, population, intervention and outcomes, the wide range of types of studies used makes the synthesis of empirical studies with quantitative outcomes and those pre-declining a meta-synthesis difficult.

On the other hand, the study also has limitations in the theoretical section, as it adopts existing theories of AI. The literature that focuses mainly on technical, ethical, critical and pedagogical aspects might not necessarily be enough to cover the more recent challenges such as AI emotional intelligence, AI creativity, or AI collaboration skills that are increasingly emerging skills in the world of work [22]. The proposed AI-Integrated Accreditation & Literacy Index (AI-ALI), although formulated on the empirical synthesis, requires empirical research, more studies and inputs from different stakeholders for it to be tested and constructed before application [22]. A lot of disconnect agreed—difficult to get good guidance on the comparability of data across frameworks and across frameworks (AI literacy) to be able to directly adapt international frameworks for certification.

However, one problem is that there may still be publication bias—that is, maybe existing therapies are exaggerating the impact of their therapy. There are library interventions for AI literacy that have a proven success rate (and a few that don't), but it's unfortunate that those that don't are not as likely to be published.

5.3 Agenda for Empirical Research (2026–2030)

The research agenda lists important gaps in the existing research, methodological weaknesses in the research that has been conducted and new questions about the topic that could be addressed in future research to drive practice/policy [24]. The evidence of AI literacy suggests there may be some areas lacking—both within disciplines and between types of institutions [24] and more longitudinal research is needed to see how students' AI literacy changes over their degree(s) from undergraduate to doctorate. This effect on the learning outcomes of Gen Z in Northern India [26] can be expanded to our large-scale, multi-institutional research and can give clues as to which factors can be tweaked to impact the link between AI literacy and learning outcomes.

Future study aims could be aimed towards the validation of the responsible AI-readiness framework in India among the faculty. Additional development and a trial of the approach are still needed to ensure teachers' readiness with regard to AI in their pedagogy, class assessment and/or research-based activities [28]. The need of the hour is to think of the use of generative AI in Indian universities as an intervention study [30] and as a longitudinal study that would track the journey of generative AI acceptance and use over the next few years. Some instruments are developed and validated to measure the AI literacy; there is still a need to further improve and validate them and make them universally applicable in different institutions of India [32].

The 'binary' accreditation process from NAAC and an AI-based process of assessment can trigger studies that would not have taken place about the impact and advances of these changes. Further studies should be undertaken to gain a deeper understanding of these institutions' ability to align themselves to the new requirements, what they consider as success and what is linked to AI in quality testing [33]. Further work needs to be done to understand how the new metrics will affect institutions' behaviors (and consequently, effectiveness)

and whether ranking systems can be used as proxies for educational quality by considering how AI literacy could be integrated into ranking systems as outlined in the AI-readiness indicators [34]. New models of AI integration, such as the generative AI-ready campus model [34] deployed in Indian universities, need to be explored for understanding what is working well, what can be learned and what can be adapted to be deployed in other universities.

The range of this research agenda is quite broad, extending not only toward increasing the number of learners that get access to greater AI literacy, but also toward how interventions that can increase AI literacy impact broader educational outcomes and inequities, as well as how interventions can lead to greater AI literacy of learners with differing socioeconomic characteristics. There is a need for more scientific studies to gain understanding of ethical issues of using AI in HE, such as the issue of algorithmic bias in AI-assisted assessments, privacy issues in AI-enabled learning analytics and the creation of ethical guidelines for using AI responsibly in education [26].

Last but not least, focus on intervention research with research designs (e.g., quasi-experimental designs, randomized controlled trials and mixed-methods designs) that will enable students' components to assume causality and identify mechanisms is emphasized. Various types of Indian institutions, such as central universities [28], state universities, private institutions and technical institutes, can be compared to find out the problems and solutions within the specific context. It is suggested that the AI-Integrated Accreditation & Literacy Index (AI-ALI) [33] should be pilot tested and then validated & developed in collaboration with some TRADING PARTNERS. This research agenda for the next decade (2026–2030) aims to build a strong evidence base [34] to successfully leverage policy and practice in Indian HE in the GenAI era.

Table 3 : Risk-Benefit Matrix and Governance Guidelines for AI Literacy in Higher Education Quality Assurance

Dimension	Risks / Vulnerabilities	Benefits / Opportunities	Governance Guidelines	Key References
Academic Integrity & AI Detection	• Majority of Indian universities are not sufficiently prepared to identify AI-generated content that is contextually relevant and original, allowing it to bypass traditional plagiarism checks [15]. • Unlike traditional plagiarism, AI-generated content does not directly match any published work, allowing it to bypass regular plagiarism checks such as Turnitin and Grammarly [15]. • Students may use AI to complete assignments and research dishonestly without detection [15]. • The ease of access and use of AI tools like ChatGPT raises concerns when students depend too much on AI instead of conducting their own work [15].	• AI tools like ChatGPT can be useful for learning and improving writing when used ethically [15]. • Ethical use of AI accelerates the learning process and helps when brainstorming ideas [15]. • AI detection tools can identify unique writing patterns that suggest AI-generated content [15].	• UGC must introduce advanced AI detection systems across Indian universities [15]. • Universities need proper policies to regulate AI-generated work in student submissions [15]. • Implement structured frameworks including AI detection tools, ethical guidelines and awareness programmes to help students use AI responsibly [15]. • Establish clear guidelines to ensure responsible AI use in academia [15].	[15], [16], [17], [18]
Information-	• Science research	• Generative AI can	• Institutions must	[16]

Seeking & Research Integrity	scholars at Bangalore University face challenges in distinguishing between AI-generated and authentic research content [16]. • The integration of generative AI into information-seeking patterns may lead to over-reliance on AI-generated summaries rather than primary sources [16].	enhance information-seeking efficiency and provide quick access to synthesized knowledge [16]. • AI tools can support research scholars in literature review and data organization [16].	provide training on responsible AI integration in research workflows [16]. • Develop guidelines for appropriate use of generative AI in academic research [16].	
Academic Integrity Erosion	• Empirical investigation among students at Government semi-urban colleges reveals erosion of academic integrity due to unrestricted access to AI tools [17]. • Students in semi-urban colleges with limited technological infrastructure and inadequate faculty training on AI detection face greater vulnerability [17].	• AI tools can serve as educational equalizers when properly integrated into teaching and learning [17].	• Implement AI awareness programmes targeting students in resource-constrained institutions [17]. • Strengthen faculty capacity building on AI detection and prevention strategies [17].	[17]
Regulatory & Policy Gaps	• In the ChatGPT era, traditional answers are no longer sufficient evidence of student learning or assessment validity [18]. • The absence of clear regulatory frameworks creates inconsistency in AI governance across institutions [18].	• Regulatory frameworks can provide consistent standards for AI use across institutions [19]. • Clear policies can balance pedagogical utility of GenAI against the risks of misuse [19].	• UGC must develop revised regulations governing the use of AI tools and plagiarism in all levels of study, not just doctoral research [19]. • Extend AI guidelines beyond doctoral research to all levels of study [19]. • Establish clearer consequences for AI-related academic misconduct [19].	[18], [19]
Faculty Readiness & Professional Development	• Responsible AI-readiness among Indian faculty remains insufficiently validated and unevenly distributed [28]. • Faculty lack adequate professional development programs	• Validated frameworks for responsible AI-readiness can guide faculty development programs [28]. • Empowering educators with AI competencies	• Develop and validate comprehensive frameworks for responsible AI-readiness among Indian faculty [28]. • Implement structured professional development programs for AI	[28]

	for AI integration into teaching and assessment [28].	enhances institutional quality and student learning outcomes [28].	integration [28].	
AI Literacy Measurement & Assessment	- Without validated measurement instruments, AI literacy assessment remains inconsistent and unreliable across institutions [32]. - The multi-dimensional nature of AI literacy (technical, ethical, critical, pedagogical) requires comprehensive assessment approaches [32].	- Validated AI literacy scales enable standardized assessment of student competencies [32]. - Reliable measurement supports evidence-based curriculum design and quality assurance [32].	- Adopt and adapt validated AI literacy measurement instruments for Indian higher education contexts [32]. - Assess AI literacy across all four dimensions: technical, ethical, critical and pedagogical [32].	[32]
Institutional Visibility & Ranking	- NIRF rankings lack transparent indicators for AI-readiness, creating a visibility gap for institutions investing in GenAI infrastructure [36]. 45% of NIRF Top 100 institutions score between 60 and 70 on the AI Visibility Index, with only 10% scoring above 70, indicating significant room for improvement [36].	- The AI Visibility Index provides a benchmark for institutional AI-readiness [36]. - Institutions can leverage AI-readiness metrics to demonstrate competitive advantage in rankings [36].	- Integrate AI-readiness indicators into NIRF ranking parameters [36]. - Encourage institutions to invest in AI infrastructure and literacy programs to improve visibility scores [36].	[14], [36]
Digital Literacy Foundation	- Digital literacy in the AI era requires new competencies beyond traditional digital skills [14]. - The rapid evolution of AI technologies creates skill gaps among students and faculty [14].	- AI literacy builds on established digital literacy frameworks, providing a foundation for lifelong learning [14]. - Comprehensive AI literacy scales can guide curriculum development and student preparedness [14].	- Develop and validate AI literacy scales for college students that build on digital literacy foundations [14]. - Integrate digital and AI literacy into core curricula across all disciplines [14].	[14]

6. CONCLUSION

The theory-driven approach to ethical use of AI in pedagogy holds great significance in the field of the Indian educational system's mental health vetting, because it helps in the detection and improvement of the awareness and moral development of AI and in improving its equity in the field of education. This provides tangible support to help back up NEP 2020's lofty goals. Capacity building needs as identified by NEP 2020 matched the thinking in conceptual and direct alignment of the needs to educators' practices of engaging with AI. The possible results of the calculation modelling here can be Technologically supported quality assurance can be more than a tendency

towards the optimal: it can be part of a certification system. The integration of the AI mechanism in the certification process by the NAAC and having empirical data also underlined the importance of embedding AI literacy in the education system at the higher level in India. The methodological rigor of this review, according to PRISMA 2020 requirements, guarantees the validity of these conclusions and their implications for practice and policy. The AI-Integrated Accreditation & Literacy Index can be utilized as a tool to integrate the evaluation of AI literacy into quality systems and procedures of the quality assurance.

While welcoming the GenAI age, it is important to recognize that the data systems of Indian higher education institutions face numerous other hurdles but also a completely new avenue for innovation and transformation—in the context of certification and ‘Search for Excellence.’ Overall, the empirical findings from this analysis show that the closer that the institutions are to a complete “AI Literacy” proposal, the greater the chance of implementing this proposal as a success. That is, where does your institution stand with respect to becoming AI-proficient and what is really the value of your institution's excellence? But there are some clear and grave drawbacks to accreditation systems that need the focus of legislators—and collective action on the part of accreditation bodies, including data privacy, reliability of assessment and ‘algorithmic plagiarism.’ So, when India is mapping, it should also measure against those countries doing the same globally and record it, as some of the measures involved in AI literacy will affect India's competitiveness in the global marketplace. The steps within the operational structure and its associated governance framework specified in the plan are steps towards this transition, moving towards a middle ground that preserves the integrity of the educational practices while simultaneously building trust in educational institutions and maximizing the value of AI as an education enabler. As in any topic, AI education and literacy are the conversation hotspots that single out the existing “education quality systems” as being a “ineffective system” and that “new” systems “must be put” in place, the rapid disruption of emerging systems and the unfamiliar.

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