National Education Policy-2020: Research and Innovations for Transforming Higher Education
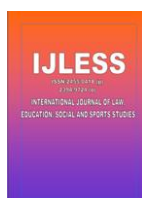
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ABSTRACT

In educational institutions in India, research and innovations are very important and crucial innovative approaches in teaching and learning. The Government takes various initiatives to upgrade innovative education among students as well as teachers. This study aims to investigate the research and innovations for transforming higher education in the context of NEP 2020.It also tries to find out the current issues of research and innovation in higher education system. The data used in this study are secondary data which are descriptive in nature. Therefore, the researcher has collected the data from various journals, books, reports, internet sites, newspapers etc. Now day by day, people have realized the greater understanding of research and innovation in education and tries to solve the challenges of innovative education. Today, technology-based education is the latest idea in higher education in the present policy. HEIs will play an active role not only in conducting research on disruptive technologies but also in creating initial versions of instructional materials and courses including online courses in cutting-edge domains and assessing their impact on specific areas such as professional education. Once the technology has attained a level of maturity, HEIs with thousands of students will be ideally placed to scale these teaching and skilling efforts, which will include targeted training for job readiness. NEP 2020 gives much importance on holistic development. This policy emphasizes that every aspect of the curriculum and pedagogy must be Improved and updated. School education should be experiential so that students can develop their inner potentialities and they can face every challenges of life. These all effective strategies are very crucial for the students which provide them better opportunities for demonstrating their unique and creative qualities for their better future. It is seen that now Indian education system gives more emphasis on the development of each person's creative potential. India will ultimately develop if these initiatives are properly implemented.

Keyword- NEP 2020, research, innovation, holistic development, technology-based education.

Introduction

Innovation means incorporating new technologies in the curriculum in a new way so that it foster new creativity, critical thinking and problem solving. It should also include activities facilitating collaboration and communication between students and teachers. Knowledge creation and research are critical in growing and sustaining a large and vibrant economy, uplifting society, and continuously inspiring a nation to achieve even greater heights. A robust ecosystem of research is perhaps more important than ever with the rapid changes occurring in the world today, e.g., in the realm of climate change, population dynamics and management, biotechnology, an expanding digital marketplace, and the rise of machine learning and artificial intelligence. Despite this critical importance of research, the research and innovation investment in India is, at the current time, only 0.69% of GDP as compared to 2.8% in the United States of America, 4.3% in Israel and 4.2% in South Korea. Research and innovation at education institutions in India, particularly those that are engaged in higher education, is critical. Evidence from the world's best universities throughout history shows that the best teaching and learning processes at the higher education level occur in environments where there is also a strong culture of research and knowledge creation; conversely, much of the very best research in the world has occurred in multidisciplinary university settings.

To further promote research in all the fields of education, the NEP-2020 has proposed the National Research Foundation(NRF) that will nurture the culture of research among learners as well as HEIs. NEP-2020 aims at creating a conducive ecosystem to catalyze and energize research and innovation in HEIs. The special focus is on seeding and nurturing the culture of research and innovation at universities and colleges through funding support, guidelines/policies and establishing innovation and research centres. The NEP-2020 is aimed to make India a global knowledge superpower with equitable access to the highest-quality education for all learners regardless of their social or economic background .The vision of the policy is to instill among the learners a deep-rooted pride in being Indian, not only in thought, but also in spirit, intellect and deeds, as well as to develop knowledge, skills, values and dispositions that support responsible commitment to human rights, sustainable development and living, and global well-being, thereby reflecting a truly global citizen.

To attain the above outcomes, India has to be at the forefront of knowledge creation, research and innovation. Overall, an ecosystem is needed to integrate all the stakeholders with diverse possibilities of research. Considering the above and also to transform the quantity and quality of research in India, the NEP-2020 has proposed to set up the NRF. The Foundation will create a global quality research ecosystem by providing merit-based competitive funding with sustainable incentives and recognition of outstanding research.

Objectives

1. To study the research and innovations in education

2. To study the research and innovations for transforming education in the context of NEP 2020

3. To study the process of higher education and NEP 2020

4. To study the challenges of research and innovation in education

Methodologies

The data used in this study are secondary data which are descriptive in nature. Therefore, the researcher has collected the data from various journals, books, reports, internet sites, newspapers etc.

Research and innovations in education

Innovation is built on curiosity, risk-taking, and experimenting to test assumptions. Innovation is built on questioning and critiquing the current status quo (Sontakke et al., 2022). It also depends on identifying an opportunity and taking advantage of it. Education-related innovation may take on a variety of forms. It is necessary to conduct and organize research since innovation is its result (Umachagi & Selvi, 2022). Innovation is the result of research, which is the first stage. Research and innovation in education are crucial for improving the quality of learning, teaching and overall educational outcomes. Research helps identify effective teaching methods and strategies that can lead to better learning outcomes for students. Innovative approaches like personalized learning use technology and data to tailor instruction to individual students' needs and abilities. Blended learning models combine traditional classroom instruction with online learning, offering students more flexibility and autonomy. Research and innovation in education support students' flexible, professional growth. The students can be multitaskers interested in how the educational profession is evolving. The innovative corpus of knowledge has made a substantial contribution to high-quality education. Innovative education strongly emphasizes societal benefits (Das, 2022).

Research and innovations for transforming education in the context of NEP 2020

Research can inform decision-making in higher education by providing evidence-based recommendations for policies and practices that can improve student outcomes and enhance the overall quality of education. Research can also help identity areas of need and opportunities for innovation and improvement. Research and innovation can transform higher education in many ways. Universities can invest in advanced technologies, such as high-performance computing, data analytics and artificial intelligence, to enhance research capabilities. They can also create a cultural of collaboration and innovation among research teams. Educators can explore and adopt innovative teaching approaches, such as interactive learning modules, blended learning and self-paced learning experiences. Institutional structures can be expanded to strengthen the capacity of faculty to use effective pedagogical approaches. Universities can create opportunities, share best practices, develop new start-up models and provide adequate funding support. The National Education Policy-2020 proposes to set up the NRF to create a global research ecosystem.

The process of higher education and NEP 2020

Recognizing and developing each student's unique strengths while developing critical and creative thinking abilities to enable rational decision making and creativity are the fundamental principles of the National Education Policy. Additionally, it extensively uses technology for teaching and learning, reducing challenges associated with organizing and managing education and linguistic difficulties (Kathi et al., 2022). It promotes the idea that outstanding research should come before excellent training and execution. By providing creativity and invention equal standing, the strategy seeks to transform India into a vibrant knowledge society while simultaneously improving the bar for education (Lata et al., 2022). The main thrust of this policy regarding higher education is to end the fragmentation of higher education by transforming higher education institutions into large multidisciplinary universities, colleges, and HEI clusters/Knowledge Hubs, each of which will aim to have 3,000 or more students. This would help build vibrant communities of scholars and peers, break down harmful silos, enable students to become well-rounded across disciplines including artistic, creative, and analytic subjects as well as sports, develop active research communities across disciplines including cross-disciplinary research, and increase resource efficiency, both material and human, across higher education. More HEIs shall be established and developed in underserved regions to ensure full access, equity, and inclusion. There shall, by 2030, be at least one large multidisciplinary HEI in or near every district. Steps shall be taken towards developing high-quality higher education institutions both public and private that have medium of instruction in local/Indian languages or bilingually. The aim will be

to increase the Gross Enrolment Ratio in higher education including vocational education from 26.3% (2018) to 50% by 2035. While a number of new institutions may be developed to attain these goals, a large part of the capacity creation will be achieved by consolidating, substantially expanding, and also improving existing HEIs.

Challenges of research and innovations in education

Research and innovation in education can face a number of challenges. They are as follows-

1. Lack of support for teachers

Teachers are often at the forefront of data collection and putting ideas into practice, but they may not have the time or space to be researchers themselves.

2. Tension between knowledge sources

There can be a conflict between those who believe knowledge comes from scientific experiments and those who believe it comes from teaching practices.

3. Lack of incentives

Users and doers may not be incentivized to try new things and share their expertise.

4. Centralized control

Education systems are complex, and rules are often controlled from the center, which can hinder decentralized innovation.

5. Resistance to change

There may be a reluctance to discard conventional ways of doing things.

6. Lack of professional support

Teachers may not have the support they need to adapt their teaching practices to use available IT resources.

7. Training Requirements for Teachers

 Occupational skills necessary for the creative teaching-learning process must be improved among the instructors. Students' deeper knowledge examination may be encouraged by teachers. An innovative and heuristic approach that emphasizes successful teaching-learning is provided by pedagogical knowledge (Ranjan &Mohapatra, 2023).

8. Changes in Attitudes among Students and Teachers

The ignorance of innovative studies is one of the problems in education. It takes art to innovate in the educational sector. Raising academic standards via innovative education may encourage instructors and students to try out novel ideas. Additionally, a specific pattern of the teaching learning process may be the focus of instructors and pupils (Maurya & Ahmed, 2020).

9. Time-consuming

The most time-consuming activities and those that call for the greatest amount of patience are

research and creative schooling.

Conclusion

Professional education must include both innovation and research. Their main objective is to upgrade and improve specific knowledge in a specific field that will be helpful to everyone. It helps to learn something new which is applicable in our day-to-day life. It becomes significant for its promotion in numerous professions whether linked to education, physicians, attorneys, or any other topic since it

helps knowledge growth, practical improvement and policy information. It will be very much effective if the expertise could see the issues of their students learning and find out new ways to solve that problems. The key overall thrust of curriculum and pedagogy reform across all stages will be to move the education system towards real understanding and towards learning how to learn - and away from the culture of rote learning as is largely present today. The aim of education will not only be cognitive development, but also building character and creating holistic and well-rounded individuals equipped with the key 21st century skills. Ultimately, knowledge is a deep-seated treasure and education helps in its manifestation as the perfection which is already within an individual. All aspects of curriculum and pedagogy will be reoriented and revamped to attain these critical goals. Specific sets of skills and values across domains will be identified for integration and incorporation at each stage of learning, from pre-school to higher education. Curriculum frameworks and transaction mechanisms will be developed for ensuring that these skills and values are imbibed through engaging processes of teaching and learning. The development of each person's creative potential should be emphasized in the Indian educational system as it moves towards critical and creative problem-solving. If these improvements are effectively implemented, India will ultimately emerge as an essential competitor in the world of knowledge.

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