

The Comprehensive study of Artificial intelligence with an Exposure towards the India's National Educational Policy 2020

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Abstract:

As we talk about the India's concurrent topic as shared between by the Indian Central government as well as the State Government the insights is on regarding the foundation of the country, our research paper that provides the value-able sightedness towards the novel anticipation of the upcoming technology of the (AI) Artificial Intelligence in defining out and refining out as well the newly derived policy after prolong 34 years and it was named as (NEP2020) New Education Policy 2020 which was structured under the Late Dr. Krishnaswamy Kasturirangan is explored through this study. The research paper also considers the varieties of certain Artificial intelligence adaptations which have been exemplified towards the usage of National Education Policy 2020. This study depicts the exposure towards the technology, personalized learning's and its effectiveness and benefits along with the tools of AI which we have covered with certain explanation, regarding this policy and the conclusion is presented therefore as with it this study had major boost up with the performance that the AI has a gargantuan opportunity to structure out the Education saga in the Indian Society along with its application which relies on the data providing's, data protection and dialects of teaching efficacy.

Introduction:

The land of India where the education lined up and established its roots of education towards the Gurukul's, where the practical knowledge were peached through various famous worldwide universities and diversity of students were there some of the renowned universities were Takshshila, Nalanda, Vikramshila which use to attract not only Asian countries student but even European and Aryan's were attracted towards Indian Education as the ancient education comprises of holistic development because of the education you perceive here was not just limited towards academic purpose but along through the education teaches you to stay relevant, follow demand needs and how to live your routine life along with it. As there in ancient Indian education there were several glance of some spiritual values also and where the spirituality exist there comes the rise ,of the ethical thinking and sight of discipline with set of critical thinking and all this things were been practiced. As the shift in momentum, the colonial era started where the British government and British people wanted all their benefit, they brought and made language of English as mandatory as it was done by Lord Macaulay and followed up the British education where the academic examination were done to serve the British administration. This were the starting up of not even language base but the base of memory based education it was in India which was once the practical knowledge hub during Vedic era. Later on even after the Post-Colonial era, the independent India where the Kothari Commission

got introduced in the year of 1964-1966 that gave the education the values of democratic nature and well connected with the five year plan goals and with major inclusive stuffs. Later on in the year of 1968 the India's first centralized education policy got reformed which has the base of 3 language education in India and along with it the agendas of 1986 education policy was more driven towards the equal rights towards education and access of education to every sections of the society especially the marginalized one. As there were certain leakages under this policy cause the presence of rote learning got too heavily employed rather than the practical areas of education so to de-rule it out another educational reforms were the need of an hour so on the recommendation of late DR. Kasturirangan reports and with the cabinet approval on 29th July 2020 with it the vision of education got new policy which became the New education policy 2020. A shift of 10+2 type of structure is changed towards the 5+3+3+4 which is more flexible manner of Indian schooling of education, the foundation is been adopted regarding the literacy and numeracy been considered in the starting years of education where the concept based learning priority is given rather than the menace of rote learning, the vocational education, the artificial intelligence initials were introduced, the coding of computer language was also been exposed off at the schooling level and along with it there much flexibility is been provided to make the choice regarding the subject selection from the Arts, Commerce & Science along with other vocational subjects alongside it to describe the growth of digital awareness and transformation the (NETF) National Educational technology forum got launched that use to keep an eye on major decision making in educational technology and about (AI) artificial intelligence , machine learning, data analytics and many ED-tech platform decisions.

Literature Review:

Sujata Moharana(2025) This study evaluates the integration of AI into inclusive education within the NEP-2020 framework, exploring both benefits and challenges. While AI offers opportunities for personalized learning and improved accessibility, concerns remain regarding equity, data privacy, ethics, teacher readiness, and infrastructure gaps. Drawing on recent research, the paper discusses the potential and limitations of AI in education, with a focus on inclusivity. It concludes with recommendations for further research and strategies to enhance AI's role in delivering tailored, equitable educational experiences.

Pooja Rathi (2023) This research being conducted focuses on how NEP will support multidisciplinary education by improving and supplementing AI-based learning. The framework of policy that lays stress on the necessity of teaching the technological skills at all educational levels in order to update India's curriculum and get students ready for the AI

economy is also described in this paper. Also discussed are the requirement of learning to code and the need for artificial intelligence.

Dutta, S. NEP (2020). The study explores the transformative scope of India's NEP-2020 through the integration of generative AI and immersive tools like Augmented Reality (AR) and Virtual Reality (VR). It examines how these technologies can pile up the educational systems with global sustainable development goals while delivering significant local benefits. By modernizing teaching methods, boosting student engagement, and reducing urban-rural educational disparities, such advancements offer personalized and impactful learning. The findings highlight their potential to empower teachers and learners, making education for sustainable development a practical and achievable goal.

Moharana, S. (2025). Prospects of Artificial Intelligence (AI) and Personalized Learning in Inclusive Education Integrated to NEP-2020. Asian Journal of Education and Social Studies, 51(4), 10-9734.

Rathi, P. (2023). Artificial Intelligence Based Learning: NEP 2020 Enhancing Indian Initiatives for Multidisciplinary Education. THE PROGRESS JOURNALS.

Dutta, S. NEP 2020 and Generative AI, Immersive Technologies-Transforming Indian Education for a Sustainable Future. GLOBAL GOALS, LOCAL IMPACTS, 38.

Foundation of National Education Policy 2020 embedded with the structure of Artificial Intelligence:

- **Ameliorating Access:** Through the AI-powered platforms, through the offline-enabled mobile applications, virtual classrooms & the language processing we can deliver quality education in regional languages which may overcome many linguistic barriers with far reaching remote areas, thus ensuring accessible and inclusive learning opportunities for diverse communities.
- **Elevating Equity:** The artificial intelligence systems, irrespective of a child's background or irrespective of any skill level, can identify at-risk learners early, provide targeted interventions, and ensure them that personalized support, thereby promoting equal learning opportunities & addressing individual educational needs effectively.
- **Remediating Quality:** The artificial intelligence can also promote the data-driven insights that might continuously improve the educational practices, enable automated assessments, facilitate intelligent content makings & a support towards the adaptive learning, thereby enhancing the overall teaching-learning process and ensuring more personalized, efficient, and effective educational experiences for diverse learners.

- **Assuring Affordability:** With the help of artificial intelligence we can create lower individual costs without sacrificing quality by directing the administrative tasks, maximizing resource allocation & enabling scalable delivery methods, thereby enhancing efficiency & affordability with maintaining high educational standards for the diversified learning environments.

Government Initiatives and Various model implementations from Indian Players:

1. DIKSHA
2. EMBIBE
3. SWAYAM
4. EKLAVYA

1. DIKSHA:

- DIKSHA stands for digital infrastructure for knowledge sharing it is the creation perceived by the Ministry of Education with the execution work of it handled towards the (NCERT) National Council of Educational Research and Training
- Launched in the year of 2017 it has the prospect of nationwide digitally designed public platform for the school education.
- With uniformity, widely accessible and free from language biasedness especially multilingual and more important amicably offline education throughout the nation it is available.
- Also aligns with providing of interoperable & the modular way of proving learning phase widely which is the motto of (NDEAR) National Digital Education Architecture
- Acceptance of all the Indian states and union territories the prominent institute which is the basic board of secondary education nationwide (CBSE) had endorsed even the DIKSHA as the engine base towards the PM E-VIDYA scheme which majorly approaches towards E-Education and major stuff is the books have started upgrading up with the QR codes.

2. EMBIBE:

- EMBIBE word is penned from the word IMBIBE which itself means to acquire knowledge as it is customized AI based ED-tech platform available with both premium and free-mium model which includes premium and free stuffs for students.
- It is a major platform for the subject of science students where the major learning's of Physics, Chemistry and Biology along with it for the experimental science it brings virtual laboratories also and all this stuff which is connected through the curriculum of CBSE and State education board also presented in this learning's.
- With through conceptual learning's it also provides question bank questions from various reference books at one stop solution and along with it EMBIBE analyse individual time spending on certain contents and measures speed and accuracy during online tests.

3. SWAYAM:

- SWAYAM stages out for Study Web of Active Learning for Young Aspiring minds which includes all schooling level , university level and professional education through online manner and free lectures are provided as it is also called as (MOOC LEARNING) Massive Open Online Course
- Based on the interest of the candidate it provides course recommendations, contents , module and video learning's also
- With SWAYAM there are Chat-Bots involved within the system where all the general queries as well as course queries and learning doubts get resolved quickly and the most important stuff of SWAYAM is that the contents are available in every regional language along with it the level of difficulty is decided on the basis of answers the candidate provides.

4. EKLAVYA:

- EKLAVYA is the concept of (AFE) Amazon Future Engineer regarding the (EMRS) programme. 54 Eklavya Model Residential School have been initiated across various Indian States and the content of syllabus is regarding the Artificial Intelligence.

- Here the courses are handled on the basis of class segregation , the learning starts with class 6 where the basics of computer science is there with class 7 students coding and visual programmes are there in class 8 and 9 introduction towards AI and in 10 learning's would be skill based.
- To bare the difficulty of language the courses here are also offered in many regional languages.

As, there are far more tools coming up and getting involved through the exposure towards AI as the Tamil Nadu state KALVI application is there which targets rural tamil students population which provides education in local language but it is still in developing mode AI functions are not upgraded within it.

Adoption of Artificial intelligence framework with Roadmap of future:

Every step and structure have their following stages and phases and here the adoption of artificial intelligence in India's new education policy 2020 is also not less than the revolution cause it doesn't just the change the object of learning it change the method , the habit, the usage , the grasping of the education, to take the learning's in more creative way so with 3 scores here we recommend through our research to initiate goals of artificial intelligence into the educational learning's

Short Term Expectations:

Here the short term expectation's covers the duration up-to 3 years of period and what to expect in this 3 years is:

- **Facilitate the Facilities:**

Consider to create the artificial intelligence based infrastructures at the impoverished areas as it should be the paramount priority either with the help of government aid or with the model of public-private partnership.

- **Seminar Schooling for the Educators:**

Establish the robust artificial intelligence based programmes at every level of grades.

- **Programming Prototypes:**

Implement experimentation of the artificial intelligence equations at few selected areas or try with the remote regions so that it becomes more evaluative to improve and enhance its facilities at lateral places.

- **Emergence of the policy mechanisms:**

Establish complete set of rules and regulations for the legitimate usage of Artificial Intelligence in the field of education, including standardised criteria for the algorithmic flexibility & the data protection.

Medium Term Missions:

Here the medium term mission's derive the duration of the 3-7 years of period and what to expect in this 3-7 years is:

- **Designing of Modular platforms:**

Constructing out the far reachable platform along with the reliable one's fuelled by the artificial intelligence that can have capacity to manage many students at once.

- **Transforming the systems of Assessment:**

Alter the classical way of assessment and mould the entire structure towards the perpetual evaluation of artificial intelligence.

- **Evaluating educators functions:**

The role and duties of educator with the upcoming artificial intelligence transformation now had become to didactic catalyst irrespective of data providers.

- **Configuration on the basis of landmark location:**

Construct the artificial intelligence equations in that manner that one can adjust in the regional language, regional context and with respect to regional culture to grasp things quickly.

Vision of long years:

Here the medium term mission's drive the vision of the 7-15 years of period and what to expect in this 7-15 years is:

- **(AI) Artificial intelligence for All:**

Derive the drive of meticulous exposure regarding the artificial intelligence at every schools and colleges and other educational establishments like ITI.

- **Global Governance:**

As with Artificial intelligence algorithm India can promote the exports of various learning and education based software and can cement their position in the governance of ED-Tech learning among the world.

- **Performance based Learning:**

The base of artificial intelligence should be structured in a way just like it can figure out and enhance the level of learning in short it should be more goal oriented.

- **(AI) Artificial intelligence is lifelong insurance:**

Insurance is a theme of insurable interest of the entire life just like this there should be access regarding the AI integration that it should cover all the lifelong learning towards the entire human journey and at every stage whether related to any professional or personal learning's.

Benefits of Artificial Intelligence to the Students:

With the set of mind the younger generation is occupying, there the notably stuff is been viewed is the more exposure they get regarding the different technology the more they get involved and if the students click in the correct manner by far they have the ability to create something innovative from it. With artificial intelligence there are several benefits they can attend.

- **Provide learning for 24hours and continuous 7 days:**

With the AI technology there are several Chat-bots coming and various learners programming out there, so they can have access without even of a tutor whether it is to acquire certain concept, certain example framing or completing assignments or any queries regarding their topic.

- **Customized Learning:**

With certain students the issue is that they don't stand with everyone's grasping power or they don't find too amicable exposure towards certain tutor or at well the adapting levels of every student are not the same, the language issues may there even so for that the artificial intelligence stands well through the personalized way of learning, where the learning desires are prefer, where the abilities and tempo of the student is measured and when this things get appealed it provide you the effective base of learning.

- **Improve the better version of verbal communication with skilful writing's:**

Communication comes with the words you write and what you speak is what you have written somewhere, to adapt the deep thinking capacity, to learn the major vocabularies, the proper use of grammar for it the AI based integrations is much beneficial.

- **Enhance towards scientific discoveries and research data's:**

With the tools regarding of the artificial intelligence it majorly aids for certain discoveries to learn new researches to find out the relevancy of data's to understand the complexity of certain literatures and more over the understanding level is important after the implementation of the research study.

As there are far few more major benefits but this are the certain basic benefits that the artificial intelligence technology can provide.

Challenges of Artificial intelligence based education in India:

The biggest fear with the technology comes with the high end cost, with the connective infrastructures as there are certain barriers which we had to change into the opportunity and some of them are:

- **Digital literacy and skills:**

Not the precise but at some conclusion the digital literacy means how little bit aware about the digital employed gadgets like internet, computer, smartphone and know the usage of this gadgets. There also the knowledge gap among the urban demographics and rural demographics, the urban people are more exposed towards the technology, the rural are very less aware and if they aren't aware with basic digital gadgets than how far this AI would be challenging for them to adopt.

- **Digital connectivity:**

The term digital connectivity means it joins the consensus with the people through digital means, as to implement AI based transition the digital infrastructure plays the moral role. As the reality bite the dust that in India only 57.2% schools are equipped with the computers and 53.9% only have Internet access reported by (UDISE) Unified district information system for education with it the digital infrastructure finds gap demographically where the urban schools have 69% access towards digital infra and 45% access in rural areas. As the BHARATNET project of government has envision to connect 90% of schools with internet connectivity so it will benefit more AI transitions.

- **High end costly initiative:**

With bringing the artificial intelligence there it comes with the three tiers cost where India as country has to evolve out the digital infrastructure first than to adopt AI transition innovation hubs and centre for excellence regarding AI need to be establish which sees nationwide AI programs and along with it the maintenance mechanism cost, to store data through cloud software and data protection also.

- **Ethical Utilization of technology:**

As the algorithms are changing with just a touch of search towards certain product and you will get many exposures through various platforms it is due to the data safety. The data privacy remains the major concern as AI has been embedded in every field and usage of it should be ethical rather than unusual way and the priority

of this security must be view through social safety rather than technological cause views, culture and ones ideas are connected with it.

Conclusion:

As, Artificial intelligence is still not that matured, it is still in the phase of growing but it has quiet potential to be adapt towards the every field and every occupation. More of people think that the artificial intelligence will be the disruptor in the market but here within our study limit it didn't make any prior point as AI helps in basic to basic levels of Education alongside the criteria of Creative thinking is also the priority regarding it when we use AI tools, with this we observed the digital infrastructure is must necessity and internet connectivity also plays an important role as Indian government is increasing its connectivity of Internet through Bharat-Net project and there are plenty of further research scope lies ahead of this research paper when one can study different professions and occupation where AI can play crucial role and along with this one can even compare the state wise internet connectivity and digital infrastructure database within India.

References:

- Moharana, S. (2025). Prospects of Artificial Intelligence (AI) and Personalized Learning in Inclusive Education Integrated to NEP-2020. Asian Journal of Education and Social Studies, 51(4), 10-9734.
- Rathi, P. (2023). Artificial Intelligence Based Learning: NEP 2020 Enhancing Indian Initiatives for Multidisciplinary Education. THE PROGRESS JOURNALS.
- Dutta, S. NEP 2020 and Generative AI, Immersive Technologies-Transforming Indian Education for a Sustainable Future. GLOBAL GOALS, LOCAL IMPACTS, 38.