A Critical Appraisal of Adopted/Implemented Pedagogic Practices of Select NAAC A++ Accredited Universities in India

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Abstract: The NAAC accreditation was established by the Indian government to evaluate the calibre of higher education establishments. The National Assessment and Accreditation Council assigned grades such as A++, A+, A, B++, B+, B, C, and D, and established the quality standards for universities and other higher education institutions. According to data from the NAAC website, 248 higher education institutions received A++ accreditation between July 1, 2017, and April 10, 2024. This paper examines the pedagogical practices of select universities that hold an NAAC A++ rating. The NAAC assessment is based on seven criteria, of which the current study addresses the Teaching-Learning Process, also known as Pedagogical Practices, which falls under Criteria 2, i.e., Teaching, Learning, and Evaluation. Employing dimensions, which include Students Centric Pedagogical Practices (SCPP), Technology Enabled Pedagogical Practices (TEPP), Research Oriented Pedagogical Practices (ROPP), and Innovations/Best Practices in Pedagogical Process (I/BPP), the investigator carried out a critical analysis of the Pedagogical Practices at 10 NAAC A++ accredited universities. Amidst differences, there is a consistent dedication to promoting learners' comprehensive development through student-centred, technology-enabled, research-focused, and innovative teaching approaches.

1. Introduction

The National Assessment and Accreditation Council (NAAC) was established in 1994 as an autonomous body under the UGC Act to systematise efforts to improve access, equity, quality, and the success of higher education institutions in India. For the past 20 years, the NAAC has worked to improve the quality of higher education through certification and assessment. It has revised its accreditation criteria to make them more ICT-enabled, scalable, transparent, resilient, and objective, using a matrix of both qualitative and quantitative data to organise the self-study report [1]; [12]. The primary tools society uses to pursue knowledge are universities [2]. Knowledge management in educational contexts should address how companies can support policies and practices that enable individuals to share and manage knowledge, as well as offer a set of designs for connecting people, processes, and technologies [3]; [43]. It is evident that any university's primary function is to teach, yet instructors are under tremendous pressure to conduct research for publication or to pursue a research degree; as a result, insufficient attention

is paid to supporting the development and application of effective teaching strategies [4]; [26]. The university is a scientific and intellectual hub, renowned for its technological innovation and highly qualified personnel [29]; [8]. It focuses on academic activities, producing thought and knowledge in ways distinct from other institutions [11]; [24].

The higher education system faces several challenges due to rapid growth in education, and India is no exception; hence, people must undergo extensive training in multidisciplinary areas [13]; [19]; [14]. Since teaching at a university is a scholarly endeavour that draws on a broad range of professional skills and practices, it requires a higher level of disciplinary and contextual competence. To attain quality, a university professor must possess the necessary knowledge, credentials, teaching experience, and communication skills [17]; [25]. This calls for a specific set of abilities and practices [22]; [21]. In a variety of curriculum areas, teaching styles can be utilised to meet different learning objectives [30]. Innovative teaching and learning strategies are needed to meet the demands of the modern knowledge age and to develop the skills required to succeed in life and in the job in the twenty-first century [5]. There is ample evidence in the assessment literature supporting the role of faculty in student evaluation, which reflects the institution's focus and students' learning outcomes [37]; [36]; [15]. Universities and other higher education institutions have two primary functions: disseminating knowledge and producing knowledge through research, in which the Teaching-Learning Process, also known as Pedagogical Practice, is used to disseminate knowledge [27]; [26]. The National Assessment and Accreditation Council (NAAC) sets and evaluates the quality norms for Indian universities; the highest rating is A^{++} [28]. So, the investigator chose NAAC A^{++}-accredited universities in India to critically analyse pedagogical Practices [33]; [34].

1.1. The Study

Document analysis is the major method used in the present study [35]; [31]. It has been done through the analysis of Self-Study Reports from such universities, which have already been submitted as part of their accreditation process [38]. Moreover, four dimensions of the Teaching Learning Process, or Pedagogical Practices, have been identified by the investigator after examining the Self Study Reports (SSR) of Ten Indian Universities: Students Centric Pedagogical Practices (SCPP), Technology Enabled Pedagogical Practices (TEPP), Research Oriented Pedagogical Practices (ROPP), and Innovations/Best Practices in Pedagogical Process (I/BPP) [40]; [39]. The Ten universities are University of Kerala, Thiruvananthapuram, Kerala, Bharathiar University, Coimbatore, Tamil Nadu, Jamia Millia Islamia (Central University), New Delhi, Periyar University, Salem, Tamil Nadu, Mahatma Gandhi University, Kottayam, Kerala, University of Lucknow, Lucknow, Uttarpradesh, University of Madras, Chennai, Tamil Nadu, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, Tamil Nadu, Madurai Kamaraj University, Madurai, Tamil Nadu and University of Mumbai, Mumbai, Maharashtra. The investigator critically analysed the Self Study Reports based on the above dimensions and compared the Pedagogical Practices of the mentioned universities, revealing both commonalities and distinctive approaches. Hence, the present paper throws light on all aspects of Pedagogical Practices in Indian universities and will also serve as a cornerstone [41]; [42].

1.2. Objectives of Study

- To examine the Teaching-Learning Process highlighted by the select NAAC A^{++}-accredited universities in India.
- To identify the different dimensions and respective indicators of the Teaching Learning Process of select NAAC A^{++} accredited universities in India.
- To compare and contrast the Teaching Learning Process of select NAAC A^{++} accredited universities in India with respect to the different dimensions.

2. Methodology

Document analysis is the method adopted for the study. The documents, i.e., Self-Study Report (SSR) of National Assessment and Accreditation Council (NAAC), consist of seven criteria, such as Curricular Aspects, Teaching Learning and Evaluation, Research, Innovation and Extension, Infrastructure and Learning Resources, Students support and Progression, Governance, Leadership and Management, and Institutional Values and Best Practices. Among the seven criteria, the investigator has chosen Teaching Learning Process (Sub-Criterion: 2.3) for the present study, which comes under criterion two, ie, Teaching Learning and Evaluation. After a microscopic study of Self Study Reports (SSR) of ten universities in India, the investigator has segregated and named four dimensions of Teaching Learning Process or Pedagogical Practices such as 1- Students Centric Pedagogical Practices (SCPP), 2- Technology Enabled Pedagogical Practices (TEPP), 3- Research Oriented Pedagogical Practices (ROPP), and 4- Innovations/Best Practices in Pedagogical Process (I/BPP). In addition to that, Students Centric Pedagogical Practices (SCPP) has three indicators: a - Experiential Learning (EL), b- Participative Learning (PL), and c- Problem Solving Method (PSM). Similarly, Technology Enabled Pedagogical Practices (TEPP) also have three indicators, viz. i- Web-based Information Sources (WIS), ii- Constructive Tools (CT), and iii- Communicative and Collaborative tools (CCT).

Table 1 shows a structured framework of teaching methods used in colleges and universities that meet NAAC assessment standards. It divides teaching and learning approaches into four groups: student-centred, technology-enabled, research-oriented, and innovative/best practices. Experiential learning, participative learning, and problem-solving approaches are all examples of student-centred teaching methods. These methods focus on internships, fieldwork, group discussions, case studies, and activities that require critical thinking. Technology-enabled educational approaches emphasise the utilisation of web-based information sources, constructive tools, and communicative and collaborative instruments, including e-resources, MOOCs, digital libraries, multimedia content, simulations, learning management systems, and virtual classrooms. Research-oriented teaching techniques emphasise student research papers, internships, applied research, and inquiry-based learning to cultivate analytical and investigative competencies. Community-engaged learning, blended learning models, and interdisciplinary teaching innovations are some of the newest and finest ways to teach. All of these aspects are examined using NAAC Self-Study Reports, specifically Sub-Criterion 2.3, employing qualitative document analysis to offer an extensive perspective on effective teaching and learning practices in higher education.

Table 1: Analytical framework of teaching–learning process (NAAC SSR Sub-Criterion 2.3)

Dimension of Pedagogical Practices	Indicator Code	Indicator Name	Key Pedagogical Features	Source and Method of Analysis
Student-Centric Pedagogical Practices (SCPP)	EL	Experiential Learning	Internships, fieldwork, laboratory work, paper-based and hands-on learning activities	NAAC SSRs (Sub-Criterion 2.3); Qualitative document analysis
Student-Centric Pedagogical Practices (SCPP)	PL	Participative Learning	Group discussions, seminars, collaborative learning, and peer-assisted learning strategies	NAAC SSRs (Sub-Criterion 2.3); Qualitative document analysis
Student-Centric Pedagogical Practices (SCPP)	PSM	Problem-Solving Method	Case studies, problem-based learning, analytical and critical thinking tasks	NAAC SSRs (Sub-Criterion 2.3); Qualitative document analysis
Technology-Enabled Pedagogical Practices (TEPP)	WIS	Web-based Information Sources	Use of e-resources, digital libraries, MOOCs, online journals, and databases	NAAC SSRs (Sub-Criterion 2.3); Qualitative document analysis
Technology-Enabled Pedagogical Practices (TEPP)	CT	Constructive Tools	Multimedia content, simulations, digital content creation and visualisation tools	NAAC SSRs (Sub-Criterion 2.3); Qualitative document analysis
Technology-Enabled Pedagogical Practices (TEPP)	CCT	Communicative and Collaborative Tools	Learning Management Systems, virtual classrooms, discussion forums, and online collaboration tools	NAAC SSRs (Sub-Criterion 2.3); Qualitative document analysis
Research-Oriented Pedagogical Practices (ROPP)	ROPP	Research-Oriented Practices	Student research paper, internships, applied research and inquiry-based learning	NAAC SSRs; Qualitative document analysis
Innovations / Best Practices in Pedagogical Process (I/BPP)	I/BPP	Innovations and Best Practices	Community-engaged learning, blended learning models, interdisciplinary teaching innovations	NAAC SSRs; Qualitative document analysis

A qualitative method was adopted for the present study, focusing on documentary analysis. The study population consisted of all NAAC A++-accredited universities in India, and the sample was selected via simple random sampling with a lottery. 10 NAAC A++ accredited universities in India were selected as sample which consisted of University of Kerala, Thiruvananthapuram, Bharathiar University, Tamil Nadu, Jamia Millia Islamia (Central University), New Delhi, Periyar University, Tamil Nadu, Mahatma Gandhi University, Kerala, University of Lucknow, Uttarpradesh, University of Madras, Tamil Nadu, Avinashilingam Institute for Home Science and Higher Education for Women, Tamil Nadu, Madurai Kamaraj University, Tamil Nadu, and University of Mumbai, Maharashtra. The collected data (segregated from the SSRs were analysed qualitatively.

Table 2: Sample universities selected for documentary analysis

No.	University Name	State
1	University of Kerala	Kerala
2	Bharathiar University	Tamil Nadu
3	Jamia Millia Islamia (Central University)	New Delhi
4	Periyar University	Tamil Nadu
5	Mahatma Gandhi University	Kerala
6	University of Lucknow	Uttar Pradesh
7	University of Madras	Tamil Nadu
8	Avinashilingam Institute for Home Science and Higher Education for Women	Tamil Nadu
9	Madurai Kamaraj University	Tamil Nadu
10	University of Mumbai	Maharashtra

Table 2 lists 10 Indian institutions and the states in which they are located. From Kerala, it includes the University of Kerala and Mahatma Gandhi University. From Tamil Nadu, these include Bharathiar University, Periyar University, the University of Madras, Avinashilingam Institute for Home Science and Higher Education for Women, and Madurai Kamaraj University. From New Delhi, it includes Jamia Millia Islamia (a Central University). From Uttar Pradesh, it includes the University of Lucknow. From Maharashtra, it includes the University of Mumbai. Overall, Table 2 shows that well-known universities are spread across different parts of India, with Tamil Nadu having the most.

3. Analysis

The Self-Study Reports (SSRs) of universities provide valuable insights into their Pedagogical Practices and approaches to enhancing students' learning experiences. Through a comparative analysis of the selected reports, it becomes evident that universities across different states of India emphasise the importance of student-centric pedagogical methodologies [44]; [6]. Successful learning should result from the teaching process in student-centred universities, meaning that academics should focus on the learning process and its mechanisms—acquisition, socialisation, externalisation, combination, and internalisation—to generate new knowledge. Three common indicators observed in Student-Centric Pedagogical Practices (SCPP) across these reports are Experiential Learning (EL), Participative Learning (PL), and Problem-Solving Methods (PSM), which are integral components of SCPP. In the opinion of Michel et al. [20], some teaching-learning strategies are more successful than conventional techniques, such as lectures, and include problem-based learning. These practices align with contemporary educational theories that emphasise active learning and student engagement.

Furthermore, universities are increasingly integrating technology into their pedagogical practices, known as Technology-Enabled Pedagogical Practices (TEPP), leveraging web-based information sources, constructive tools, and communicative and collaborative tools to facilitate learning. This integration aligns with the evolving landscape of education, where technology serves as an enabler for personalised learning experiences and enhanced student engagement [7]. No university has a specific modular technology plan or implementation system other than Learning Management Systems (LMSs). Moreover, universities are actively promoting Research-Oriented Pedagogical Practices (ROPP), providing students with opportunities for hands-on research experiences, internships, and practical exposure to real-world scenarios. This emphasis on research aligns with the broader goal of fostering critical thinking, problem-solving skills, and innovation among students [10]. To raise educational standards, more hands-on teaching strategies are needed [32]. According to Prince and Felder [23] research, inductive approaches are superior to deductive approaches for achieving a wide range of learning objectives that prioritise knowledge application.

Table 3: Comparative analysis of pedagogical practices based on NAAC SSRs

Dimension of Pedagogical Practices	Indicators	Evidence from SSRs	Pedagogical Focus	Educational Outcomes
Student-Centric Pedagogical Practices (SCPP)	Experiential Learning (EL)	Fieldwork, internships, paper-based learning, and laboratory activities	Learning through experience and real-life exposure	Enhanced practical understanding, knowledge application

	Participative Learning (PL)	Group discussions, seminars, collaborative activities, peer learning	Active student involvement in the learning process	Improved engagement, communication skills, and socialisation
	Problem-Solving Methods (PSM)	Case studies, problem-based learning, analytical tasks	Critical inquiry and inductive learning approaches	Development of critical thinking and problem-solving abilities
Technology Enabled Pedagogical Practices (TEPP)	Web-based Information Sources (WIS)	E-resources, digital libraries, MOOCs, online journals	Access to diversified and updated learning materials	Personalised learning and self-directed study
	Constructive Tools (CT)	Multimedia content, simulations, digital content creation tools	Knowledge construction and conceptual understanding	Improved conceptual clarity and creativity
	Communicative and Collaborative Tools (CCT)	LMS platforms, virtual classrooms, and online discussion forums	Technology-supported interaction and collaboration	Enhanced student engagement and collaborative learning
Research-Oriented Pedagogical Practices (ROPP)	—	Student research paper, internships, practical exposure, and research supervision	Integration of research with teaching	Development of inquiry skills, innovation, and real-world problem solving
Innovations / Best Practices in Pedagogical Process (I/BPP)	—	Community-engaged learning, blended learning models, interdisciplinary approaches	Continuous pedagogical improvement and innovation	Cognitive flexibility, interdisciplinary knowledge integration

In addition, the SSRs highlight various Innovations and Best Practices adopted by universities, which come under the dimension Innovations/Best Practices in Pedagogical Process (I/BPP) to enhance the pedagogical process. These practices, ranging from community-engaged learning to blended learning approaches, reflect the universities' commitment to continuous improvement and innovation in teaching and learning methodologies [16]. To maximise learning in line with the circumstances and enhance students' cognitive efficiency, they offer a variety of tools and didactic resources that facilitate the integration, transformation, and application of knowledge in new and creative ways [18]. Increasing the flexibility of learning procedures and motivating students to consider how they comprehend and learn assignments that support the integration of knowledge and abilities from many domains [9]. To maximise learning in line with the circumstances and enhance students' cognitive efficiency, they offer a variety of tools and didactic resources that facilitate the integration, transformation, and application of knowledge in new and creative ways.

Table 3 shows important teaching methods by connecting teaching characteristics with indicators, supporting data, pedagogical focus, and learning outcomes. Experiential, participatory, and problem-solving learning are all student-centred approaches that improve student engagement, practical knowledge, communication skills, and critical thinking. Practices that leverage technology use digital resources, multimedia technologies, and collaborative platforms to help students learn in their own way, understand concepts, and be creative. Research-based practices combine research and teaching to help students learn to ask questions, generate new ideas, and solve real-world problems. Innovations and best practices stress learning that involves the community, is blended, and crosses disciplines. This leads to ongoing progress, cognitive flexibility, and the growth of integrated knowledge.

4. Discussion and Conclusion

Analysing the SSRs of the sampled universities offers valuable insights into the diverse pedagogical practices adopted by them, emphasising Students-Centric Pedagogical Practices (SCPP), Technology-Enabled Pedagogical Practices (TEPP), Research-Oriented Pedagogical Practices (ROPP), and Innovations/Best Practices in the Pedagogical Process (I/BPP). By leveraging these practices, universities can effectively enhance students' learning experiences and outcomes, ultimately contributing to the overall quality and relevance of higher education. Universities like the University of Kerala, Jamia Millia Islamia, and Periyar University emphasise the practical applications of theoretical knowledge through field studies, internships, and group projects.

As a result, experiential learning has become a well-known pedagogical approach. Students can apply their academic knowledge to real-world problems through these practical experiences, thereby developing their critical thinking and problem-solving skills. Furthermore, it was found that a wide range of academic institutions integrated technology, using ICT tools and internet resources to improve teaching and learning, including Bharathiar University and Avinashilingam Institute. These universities established interactive learning environments that promote cooperation and knowledge exchange by integrating web-based information sources, constructive tools, and communication platforms.

Although there were similarities, every university also displayed distinctive qualities and cutting-edge instructional techniques. One notable example is Jamia Millia Islamia's adoption of JAWS software, which helps visually impaired students access instructional materials and engage in online learning activities. Periyar University has demonstrated its dedication to providing unique learning experiences tailored to the requirements of specific disciplines by integrating geology and bioinformatics resources. Furthermore, some universities place a high priority on research-oriented instructional approaches, giving students the chance to work on research papers, intern, and gain practical experience in research labs. Notable examples of institutions that encourage an innovative and inquisitive culture among academics include Madurai Kamaraj University and Mahatma Gandhi University. In addition to developing students' analytical abilities, these research opportunities also help them get ready for the demands of the working world. In short, emphasises the value of pedagogical practices in higher education and identifies practical strategies that support holistic growth and student-centred learning. Universities may establish inclusive, captivating, and transforming learning environments that equip students for 21st-century success by utilising experiential learning, technological integration, and research opportunities.

The long-term effects of these educational approaches on student learning outcomes and professional preparedness require more investigation. Future studies should also examine how well different pedagogical strategies work with different populations and educational situations. Educational policymakers, administrators, and practitioners can gain valuable insights from longitudinal studies that investigate the effects of experiential learning, technology integration, and research-oriented practices on student learning outcomes and career readiness. It is visible from the analysis that even though multiple successful modalities of Teaching-Learning are experimented and statistically proven, no university from the list either adopt or successfully integrate any of the modalities visibly (for example, blended learning models, flipped classroom, MOOC integration, skillful social media integration, cooperative learning models, structured collaborative practices, participatory teaching, peer tutoring, micro learning, differential teaching, and so on). Rigorous efforts may be adopted to ensure the implementation of research-driven pedagogic modalities and teaching strategies in the larger teaching learning framework of Indian universities.

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