

Enhancing Student Achievement Through Modern Assessment Methods and Feedback Mechanisms in Higher Education: Aligning with NEP 2020

Sheetal Khajuria¹, Sonika Devi², Dr. Mohan Galgotra³

^{1,2}Research Scholar, Department of Educational studies, Central University of Jammu

³Assistant Professor, Central University of Jammu

Abstract

The National Education Policy (NEP) 2020 emphasizes a transformative approach to higher education, focusing on holistic, multidisciplinary learning and fostering critical thinking, creativity, and analytical abilities among students. As part of this transition, modern assessment methods and effective feedback mechanisms are identified as key components to ensure meaningful and outcome-based learning. This research investigates the alignment of contemporary assessment techniques and feedback systems in higher education with the principles outlined in NEP 2020. The study explores the shift from traditional examination-based assessments to more comprehensive models, including formative assessments, project-based learning, peer evaluations, and digital assessments, which focus on continuous learning, skill development, and the application of knowledge. It also highlights the role of technology in transforming assessment, such as the use of AI-driven tools, e-portfolios, and learning analytics to provide personalized and timely feedback to students. Despite these advancements, the paper identifies several challenges, including resistance to change from traditional stakeholders, lack of infrastructure, limited faculty training in new assessment strategies, and concerns related to data privacy in digital assessments. Furthermore, the study discusses the challenges in ensuring equity and inclusivity within assessment practices, especially in the context of diverse learner backgrounds and accessibility. This research contributes to understanding how modern assessment strategies and feedback mechanisms can be implemented effectively in alignment with NEP 2020, providing a roadmap for higher education institutions to adapt and evolve in line with national educational reforms. The findings underscore the need for policy reforms, faculty development programs, and institutional support to overcome the challenges and unlock the full potential of innovative assessment and feedback systems.

Keywords: NEP 2020, Higher Education, Assessment Methods, Feedback Mechanisms, Formative Assessment, Digital Learning, Challenges, Technology Integration.

1. Introduction

The National Education Policy 2020 (NEP 2020) is a watershed event in Indian education history, ushering in a paradigm shift in how education is viewed, provided, and judged. NEP 2020 provides a visionary blueprint for the restructuring of the Indian education system, intending to make it more

inclusive, egalitarian, and in line with the changing demands of the twenty-first century, following a thirty-four-year break since the National Policy on Education in 1986. A key component of this revolutionary approach is the thorough overhaul of educational assessment procedures. These days, assessment is being rethought to emphasize formative evaluation, competency-based learning, and holistic development instead of being associated with rote memorizing and high-stakes exams. The implications of these assessment reforms are profound, touching every level of education from early childhood to higher education. NEP 2020 introduces a fundamental shift from summative to formative assessment, recognizing that learning is a dynamic and continuous process that transcends the boundaries of traditional examinations. The policy emphasizes the necessity of tests that evaluate not just cognitive skills but also social and emotional skills, sometimes known as 'soft skills.' These qualities include critical thinking, problem solving, cultural awareness, empathy, persistence, grit, teamwork, leadership, and effective communication, all of which are required for holistic growth and 21st century success. The consequences of these evaluation innovations are far-reaching. They need adjustments in assessment procedures, teacher duties, and student expectations in the educational setting. The integration of assessment with curriculum and pedagogy becomes imperative. In higher education, these reforms aim to elevate the quality of assessment, foster research and innovation, and grant greater autonomy to institutions. Strengthened accreditation and quality assurance mechanisms are integral components of the assessment reforms.

Education is critical to human advancement, societal justice, and development. Good quality education will not only produce qualified and competent workers for the society, ensuring economic progress, but will also play an important part in the administration of social justice and cultural preservation. India has one of the fastest-growing economies in the world (BBC, 2024) and the largest young population in the world (UNFPA, 2024). These two factors work together to support India's aspirations to become a global leader (Vishwa guru). According to this perspective, India introduced a new education policy in 2020 in an effort to guarantee a paradigm change in the field of education. According to Prabhakar (2018), India is dedicated toward accomplishing Sustainable Development Goal 4 (SDG4), which is in line with the United Nations' goal to provide inclusive and equitable quality education and encourage opportunities for lifelong learning for everyone. In order to accomplish this goal, a complete revamp of the educational system is necessary. In this view, India has launched a new education policy (NEP, 2020). The variety of students entering higher education from various cultures, socioeconomic origins, and educational routes needs a reconsideration of teaching, learning, and evaluation methods. This change represents a shift away from traditional knowledge-centric, transmissive techniques and toward personalized strategies geared to individual skills, personal goals, and student incentives. This adaptability is critical for preparing students to overcome the obstacles and seize the possibilities given by a constantly evolving global context (Almeida et al. 2022). When it comes to adjustments in educational patterns, it is critical to examine the examination, assessment, and evaluation alterations in higher education proposed in NEP 2020. Student assessments have changed dramatically, from oral and written examinations to public exams, internal and external assessments, and, most recently, competency-based evaluations. Key changes include question banks, centralized evaluation, error analysis, mechanical processing of results, supplementary exams, the semester system, grading, transparency, photocopies of answer scripts upon request, internal assessment weightage, continuous and comprehensive evaluation, competency-based assessment, and school-based assessment (SBA). Furthermore, a number of actions have been done to enhance the administration of exams (National

Council of Educational Research & Training, Delhi, last accessed June 17, 2024). With its emphasis on competency-based learning, critical thinking, and holistic development, the NEP 2020 marks a change in Indian education. Tests and assessments have to be transformed in order to establish a more inclusive, learner-centered educational system. Teachers may empower students to develop important life skills, foster creativity, and acquire deeper topic knowledge by abandoning rote learning in favour of a thorough evaluation system. NEP 2020 sets the stage for evaluations that fairly represent students' aptitudes, allowing them to flourish and make significant contributions in a society that is always evolving (Dixit, 2024).

Therefore, the primary goal of this study is to provide insight into the variety of assessment methods that are accessible so that facilitators may carefully prepare the tests in the new context of NEP 2020 and fulfil its actual purpose of offering comprehensive education.

2. Need for Modern Assessment Techniques and Feedback Mechanism in Higher Education aligned with NEP 2020:

The rapidly evolving educational landscape demands a shift from traditional, exam-centric assessment methods in higher education. Modern assessment techniques, such as project-based learning, portfolios, presentations, and peer feedback, are crucial for evaluating a broader range of skills beyond rote memorization, including critical thinking, problem-solving, creativity, and communication. These methods not only provide a more authentic assessment of student learning but also foster a deeper understanding of concepts and encourage active learning.

Furthermore, effective feedback mechanisms, including timely and constructive feedback from instructors and peers, are essential for student growth and improvement. Regular feedback allows students to identify areas for improvement, understand their strengths and weaknesses, and make adjustments to their learning strategies. By embracing modern assessment techniques and establishing effective feedback mechanisms, higher education institutions can create a more student-centred, engaging, and effective learning environment that prepares graduates for the complexities of the 21st-century world.

2.1. Faculty Feedback:

NEP 2020 advocates taking feedback from students at regular intervals for providing useful input to the teachers. 21st Century pedagogy involves a shift toward using active teaching strategies to ensure relevance and interest in the course. New teaching strategies are necessary to increase student's motivation and desire to learn. Immediate and constructive feedback for faculty provides student's involvement in the class for effective teaching-learning and relationship-building mechanisms. Different teaching pedagogies allow for varying levels of student's interactions with the teacher; an HEI needs to evolve a feedback mechanism that serves the quality teaching-learning process accordingly. Also, an HEI would develop a scheduled feedback mechanism to better serve the teaching-learning process. Using state of the art technology for feedback collection, compilation, analysis, and recording would help in effective feedback management.

2.2. Evaluation and Assessment:

An effective education system relies on the integrity and efficacy of the existing evaluation system. Students will not put forth their best effort in learning and comprehending subjects unless assessments are made to be the best indicators of their success.

It is imperative that an Educational Institute has a robust, yet flexible, evaluation system which is also in

consonance with NEP 2020 objectives. These objectives, in the context of evaluation, can be summarized as:

1. Continuous and Comprehensive Evaluation
2. Criterion –based grading system
3. Learning Outcome-Based Education and Evaluation

NEP 2020 proposes that HEIs should adopt continuous and comprehensive evaluation rather than high stake examinations. Continuous and comprehensive evaluation includes horizontal assessment modalities rather than a single vertical option. It can be used to examine students' overall development, such as critical thinking, problem-solving ability, knowledge application, and ethical behaviour.

NEP 2020 recommends a criterion-based grading system that emphasises assessment of student achievement based on the learning goals for each programme. A criterion defines the characteristics or traits to be judged. These are derived from the learning outcomes. Grading can be designed to measure the degree of achievement on each criterion thus making assessment more meaningful.

HEIs should focus on Outcome Based education and evaluation. According to Outcome-Based Education (OBE), it is critical to have a "clear picture of what is important for students to be able to do, and then organize the curriculum, instruction, and assessment to make sure that this learning ultimately happens."

Learning outcome-based performance evaluation is necessary to assess modern skills and domain-specific competencies (British Psychological Society, 2019). It ensures that evaluation is more students centric.

2.3. Evaluation and Assessment Tools:

The National Education Policy 2020 emphasizes formative and competency-based assessment for developing higher-order thinking skills such as creativity, critical thinking and analysis. The assessment helps the learner to track and improve the learning outcomes/approaches and promote holistic development of the learner.

Pedagogical approaches used by a teacher determine the use of one or more types of evaluation tools, which are formative or summative or both. Evaluation and assessment tools supporting the teacher's pedagogy for a course need to help determine the achievement of graduate attributes. In other words, the achievement of different graduate attributes has linkage with specific pedagogical approaches and evaluation and assessment tools used as a part of formative and summative assessment.

The Evaluation and Assessment tools and strategies corresponding to different pedagogical approaches are as follows:

- **Criterion-referenced assessment:** It is the process of evaluating students based on the pre-specified criteria for competency-based outcomes.
- **Rubrics:** It is a method of grading assignments based on certain criteria and helps the learners to understand the performance criteria and performance expectations.
- **Portfolios:** It is based on collecting the student's work for assessment. It can be developed using technology such as a web-based e-portfolio for authentic assessment.
- **Peer Assessment:** It helps the learners to get feedback from their peers and improve their performance.
- **Self-assessment:** It is the process of knowing what the learners already know, what they want to know, and what they have learned.

The use of assessment methods that would assess all aspects of learning, including disciplinary knowledge and skills as well as generic 21st century appropriate skills within a given programme of study, is:

- Time-constrained examinations
- Closed/open book examination
- Problem-based assignments
- Practical assignment reports
- Observation of practical skills
- Individual project reports (case-study reports)
- Team project reports
- Oral presentations, including seminar presentations
- Viva voce interviews
- Computerized adaptive testing
- Peer and self-assessment
- Examination on demand
- Modular certification to facilitate exit and re-entry of learners into the education system

2.4. Semester and cumulative Grading System

Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA) are the measures of performance of students for the work done in a semester and across all semesters, respectively. Numerically, it should be stated to three decimal places.

The SGPA is the ratio of sum of the product of the number of credits with the grade points scored by a student in all the courses taken by a student and the sum of the number of credits of all the courses completed by a student, i.e.

$$\text{SGPA (Si)} = \sum(\text{Ci} \times \text{Gi}) / \sum \text{Ci}$$

(Where Gi is the student's grade point score in the ith course and Ci is the number of credits in the ith course.)

However, CGPA is also determined in the same way, taking into account the total performance of students across all of the courses they have completed during the semesters of an academic program, i.e.

$$\text{CGPA} = \sum(\text{Ci} \times \text{Si}) / \sum \text{Ci}$$

(where Si is the SGPA for the ith semester and Ci is the total number of credits in that semester)

Numerically, all GPA computations should be expressed up to 3 decimal places. This will ensure

- Greater precision in assigning credit to student's academic achievements
- Greater precision in discerning differences in achievement
- More precision in conversions from one format to another

2.5. Online Education and Evaluation

The Online Education Program as envisaged in the NEP 2020 also, has twin noble objectives. First, it is meant to provide the 'last, the lost, the least and the lowest' an effectively affordable option for education right from an early stage to beyond University education. Second, it is aimed towards working professionals and students who find it a very convenient option to balance their academic advancement along with their professional careers. However, the challenge in meeting the above goals lies with Institutions in terms of designing, developing and delivering high quality digital content and in

implementing a mechanism to evaluate and objectively measure the performance of each student enrolled in this mode of education.

While the components of evaluation may be the same as that in the offline mode, the 'Online Supervised Monitoring and Evaluation' may be necessary to implement such programs. A test that is administered online is monitored/mentored in supervised mode. The use of State-of-the-art ICT technologies such as Audio and Videoconferencing, Digital surveillance, Plagiarism detecting software and Online Course Monitoring System will prove to be instrumental in meeting this scenario. Alternately, all tests may be conducted in offline mode at designated canter.

3. Role of innovative assessment techniques in promoting holistic learning, critical thinking and skill development:

Innovative assessment techniques are instrumental in promoting holistic learning, critical thinking, and skill development. Here's how they contribute to each area, along with references to support these points:

1. Holistic Learning

- **Comprehensive Evaluation:** Techniques such as project-based assessments and portfolios consider a wide range of student abilities and achievements, beyond traditional test scores. This approach provides a more complete picture of student learning and development.
- **Personalized Learning Paths:** Adaptive assessments tailor questions to individual students' knowledge levels and learning styles, ensuring that learning is student-centered. This helps in addressing the diverse needs of students and promoting inclusive education.
- **Integration of Multiple Disciplines:** Interdisciplinary assessments encourage students to draw connections between different subjects, fostering a more integrated understanding of knowledge.

2. Critical Thinking

- **Inquiry-Based Assessments:** These require students to formulate questions, conduct research, and solve problems, thereby enhancing analytical skills and critical thinking.
- **Case Studies and Real-World Scenarios:** Assessments that involve real-life problems encourage students to apply theoretical knowledge to practical situations, promoting deeper understanding and critical evaluation.
- **Reflection and Self-Assessment:** Encouraging students to reflect on their learning processes and outcomes fosters metacognitive skills and critical thinking.

3. Skill Development

- **Practical Applications:** Performance-based assessments, such as presentations and practical projects, help students develop skills relevant to their fields of study.
- **Collaboration and Communication:** Group assessments and peer reviews require students to work collaboratively, improving their teamwork and communication skills.
- **Technological Proficiency:** Digital assessments familiarize students with modern tools and technologies, preparing them for tech-driven environments.

These innovative assessment techniques, by focusing on holistic development, critical analysis, and skill acquisition, create a more dynamic and effective learning environment. They prepare students not just for exams, but for lifelong learning and real-world challenges.

4. Role of technology in facilitating adaptive assessment that caters to diverse learning styles:

Technology plays a pivotal role in facilitating adaptive assessment that caters to diverse learning styles.

1. Personalized Assessment:

- **Adaptive Testing:** Technology enables the creation of adaptive assessments that adjust in difficulty based on a student's performance. This ensures that each student receives questions that are neither too easy nor too difficult, maintaining optimal engagement and motivation.
- **Item Selection Algorithms:** These algorithms select questions that are most likely to provide information about a student's abilities, leading to more efficient and accurate assessments.

2. Diverse Assessment Formats:

- **Multimedia Integration:** Technology allows for the inclusion of various media formats (text, audio, video, images) within assessments, catering to different learning preferences and abilities.
- **Interactive Assessments:** Students can engage with assessments through simulations, games, and other interactive activities, making learning more engaging and accessible.

3. Real-time Feedback and Analytics:

- **Immediate Feedback:** Technology provides immediate feedback on student performance, allowing for timely adjustments to instruction and learning strategies.
- **Data-Driven Insights:** Detailed analytics provide valuable information about student strengths, weaknesses, and learning patterns, enabling educators to tailor instruction accordingly.

4. Accessibility Features:

- **Text-to-Speech and Screen Readers:** These tools make assessments accessible to students with visual impairments or reading difficulties.
- **Adjustable Font Sizes and Colours:** These features accommodate students with visual impairments or specific learning needs.

5. Adaptive Learning Platforms:

- **Personalized Learning Paths:** These platforms use AI and machine learning to create customized learning paths for each student, adapting to their individual pace and style.
- **Adaptive Assessments Integrated with Learning:** Assessments are seamlessly integrated into the learning process, providing ongoing feedback and informing instruction.

By leveraging technology, educators can create more inclusive and effective learning environments that cater to the diverse needs and preferences of all students.

5. Challenges in the Implementation of Modern Assessment Techniques and Feedback Mechanism in Higher Education:

The implementation of modern assessment techniques and feedback mechanisms in higher education faces several challenges:

1. **Faculty Resistance and Lack of Training:** Many faculty members are comfortable with traditional assessment methods and may resist adopting new approaches. Lack of adequate training on modern assessment techniques and their effective implementation can hinder their adoption.
2. **Resource Constraints:** Implementing new assessment methods can require significant resources, including time, technology, and personnel. Limited budgets and lack of technical infrastructure can pose challenges for institutions.

3. **Student Readiness and Engagement:** Students may not be adequately prepared for or engaged with modern assessment methods. Lack of familiarity with these methods can lead to anxiety and frustration among students.
4. **Data Collection and Analysis:** Modern assessment techniques often generate large amounts of data that can be challenging to collect, analyze, and interpret. Lack of expertise in data analysis can hinder the effective use of assessment data for improvement.
5. **Grading and Standardization:** Ensuring fairness and consistency in grading across different assessors and institutions can be challenging with modern assessment methods. Establishing clear grading rubrics and guidelines is crucial for maintaining standards.
6. **Feedback Quality and Delivery:** Providing timely, specific, and actionable feedback to students can be time-consuming and challenging for faculty members. Ensuring that feedback is effectively communicated and utilized by students is also critical.
7. **Integration with Existing Systems:** Integrating modern assessment techniques with existing institutional systems and processes can be complex and time-consuming. Lack of interoperability between different systems can hinder data sharing and analysis.
8. **Ethical Considerations:** Ensuring the ethical use of student data and maintaining student privacy are important considerations when implementing modern assessment techniques. Clear guidelines and protocols are needed to address these concerns.
9. **Assessment Bias and Equity:** Modern assessment methods may inadvertently introduce or amplify existing biases, such as those related to gender, race, or socioeconomic status. Careful consideration is needed to ensure that assessment practices are fair and equitable for all students.
10. **Changing Student Expectations:** Student expectations regarding assessment and feedback are constantly evolving. Institutions need to adapt their assessment practices to meet the changing needs and preferences of students.

6. Strategies for the Effective Implementation of Modern Assessment Techniques and Feedback Mechanism in Higher Education:

- Establish comprehensive guidelines and policies that define the objectives, processes, and expectations for modern assessment techniques. This framework should be communicated clearly to all stakeholders.
- Ensure that these guidelines are aligned with national and international educational standards to maintain consistency and quality.
- Provide necessary technological infrastructure, including high-speed internet, learning management systems (LMS), and assessment tools.
- Offer ongoing technical support and maintenance to ensure smooth operation of digital assessment platforms.
- Conduct regular training sessions and workshops to familiarize educators with new assessment tools and techniques.
- Encourage peer learning and mentoring programs where experienced educators can share their knowledge and best practices.
- Use formative assessments regularly to monitor student progress and provide immediate feedback.
- Employ a variety of formative assessment methods, such as quizzes, peer reviews, and self-assessments, to capture different aspects of student learning.

- Use data analytics to track student performance, identify learning patterns, and tailor instruction to meet individual needs.
- Implement adaptive learning technologies that adjust the difficulty and type of content based on student performance.
- Encourage collaborative projects and group assessments that promote teamwork and real-world problem-solving skills.
- Use interactive tools and platforms that facilitate active learning and student engagement.
- Adopt UDL principles to create assessments that are accessible to all students, including those with disabilities.
- Provide assessments in multiple formats (e.g., written, oral, digital) to accommodate different learning styles and preferences.
- Regularly review assessment practices to ensure they remain effective and relevant. Collect feedback from students and educators to inform improvements.
- Run pilot programs to test new assessment methods before full-scale implementation, making adjustments based on feedback and outcomes.
- Include students in the assessment design process to ensure assessments are meaningful and aligned with their learning needs.
- Partner with industry professionals to create assessments that reflect real-world skills and applications.
- Use automated systems to provide immediate feedback on assessments, helping students understand their strengths and areas for improvement.
- Ensure feedback is specific, constructive, and actionable, guiding students on how to improve their performance.

7. Conclusion

The alignment of modern assessment methods and feedback mechanisms with NEP 2020 is a transformative step towards enhancing student achievement in higher education. By adopting innovative assessment techniques, we move beyond traditional rote learning, fostering a more engaging and inclusive educational environment that caters to diverse learning needs and styles. These modern methods promote critical thinking, problem-solving, and holistic development, equipping students with the skills necessary to succeed in the 21st century.

References

1. Zacharis, N. Z. (2016). **Innovative Assessment for Learning Enhancement: Issues And Practices**. Retrieved from [ERIC](https://eric.ed.gov/?id=E111111)
2. OECD. (2023). **Innovating Assessments to Measure and Support Complex Skills**. Retrieved from [OECD](https://www.oecd.org/policy-research/innovating-assessments-to-measure-and-support-complex-skills/)
3. Godbole, P., Nandi, P., & Randive, K. (2024). Innovative Assessment Methods for India's New Education Policy 2020. *Journal of Emerging Technologies and Innovative Research (JETIR)*, 11(10), 335-357
4. Dixit, Mohit. (2024). NEP 2020 Evaluation and Assessment BBC, (2024), India's economy: The good, bad and ugly in six charts, <https://www.bbc.com/news/world-asia-india-68823827>.

5. Almeida, L.; Gonçalves, S.; `do Ramos, Ó.J.; Rebola, F.; Soares, S.; Vieira, F. (2022) Inovação Pedagógica no Ensino Superior. Cenários e Caminhos de Transformação; Agência de Avaliação e Acreditação do Ensino Superior: Lisboa, Portugal
6. Akhil Bhartiya Shiksha Samagam, (2023), Report on Session 16: A Roadmap for Competency-Based Assessment: PARAKH, https://www.education.gov.in/sites/upload_files/mhrd/files/nep/ABSS_Report_Session_16.pdf
7. National Education Policy (2020), https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf
8. National Council of Educational Research & Training, Delhi, last accessed 17th June 2024, https://www.education.gov.in/shikshakparv/docs/background_note_Assessment_Reforms.pdf
9. UNFPA, last accessed 7th July (2024), Adolescents and Youth, <https://india.unfpa.org/en/topics/adolescents-and-youth>
8#:~:text=India%20has%20its%20largest%20ever,that%20will%20last%20till%202025.
10. Meena, R. (2023). NEP 2020 and Assessment Reforms in Indian Education: A Comprehensive Analysis. *Ascent International Journal for Research Analysis*, 6(2), 57.1- 57.7.
11. Higher Education in India: Vision 2040 (2021). FICCI. Retrieved from <https://www.ficcihes.com/pdf/2021/eyreport.pdf>
12. Yadav, H. (2023). Assessment Reforms in Indian Education: A Study of NEP 2020. *Shodh Samagam*, 6(4), 1282-1288.
13. Evaluation Reforms in Higher Educational Institutions, University Grants Commission, Bahadur Shah Zafar Marg, New Delhi-110002, November 2019. Available: <https://www.ugc.ac.in/e-book/EVALUATION%20ENGLISH.pdf>.
14. National Education Policy 2020, Ministry of Human Resource Development, Government of India. Available: https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf.
15. Salient Features of NEP 2020: Higher Education, University Grants Commission, Bahadur Shah Zafar Marg, New Delhi. Available: https://www.ugc.ac.in/pdfnews/5294663_Salient-Featuresofnep-Eng-merged.pdf.