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Innovative Assessment Methods for India's New Education Policy – 2020

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Abstract: The landscape of higher education assessment is undergoing transformation. The New Education Policy (NEP) was introduced in India in 2020, since then much is talked about its implementation and assessment. Whereas implementation is much related to policy matter, assessment is more dynamic and open for all the stakeholders. The traditional methods had limited pedagogic tools and methods of assessment; however, the NEP embraces alternative assessment approaches such as self and peer feedback, learning through reflective practices and collaborative engagement of the students. Modern day technological innovations provided a cornerstone for shaping the NEP. Advancements in artificial intelligence (AI), learning analytics, and digital platforms like e-portfolios are revolutionizing assessment practices. These technologies enable personalized, efficient, and comprehensive evaluation of student competencies, fostering a learning environment tailored to individual needs. Competency-based assessment (CBA) shifts focus from rote-learning to the development of practical skills and critical thinking, preparing students for dynamic workplace demands and lifelong learning. Multidisciplinary and holistic assessment methods integrate diverse disciplinary perspectives, promoting cross-disciplinary teamwork and application of knowledge across the fields of knowledge. The assessment methods suggested here are aimed at accommodating diverse student capabilities, equitable evaluation, and holistic educational environment. Despite challenges in theoretical frameworks and traditional assessment norms, the pursuit of universal design for assessment remains crucial for achieving equitable and effective learning outcomes as envisioned by NEP 2020. Embracing these innovative assessment methodologies would greatly enhance the quality of education and outcome in India's higher education sector.

Keywords: NEP 2020, Assessment, Assessment Methods, Strategies, National Education policy 2020, Gurukul system, British colonial education system, pre-independence education, post-independence education

1. Introduction

Education is vital for human progression, societal equity, and development. Good quality education will not only create capable and skilled manpower for the society that will ensure its economic growth; but also play a crucial role in administering social justice and cultural preservation. India is among the words fastest growing

economies (BBC, 2024) and currently has largest youth population (UNFPA, 2024), which provides a right combination to propel India's ambition to be a world leader (Vishwa guru). It is in this view that a new education policy was launched by India in year 2020 to ensure a paradigm shift in the education sector. Aligned with Sustainable Development Goal 4 (SDG4) proposed by the United Nations, which aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all, India is committed to achieve this objective by 2030 (Prabhakar, 2018). To meet this goal, a comprehensive overhaul of the education system is required. In this view, the new education policy (NEP, 2020) has been launched by India. The diversity of students entering higher education from varied cultures, socioeconomic backgrounds, and educational paths necessitates a rethinking of teaching, learning, and assessment strategies. This shift marks a departure from traditional knowledge centric, transmissive approaches to embracing differentiated methodologies tailored to specific skills, personal aspirations, and student motivations. This adaptation is crucial to prepare students to navigate the challenges and capitalize on the opportunities presented by an ever-evolving global landscape (Almeida et al. 2022). Talking about shifts in educational patterns, it is essential to give a check on examinations, assessment and evaluation shifts in higher education suggested in NEP 2020. The student assessment has evolved significantly, progressing from oral and written tests to public exams, internal and external assessments, and now to competency-based evaluations. Key changes include diverse question formats (essay, multiple choice, objective based), question banks, centralized evaluation, error analysis, mechanical processing of results, supplementary exams, the semester system, grading, transparency, photocopies of answer scripts on request, internal assessment weightage, continuous and comprehensive evaluation, competency-based assessment, and school-based assessment (SBA). Additionally, various steps have been taken to improve examination management (National Council of Educational Research & Training, Delhi, last accessed 17th June 2024). The NEP 2020 heralds a revolution in Indian education, emphasizing critical thinking, holistic development, and competency-based learning. It aims to create a more inclusive, learner centered educational system by transforming tests and evaluations. By moving away from rote learning to a comprehensive assessment framework, teachers can help students gain deeper subject knowledge, inspire creativity, and build critical life skills. NEP 2020 paves the way for assessments that accurately reflect students' abilities, enabling them to thrive and contribute meaningfully in an ever-changing world (Dixit, 2024). Hence the primordial objective of this paper is to shed light on assessment techniques which are available, for facilitators to meticulously plan the assessments in the novel light of NEP 2020 and its true aim of providing holistic education can be achieved.

2. Older Education Systems in India

2.1 The Gurukul System

The Gurukul education system in India is an ancient residential system where students live in the Gurukul, the home of their teacher or 'Acharya'. In this setting, they receive education, moral values, and life skills under the teacher's guidance (Shanwal, 2024). Students were admitted to the Gurukul at a specific age based on their caste. Brahmin students joined at the age of 6, Kshatriya students at 8, and Vaishya students at 11.

This initiation, known as Yajnopavita, Upanayana, or Upavita, involved performing sacrificial rituals before admission (Tandon, 2021). In Gurukul, subjects like Vedic literature, Sanskrit, mathematics, and traditional Indian sciences were taught. This system emphasizes the overall development of students, including personality growth, spiritual awakening, and self-control, with a focus on individual attention, discipline, and a blend of academic and extracurricular activities (Selvamani, 2019). The decline of the Gurukul education system has been a gradual process that began with the devastation caused by the Mahabharata war. This decline was further exacerbated by the rise of various sub-sects, Mughal invasions, and ultimately British colonialism (Singh, 2022). Gurukul system had its own set of advantages and limitations which are highlighted below in Fig 1.

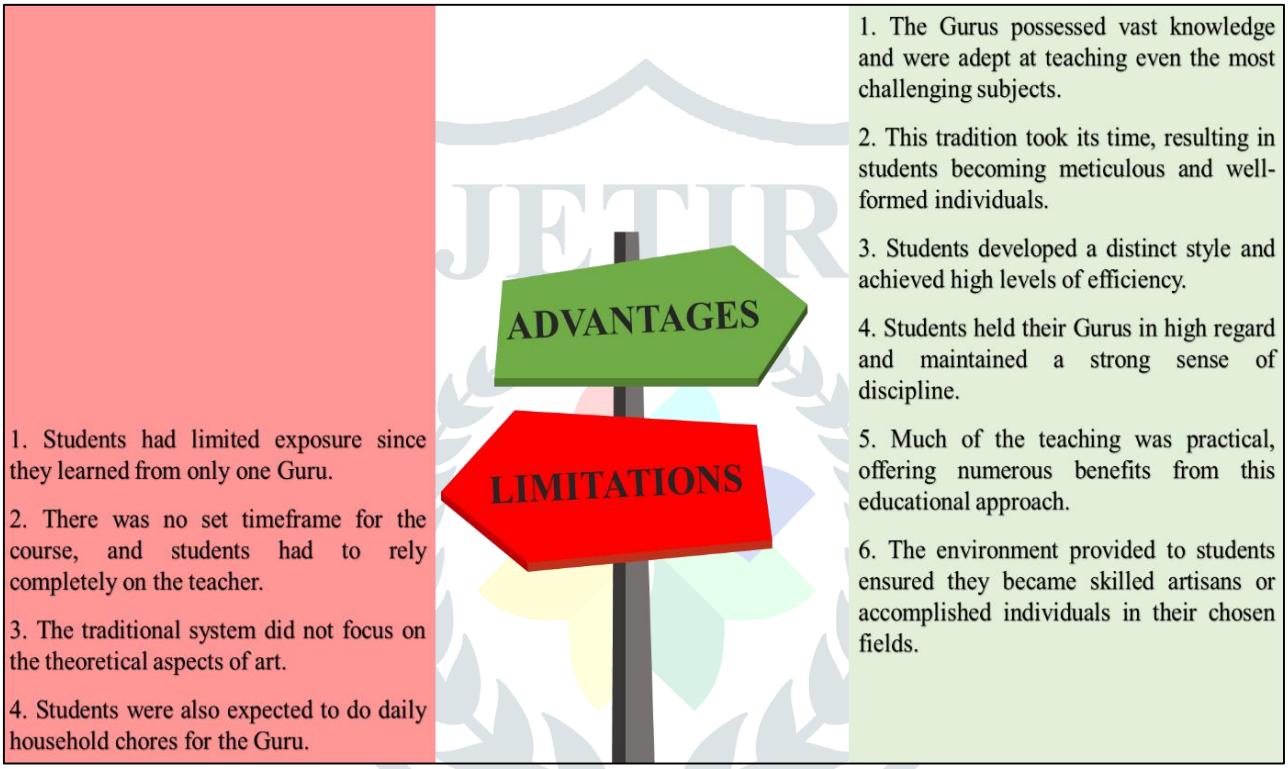


Fig 1: Advantages and limitations of the Gurukul system of education in ancient India (modified after Joshi, 2021).

The Gurukul education system aimed to teach religion, purpose, work, and spiritual liberation. In contrast, modern education mainly focuses on purpose and work. Gurukul provided both analytical and synthetic knowledge in a balanced manner. Gurukul education fostered artistic and creative development with a conscience-oriented approach which focused on spiritual awakening (Adhikari, 2023). A detailed discussion on types of gurukul teaching aids is given below and its association with NEP-2020 is shown in Fig 2.

2.1.1 Samwad or Dialogue (संवाद पद्धति)

Dialogue, or enquiry, is an effective form of learning because it involves the student's active interest in the subject matter through questioning (Hill and France, 2020).

2.1.2 Preaching (उपदेश पद्धति)

In the preaching method, a knowledgeable speaker discusses a specific topic for a set period. This method, known as Upadesh, is characterized by mature and profound language. It is intended for a particular audience and not for the public, requiring listeners to have some prior knowledge of the topic (Singh, 2022).

2.1.3 Teaching by Example (दृष्टांत पद्धति)

The illustration method makes understanding easier by providing examples. It uses familiar objects or concepts to explain unfamiliar ones. For instance, if a person's life is pure and brilliant, it can be compared to gold, which is tested by being rubbed, heated, pierced, and beaten—similarly, a person's qualities are tested through virtues, modesty, knowledge, and deeds (Helen, 2007).

2.1.4 Learning by Doing (प्रत्यक्ष शिक्षा पद्धति)

This method involves teaching through activities and experiments. Students learn by doing, making this approach suitable for practical subjects (Abuzandah, 2020).

2.1.5 Estimation Learning (परोक्ष शिक्षा पद्धति)

Indirect education focuses on developing students' thinking and imagination by encouraging them to make educated guesses. This method enhances their analytical skills, which is essential for studying philosophy and logic (Saeverot, 2021).

2.1.6 Teaching through Storytelling (स्वैरकथा पद्धति)

In this method, stories are used to teach complex subjects, making them easier to understand (Melanie, 2004). Texts like Panchatantra, Hitopadesh, and Kathasaritsagar use this storytelling approach (Kulkarni et al. 2024).

2.1.7 Learning by Teaching (पाठनकलाविधि (पाठन द्वारा पठन पद्धति)

Students also learn by teaching others. This method develops their understanding and teaching skills simultaneously, ensuring they become excellent teachers, speakers, and practitioners (Duran, 2006).

2.1.8 Group Discussion (चिंतनिका पद्धति)

After learning a subject from the Acharya (teacher), students discuss it among themselves. This method, known as Chintanika, involves group discussions to deepen their understanding and reinforce learning (Arja et al. 2022).

2.1.9 Teaching from Experiences (अनुभव कथन द्वारा शिक्षण)

Acharyas share their life experiences, both good and bad, with students. This method teaches valuable lessons and inspires students (Singh, 2022).

2.1.10 Learning from Traits of Things (लक्षणविज्ञान पद्धति)

Understanding the characteristics of objects or people is essential for accurate knowledge. This method, used in subjects like Nyayadarshan, Ayurveda, and Astrology, helps students make precise assessments based on observed traits (Owino and Nyakecho, 2020).

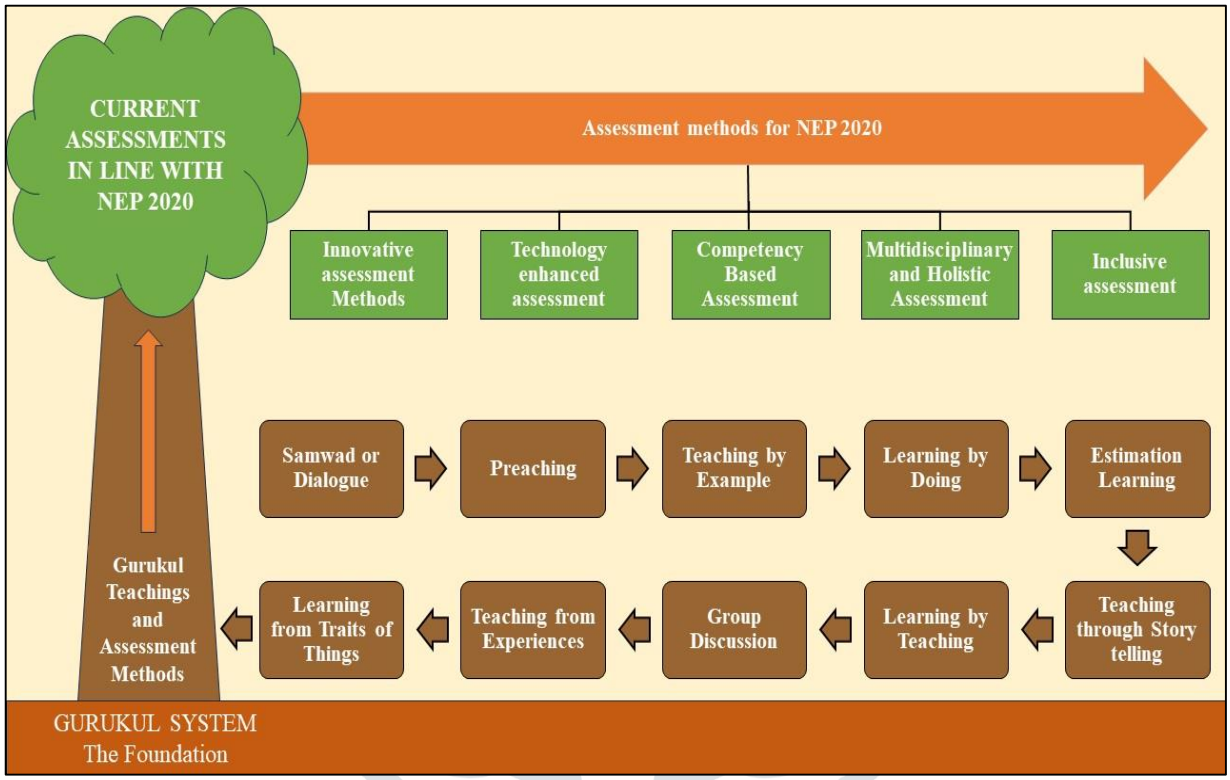


Fig 2: A tree diagram illustrating the foundational methods of Indian assessment rooted in Gurukul teachings and their evolution to modern assessment practices aligned with NEP 2020. The diagram emphasizes how ancient methods serve as the basis for contemporary assessment frameworks.

2.2 British Colonial Period Education System

The British colonial education system in India was designed to serve the administrative needs of the colonial regime, influenced heavily by Thomas Babington Macaulay's vision. He proposed promoting western literature and science through English, aiming to create Indians who were culturally and intellectually aligned with the British values. This system, supported by the East India Company and missionaries, aimed to educate Indians for administrative roles that furthered British political and economic interests. Princely states, granted autonomy by the British, also played a role in implementing educational reforms. This led to the establishment of schools, universities, and institutions that advanced education and architecture across India. Macaulay's Minute on Education (1835) was pivotal, advocating for English education to bridge cultural divides and

facilitate governance (Isaka, 2004). Some key features of the British colonial education system are enlisted below in Fig 3 and its foundational developments in Fig 4 respectively.

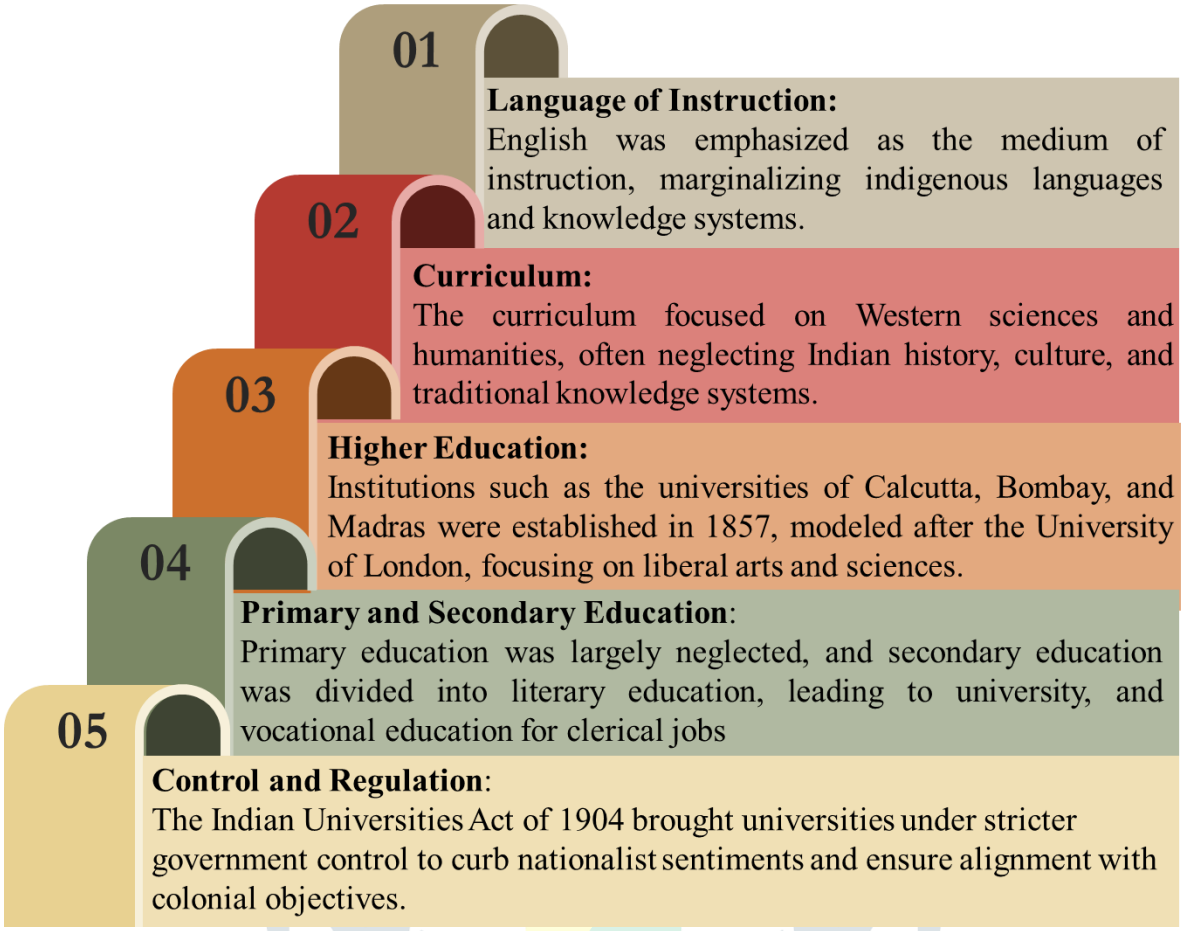
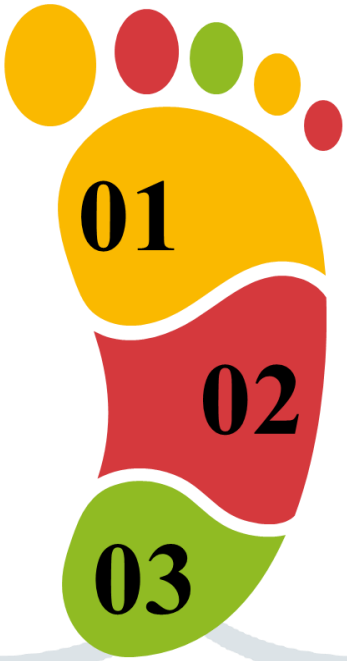


Fig 3: Key features of the British colonial education system (modified after Bansal, 2017).



01 -Macaulay's Minute (1835):

This policy emphasized English as the medium of instruction and aimed to educate the upper classes to assist in the administration

02 -Wood's Dispatch (1854):

Known as the Magna Carta of English education in India, this dispatch laid the foundation for a structured education system, introducing a hierarchy of schools from elementary to university level and promoting women's education

03 - Hunter Commission (1882-83):

This commission recommended the expansion of primary education and emphasized secondary education with a bifurcation into academic and vocational streams

Fig 4: The footprint (foundational developments) of British colonial education system (modified after Vajiram and Ravi, 2023).

2.3 Post-Independence Education System

The day of independence was a jubilant moment in Indian history, but the state of education at that time was abysmal. This sector faced significant disparities between urban and rural areas, men and women, and the rich and poor. Pre-school education was virtually non-existent except for a few centers run by Christian missionaries and philanthropists in major cities. In post-independence India, immediate educational reforms were crucial for economic development, social change, and democracy. The country needed skilled and informed individuals to drive these changes and provide learning opportunities for all (Kumar, 2017). To address these issues, several committees and commissions were established to review educational problems and propose necessary reforms. To adapt to the changing needs and aspirations of the people, as well as the evolving structure and strategy of education, several changes were necessary. The independent India required an effective Constitution to ensure justice, liberty, equality, and free education for all its citizens (Pandey, 2019). The new Constitution, effective from January 26, 1950, addressed education through various articles, focusing on five key aspects, namely (i) Right to Education, (ii) Equality of opportunity, (iii) Protection of educational interests, (iv) Promotion of education for weaker sections, and (v) Promotion of cultural and educational rights (Fig 5).

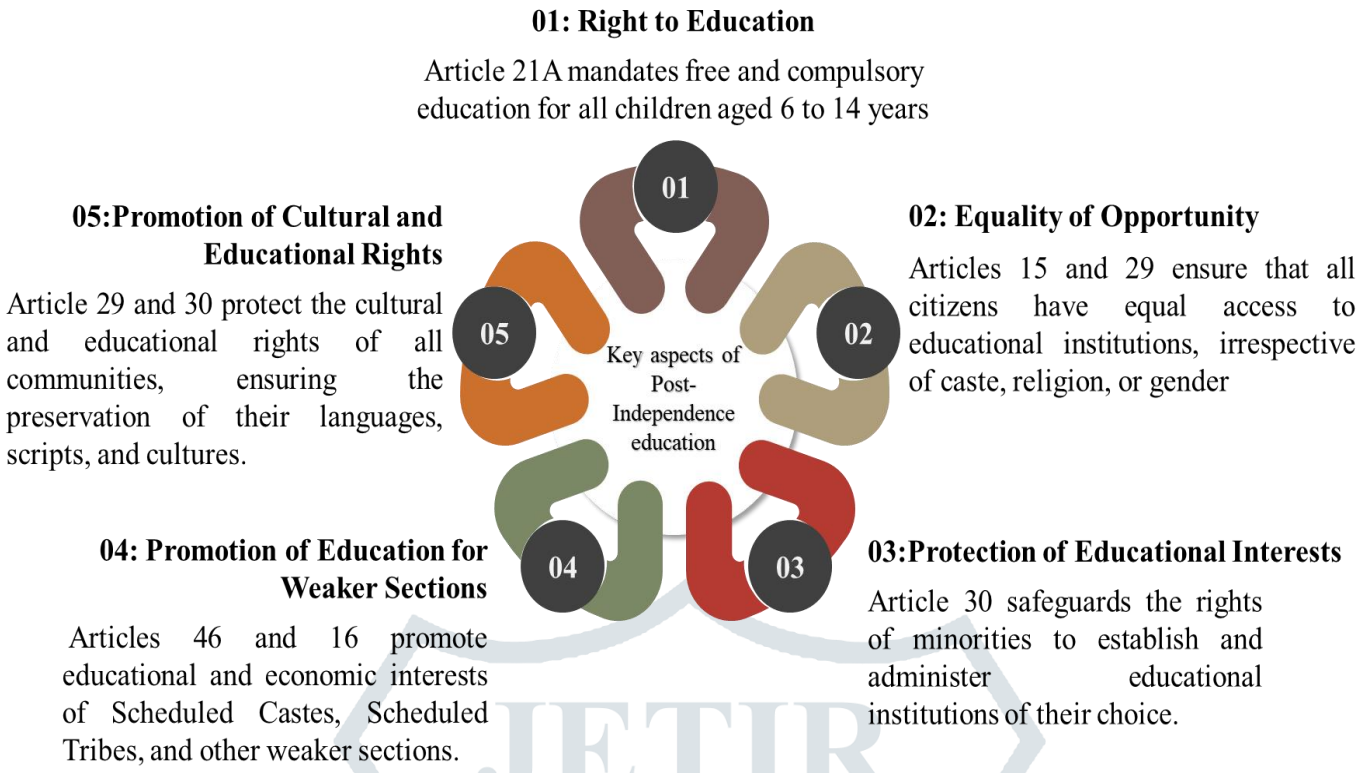


Fig 5: Showing Key aspects of post-independence education (modified after Pandey, 2019).

3. Need for change in the Education System in India

While India's education system is renowned for its historical richness and diverse learning opportunities, it grapples with significant challenges that raise doubts about its efficacy. Despite its track record in nurturing talented individuals and professionals, critical issues demand scrutiny. These include inadequate teaching quality stemming from teacher shortages, outdated curricula, and ineffective instructional methods. Financial constraints further exacerbate the situation, hindering access to education for marginalized students who struggle with tuition and living expenses. Traditional teaching methods persist, particularly in rural areas where technological integration remains limited. Additionally, the privatization of higher education, while broadening access, often compromises educational standards (Kapur, 2018). Furthermore, the system's excessive focus on examinations over preparing students for future challenges and assessing their true understanding restricts learning to rote memorization rather than fostering creative application of knowledge. These systemic issues necessitate a transformative shift in education system leading towards a more holistic education approach to enhance the overall teaching and learning experience (Margeret, 2023).

4. The New Education Policy 2020

The National Education Policy 2020 aims to address the essential developmental needs of our country. This policy aims to revise and revamp aspects of education structure that includes regulation and governance of the education system, create a new system that will align the goals of the 21st century education (SDG4 included), that will be built upon India’s value systems and traditions. The policy places a strong emphasis on

nurturing the creative potential of each individual. It operates on the principle that education should develop not only cognitive abilities both the foundational skills of literacy and numeracy and the advanced higher order skills of critical thinking and problem-solving but also develop social, ethical, and emotional capacities and dispositions (NEP, 2020). This policy envisions an educational system that is rooted in Indian ethos and contributes directly to transforming India into a vibrant and equitable knowledge society. Providing high quality education to everyone will help in making India a global knowledge superpower. The policy intends to develop the curriculum and pedagogy of our institutions in a way to build a deeper sense of respect towards the Fundamental duties and Constitutional values, bonding with one's country and creating a conscious awareness of one's roles and responsibilities in the changing world. The Vision of the policy is also to inculcate among the leaders a deep-rooted pride in being Indian, in not just thoughts but also in deeds, spirits and intellect. It also seeks to develop the knowledge, skills, values, and dispositions necessary for a responsible commitment to human rights, sustainable development, and global wellbeing, thereby nurturing truly global citizens (NEP, 2020).

5. Methods of Evolution and Assessment

The evolution of assessment methods in India reflects a dynamic journey from the traditional Gurukul system to the contemporary framework outlined in the National Education Policy (NEP) 2020. In ancient times, the Gurukul system emphasized holistic development, including intellectual, spiritual, and moral growth. Assessments were conducted through oral examinations, debates, practical demonstrations, and continuous observation by the Guru (teacher), providing personalized feedback based on each student's progress (Shanwal, 2024). During the colonial period in the 19th and 20th centuries, the British introduced formal written examinations and a more standardized curriculum. This shift towards rote learning and merit-based assessments often neglected the practical and holistic aspects of education. The new system created a structured, exam-oriented education that persisted for many decades (Dixit, 2024). Following independence, India saw the establishment of national and state education boards, such as CBSE and ICSE, formalizing board examinations for secondary and higher secondary levels. These examinations aimed at uniformity and standardization across the country, with a strong focus on written tests. Competitive exams for college admissions, such as IIT JEE and NEET, became significant in the assessment landscape during this period. The late 20th and early 21st centuries introduced the Continuous and Comprehensive Evaluation (CCE) system, aiming to assess a student's development in a more holistic manner, including co-curricular activities and overall personality development. Technology began to play a role, with digital assessments and online exams offering new ways to evaluate student performance.

The NEP 2020 marks a significant shift towards holistic, multidimensional, and continuous assessments that go beyond rote memorization. The policy emphasizes competency-based assessments to evaluate critical thinking, creativity, and the application of knowledge. It encourages the use of technology in assessments, including adaptive testing and online platforms, to provide a more personalized evaluation. Regular formative assessments are prioritized to offer continuous feedback and support to students. NEP 2020 also proposes

reforms to make board exams less stressful and more aligned with learning outcomes, focusing on core concepts and higher order thinking skills. Furthermore, it includes the assessment of holistic development, considering aspects like emotional and social intelligence, physical fitness, and ethical and moral reasoning. Overall, the journey from the Gurukul system to NEP 2020 (Fig 6) showcases a significant evolution in assessment methods, reflecting broader educational philosophies and societal needs. The transformation highlights a move from personalized, holistic education to standardized testing and back towards a balanced approach that integrates comprehensive, competency-based evaluations with the support of modern technology.

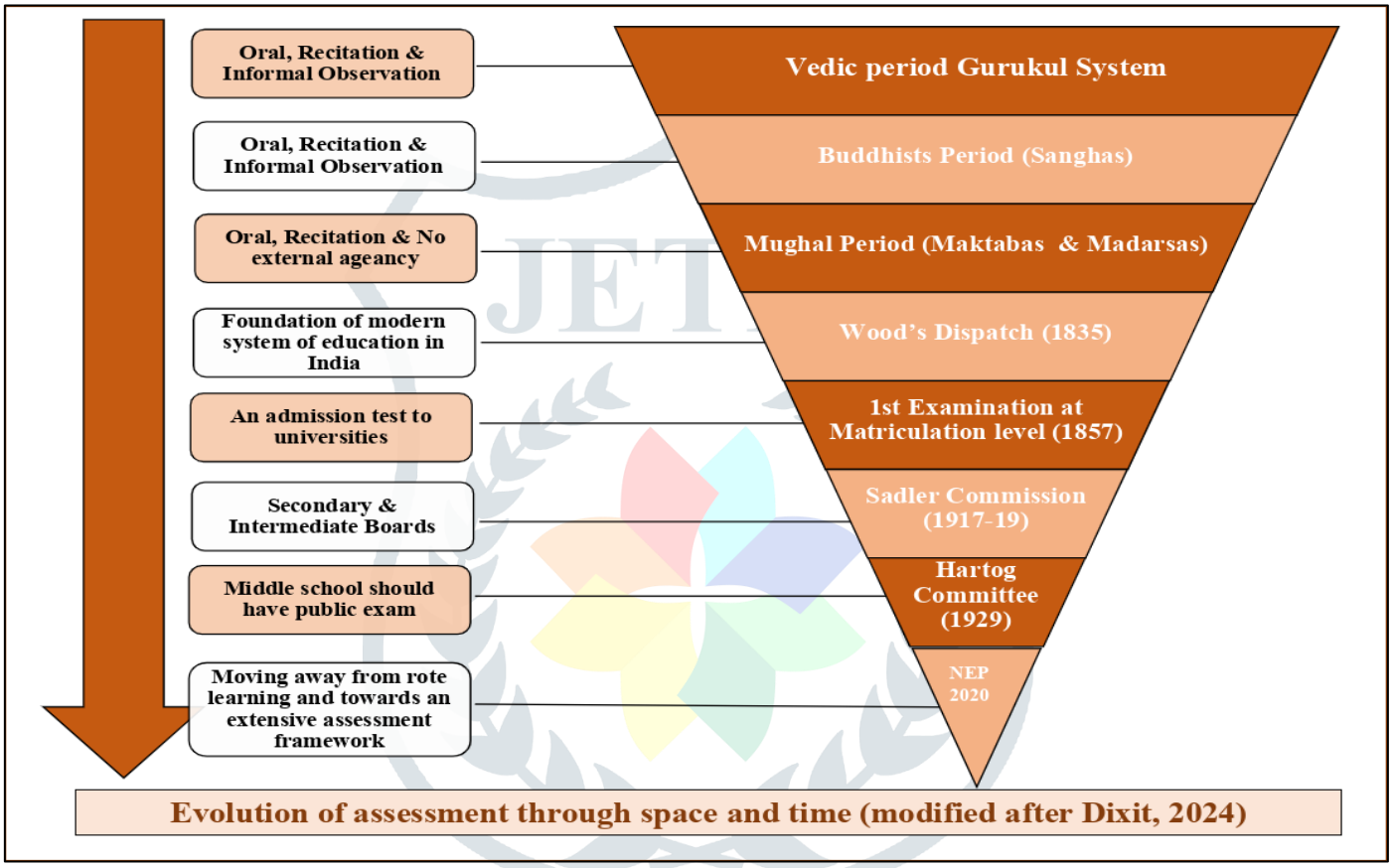


Fig 6: Evolution of assessment through space and time (modified after Dixit, 2024)

5.1 The Traditional Methods of Assessment and their Limitations

The traditional assessment method focused a lot on the memorizing capacity of students rather than the understanding and assimilation of a concept. Majority of the students focused on rote-learning and copy paste the same in the examinations with no personal inputs. The focus of traditional assessment was more inclined towards securing grades, while neglecting the actual knowledge and skill enhancement. This created a phobia regarding the examination in the minds of students. Also, the traditional assessment tools were not designed to cater students with special needs and special abilities (McArthur 2016, Milic Babic and Dowling 2015; Fuller et al. 2004; Hanafin et al. 2007; Madriaga and Goodley 2010). The multiple-choice test is a traditional assessment method commonly used in history education, typically administered at the end of a unit to evaluate students' retention and understanding of the material covered. This type of test consists of a series of questions related to the unit's content, each accompanied by several answer options, usually ranging from three to five

choices. Only one of these options is correct, and students must select the one they believe is accurate. The scoring of the test is objective, with no room for interpretation—answers are simply marked as right or wrong. However, traditional assessments have their drawbacks. They may not accommodate all learning styles, as some students excel in hands-on environments or through verbal interaction, and these assessments might not capture their full range of abilities. Additionally, the pressure to perform well in a timed, high stakes setting can induce test anxiety, negatively impacting a student's performance (Class Time, Last accessed 19th June 2024). Traditional assessment has several negative aspects. One of the main criticisms is that it often relies on narrow scale exams that cannot accurately reflect a student's success or failure and are insufficient in measuring higher order skills. Additionally, traditional assessments can create a conflict between grades and assessment criteria, leading to significant issues. Another limitation is the lack of feedback provided to students, which hinders their ability to improve. Furthermore, traditional assessment tasks often consist of insufficient intellectual challenges and fail to meet the demands of different study areas. This underscores the need for alternative assessment methods that can provide a more comprehensive evaluation of students' knowledge and skills (Nilgun et al. 2013; Tankie et al. 2014; Hassan, 2011; Mazin, 2020; Annabel et al. 2020). Due to these potential issues, traditional methods somehow deflect from the primary aim of NEP2020 and hence adaptation of new methods becomes imperative for lifelong learning and enhancing skill development in students.

5.2. New and Innovative Methods of Assessment

Although existing conventions on assessment are familiar and we have adapted to them, new and innovative forms of assessment, fully compatible with constructivist ideas, are being integrated into higher education curricula. Methods such as objective tests, small group assessments, and peer and self-assessment are considered innovative (McDowell 2002). These methods aim to involve students as active and informed participants in meaningful, authentic, and engaging tasks that integrate assessment, teaching, and learning. This contrasts with the artificial time constraints and limited access to support typically found in conventional exams. The push for innovative assessment in higher education is driven by the recognition that quality encompasses a holistic view of learning, not just quantified outcomes. Traditional assessments focus on end products, but students often find them artificial despite their familiarity. Innovative assessments aim to improve learning quality while meeting external stakeholders' needs. Although innovative methods are generally seen as beneficial, they raise debates about fairness, validity, reliability, and practicality, especially in large cohorts, highlighting the need for systematic review and updates (Zacharis, 2010). Analysis of commonly adopted methods is discussed below.

5.2.1 Project Based Learning (PBL) Assessments:

The traditional education system, where teachers are viewed as the primary sources of knowledge and students as passive recipients, is deeply ingrained in society (Alorda, Suenaga, & Pons, 2011, p. 1876). Universities and research institutions tend to focus more on developing students' research skills while ignoring the

cultivation of transferable skills like basic literacy and numeracy skills, critical thinking skills, management skills, leadership skills, interpersonal skills, information technology skills, systems thinking skills, and work ethic dispositions (Nägele and Stalder, 2017). This mismatch creates a gap between the skills acquired at universities and those demanded by the job market. Consequently, students often feel disconnected from the market, perceiving their education as outdated and irrelevant to current industry needs (Holmes, 2012). To address this issue, students should be given opportunities to engage with real-world problems, develop methods to solve these problems, and create knowledge in authentic professional contexts. One effective approach is Project-Based Assessment (PBA). PBA is a student-centred methodology that empowers students to undertake constructive investigations, set their own goals, collaborate at various levels, and reflect on real-life situations (Kokotsaki et al. 2016). Project-Based Assessment (PBA) as a form of evaluation shares clear connections with other pedagogical approaches, such as problem-based learning (Helle et al. 2006). Both approaches emphasize achieving a shared goal through collaboration. In PBA, students engage with a project and encounter problems that need to be addressed to construct and present the product in response to the driving question. The main difference between the two is that while problem-based learning focuses primarily on the process of learning, PBA culminates in a tangible outcome (Blumenfeld et al., 1991). Yet, Balushi and Aamri (2014) found that project-based assessment is not more demanding than traditional instruction regarding resources and time. It can be implemented with minimal resources, within the school building, and within the time allocated for studying particular topics.

5.2.2 Continuous and Comprehensive Evaluation (CCE):

To improve the quality of education and the overall development of students, the evaluation process should give adequate importance to both scholastic and non-scholastic areas of development. Continuous and Comprehensive Evaluation (CCE) refers to a school-based assessment system that covers all aspects of students' development. It aims to improve student performance by identifying learning difficulties at regular intervals from the beginning of the academic session and implementing suitable remedial measures to enhance learning performance. CCE facilitates the all-round development of students, provides equal opportunities for all students to display their individual potential, and helps teachers realize the effectiveness of the teaching learning process. While continuous and comprehensive evaluation techniques have proven beneficial for student development, they have been criticized for the time required for evaluation and revaluation. Focusing solely on academic excellence can lead to a lopsided development of personality (Rao and Panapana, 2020). Following could be some potential ways to adopt and implement CCE (Fig 7).

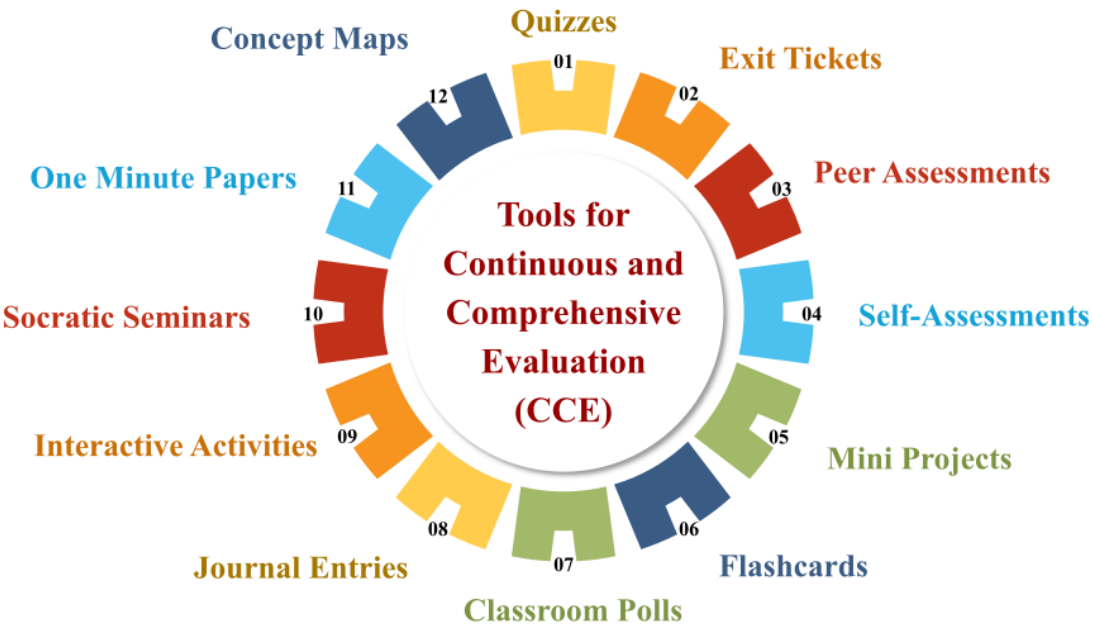


Fig 7: Showing different ways of Continuous and Comprehensive Evaluation (CCE)

5.2.2.1 ***Quizzes:***

Online quizzes can be created using platforms like Google Forms or Quizlet, which offer quick, auto-graded assessments. In-class quizzes can be conducted as short, paper-based evaluations at the beginning or end of a class session (Salas-Morera et al. 2012).

5.2.2.2 Exit Tickets:

At the end of a lesson, asking students to write down one thing they learned and one question they still have provides immediate feedback on the day's lesson (Patricia and Deborah, 2012).

5.2.2.3 Peer Assessments:

Encouraging students to review each other's work using a rubric provided by the teacher fosters collaborative learning and develops critical thinking skills (Carlos et al. 2014).

5.2.2.4 Self-Assessments:

Encouraging students to evaluate their own work and monitor their learning progress can be facilitated by providing them with self-assessment checklists or reflective questions. This approach promotes self-awareness and ownership of learning outcomes (Andrade, 2019).

5.2.2.5 Mini Projects:

Assigning small-scale projects that can be completed within a short time frame allows students to integrate multiple skills and concepts effectively (Sonar, 2021).

5.2.2.6 Flashcards:

Utilize digital or physical flashcards for quick reviews and self-assessment. Tools such as Anki for digital flashcards or traditional physical flashcards are effective for reinforcing learning and assessing understanding (Golding et al. 2012).

5.2.2.7 Classroom Polls:

Conduct real-time polls using tools like Kahoot or Poll Everywhere to gauge student understanding of the material covered. These tools engage students actively and provide immediate feedback to the teacher on their comprehension of the content (Stover et al. 2015).

5.2.2.8 Journal Entries:

Ask students to maintain a learning journal where they regularly write reflections on what they have learned and areas they find challenging. This practice encourages self-reflection and helps students track their progress over time (Walker, 2006).

5.2.2.9 Interactive Activities:

Use activities like "Think-Pair-Share" where students think about a question, discuss with a partner, and then share with the class. This can serve as a quick assessment of understanding (Hanna, 2015).

5.2.2.10 Socratic Seminars:

Conduct structured discussions where students engage in dialogue about specific topics, demonstrating their understanding and critical thinking skills. This method fosters deeper comprehension and allows students to articulate their thoughts effectively through meaningful discourse (Castellanos-Reyes, 2021).

5.2.2.11 One Minute Papers:

At the end of a class, having students write a summary of what they learned or respond to a specific question related to the lesson helps reinforce their understanding and allows for immediate assessment of comprehension (Stead, 2005).

5.2.2.12 Concept Maps:

Assigning students to create concept maps that visually represent their understanding of a topic is an effective way to assess their grasp of the material. Concept maps allow students to organize and connect key concepts, demonstrating their comprehension and the relationships between different ideas (Baliga et al. 2021).

5.3 Portfolio Assessments:

Portfolio assessment involves evaluating how students construct and reflect on tasks by compiling relevant information and materials aligned with course objectives. Instructors assess the outcomes within a specified timeframe. This method allows educators to consider students' decision-making processes, rationale behind their actions, and evaluate both current progress and expected outcomes effectively (Mahayukti et al. 2018). Portfolios have become more prevalent in various fields, including healthcare professions, as part of a shift from traditional "snapshot" examinations to more comprehensive assessment methods. This approach is believed to strengthen the connection between assessment and learning by enhancing learning outcomes and providing constructive feedback. Portfolios are particularly valuable in assessing areas that are challenging to evaluate through conventional means in diverse clinical settings. These include aspects such as attitudes, personal attributes, reflective skills, and professionalism. In postgraduate medical education, arts and beyond, portfolios are increasingly utilized to evaluate students' progression and competence (Haldane, 2014).

5.4 Peer Assessment and Feedback Mechanisms

As alternative assessment methods gain popularity in higher education, self- and peer feedback are recognized for their roles in enhancing authentic assessment performance and supporting learning. Self-feedback involves learners reflecting on their own writing and making revisions in subsequent drafts, while peer feedback entails giving and receiving comments and suggestions from peers to improve writing. Both types of feedback are crucial in writing classrooms, as they complement each other to maximize their effectiveness. Understanding the distinct roles and impact of self- and peer feedback on writing outcomes is essential for optimizing student engagement and improving educational support in feedback processes (Lu et al. 2021). Feedback from mentors, tutors, and peers is crucial for enhancing student learning. Peer assessment, where students evaluate each other's work based on set criteria, is particularly valuable for both formative and summative purposes. It promotes critical thinking as students analyze and provide constructive feedback on their peer's performance. This process not only aids in evaluating others but also deepens the understanding of students providing feedback by prompting reflection on their own comprehension and skills. Overall, peer assessment fosters a collaborative learning environment that supports student growth and improves learning outcomes (Chin, 2016).

6. Technology Enhanced Assessment

Recent advancements in technology have revolutionized classroom-based assessment practices by integrating cognitive constructs, assessment functionality, and automation. Technologies such as artificial intelligence (AI), learning analytics, and virtual reality (VR) play crucial roles: simulating real-world problems, capturing complex performances, analyzing data efficiently, visualizing results for actionable insights, transforming scores into meaningful information, and reducing manual effort. These innovations enhance assessment

precision, support personalized learning strategies, and empower educators with valuable tools to optimize student outcomes effectively (Zhai and Wiebe, 2023).

6.1 Digital Assessments: Online Quizzes and Exams

Digital assessments such as online quizzes and exams, facilitated through platforms like Kahoot, Quizizz, and Google Forms, offer educators a versatile toolset for evaluating student knowledge and understanding in a structured manner. These platforms enable the creation of interactive quizzes that engage students actively with course content while providing immediate feedback on their responses (España-Delgado, 2023). The automated grading functionality of tools like Google Forms ensures consistency and efficiency in assessment processes, allowing educators to focus more on interpreting results and adjusting instructional strategies based on individual performance. Moreover, the customization features of these platforms empower educators to tailor assessments to specific learning objectives, thereby promoting a more targeted evaluation of student competencies (Valentine et al. 2023).

6.2 E-Portfolios: Platforms for Showcasing Student Work

E-Portfolios, deployed through platforms such as Mahara, PebblePad, and Google Sites, serve as comprehensive tools for assessing and documenting student learning outcomes across diverse disciplines. These platforms facilitate the collection and presentation of student artifacts, reflections, and achievements in a digital format, providing a holistic view of their educational journey (Zhang and Tur, 2022). Educators can use e-Portfolios to assess not only the quality of students' work but also their ability to critically reflect on learning experiences and demonstrate proficiency in key competencies (Fitch et al. 2008). By integrating multimedia elements such as videos, images, and documents, students can effectively showcase their skills and accomplishments, thereby enhancing the authenticity and depth of assessment (Musbau et al. 2020).

6.3 Learning Management Systems (LMS): Centralized Platforms for Assessment

LMSs like Moodle, Canvas, and Blackboard serve as centralized hubs for managing and executing various assessment activities in educational settings. These platforms streamline assignment distribution, submission, grading, and feedback processes, offering educators comprehensive tools for monitoring student progress and performance (Khatser and Khatser, 2022). Through LMSs, instructors can create and administer assessments, track student engagement with course materials, and provide timely feedback to enhance learning outcomes. Communication tools embedded within these platforms facilitate seamless interaction between educators and students, fostering a collaborative learning environment that supports continuous assessment and feedback loops (Bradley, 2021).

6.4 AI and Analytics in Assessment: Enhancing Efficiency and Personalization

Artificial intelligence (AI) and learning analytics technologies are revolutionizing assessment practices by automating routine tasks and providing actionable insights into student performance. Automated essay scoring

systems leverage AI algorithms to evaluate written responses objectively, ensuring consistency and scalability in grading processes (Gonzalez Calatayud et al. 2021). Adaptive learning systems like Knewton personalize learning pathways based on individual student data, optimizing educational experiences by targeting specific learning needs and preferences. Learning analytics dashboards analyze vast datasets to identify trends, patterns, and areas requiring intervention, enabling educators to make data-driven decisions that enhance instructional effectiveness and student success (Tumaini et al. 2021).

7. Competency Based Assessment: PARAKH

Competency-based education (CBE) focuses on developing specific skills and knowledge rather than rote memorization. India's National Education Policy (NEP) advocates for shifting from summative assessments to regular, formative, and competency-based assessments. These evaluations aim to enhance higher-order skills like analysis, critical thinking, and conceptual clarity. Competency-based assessments (CBA) provide a comprehensive understanding of a learner's proficiency in a specific field, promoting quality education and better employability. CBE benefits include personalized learning, practical application, continuous feedback, increased engagement, and preparation for lifelong learning. The implementation of Competency-Based Assessment (CBA) is crucial due to changing workplace demands, shifting from routine to cognitive tasks, accelerated by AI advancements. Training teachers to effectively conduct CBA is essential, as it allows learners to demonstrate their skills without fear or comparison. Unlike traditional assessments, CBA provides continuous support and multiple opportunities, focusing on holistic development. Creating a robust support system ensures learners are prepared for assessments on demand (Akhil Bhartiya Shiksha Samagam, 2023).

8. Multidisciplinary and Holistic Assessment

Multidisciplinary program assessments encompass a range of innovative methods designed to evaluate students' holistic development across various academic disciplines. Interdisciplinary projects serve to integrate knowledge and skills from diverse subjects, promoting a comprehensive understanding and practical application of learning (Berasategi et al. 2020). These assessments, including interdisciplinary projects, Team-Based Learning (TBL), and Collaborative Problem Solving (CPS), assess students' capability to apply their knowledge across different fields, emphasizing teamwork and critical thinking. They aim to integrate diverse disciplinary perspectives effectively to collaboratively address complex challenges (Burgess et al. 2020; Kim and Tan, 2013)

9. Inclusive Assessments

Discussions on improving equity in higher education assessment emphasize 'inclusive assessment', which aims to proactively accommodate all student capabilities. This approach ensures fair and effective assessment methods that enable every student to demonstrate their full potential in knowledge, understanding, and skills. It addresses persistent challenges in current assessment practices and advocates for 'assessment for social

justice', aiming for fair outcomes beyond procedural equality. 'Assessment for inclusion' further emphasizes accommodating diverse student strengths to promote equitable and inclusive higher education assessment practices (Tai et al. 2022). Inclusive assessment practices aim to accommodate students with disabilities, international students, and those from linguistically diverse backgrounds in higher education. Research indicates limited exploration into how these practices directly impact student learning, with few studies dedicated to this area. Strategies to enhance inclusivity include offering student's choices in assessment methods, adopting programmatic assessment approaches, and involving students in the co-design of assessments. Despite these efforts, widespread implementation of universal design for assessment remains uncommon due to challenges in theoretical development and operationalization. Traditional assessment norms and assumptions often hinder broader adoption of inclusive assessment methods in educational settings (Tai et al. 2021).

Conclusion

The adoption of innovative assessment methods aligned with the National Education Policy (NEP) 2020 presents a pivotal opportunity for Indian education. Embracing strategies that cater to diverse student needs, such as offering choices in assessment formats, implementing programmatic approaches, and involving students in co-designing assessments, can foster a more inclusive educational environment. Despite challenges like limited theoretical frameworks and adherence to traditional assessment norms, the pursuit of universal design for assessment remains crucial for achieving equitable and effective learning outcomes. Moving forward, continued exploration and implementation of these innovative methods are essential to realizing the NEP 2020's vision of transforming India's educational landscape.

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