

Curriculum Design for Pre-Service Teacher: A Futuristic Approach Aligned with NEP 2020 for Teacher Education by 2050

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ABSTRACT

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Curriculum is an umbrella term which involves the whole process of education within itself. It is the Centre of attraction in every educational system which aligns with NEP 2020. It consists of content and experiences provided by teachers to students. The NEP 2020 provides a direction for teacher education curriculum development, which mainly focuses on quality education for all. In this direction, the Ministry of Education is moving forward to develop NCF for teacher education, which will be an important step towards empowering future teachers by 2050. The study aims to explore the futuristic perspective competency-based curriculum design for Pre- service teacher in the context of NEP 2020 with a focus on pre-service teacher education. The study focusses on content analysis of NEP 2020 for designing futuristic teacher education curriculum. The study highlights key challenges, opportunities and perceptions surrounding the implementation of NEP 2020's curriculum transformations, emphasizing the readiness of futuristic teacher and the evolving needs of teacher education. The research finding's reveals valuable insights into the working of curriculum frameworks in alignment with NEP 2020's vision of a holistic, competency-based teachers. The study is based on the findings enhancing the curriculum preparation and professional development for teachers, fostering a modern approach to education which meets the demands of a rapidly changing world dynamics.

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1. INTRODUCTION:

A teacher plays very crucial role in shaping the societies future. When we look at the future particularly in context with NEP 2020, then we realize that there is an urgent need to think about the changes that should be made in the curriculum for pre-service teacher education and redesign it. As education is evolving day by day due to the factors like making India a global country, new technology advancement, the needs of the society which are changing on regular basis. It is believed that due to these rapid changes the curriculum for pre-service teacher education must be designed in such a manner that the future educators not only prepare themselves for today's need but also, they should also be able to handle the complexities of the future which is yet to come. To cater all these needs NEP 2020 has designed a

curriculum which focuses on universal access and equity, a shift from rote learning to experiential learning, professional development of the teachers in a continuous manner, introducing multidisciplinary and integrated approach among the disciplines, development of skill and vocational education, integration of technology, catering the needs of diverse learners etc. To enhance the 21st century skills and help to make India the Vishva Guru which means a leading Nation. Moreover, when we think of such a curriculum which fulfils the needs of 2050, it is important to consider the impact of *globalization and digitalization* on teaching methodologies. The teacher which are being prepared for the future must have proper knowledge of using technologies such as artificial intelligence, virtual labs, online learning platforms etc. for teaching affectively in their classroom. This will help them to create a learning environment where the needs of the diverse learners would be fulfilled and moreover it will address the social-cultural dynamics that will shape India's education. The curriculum for pre-service teacher educators must be designed in such a manner that respects as well as celebrates different cultures, languages, learning styles, backgrounds and embrace the diversity in the classroom. Furthermore, one of the important points which is discussed in NEP 2020 is the continuous professional development that is CPD for teachers which focuses on life from learning for future educators through mentorship programs, reflections, assessments, workshops, capacity building programs and collaborative projects, etc. The main aim of this paper is to explore the futuristic approach to curriculum design for pre-service teacher educators that aligns with the vision of NEP 2020 based on content analysis from various papers and the national education policy itself.

2. Review of Literature:

Kausar Huma, Amjal Fouzia (2024), This paper discusses about the expectations of 21st century teaching method add evaluation of pre service teacher education program in developing essential skill for futuristic teachers. The researcher talks about collaborative learning, critical thinking, problem solving, ICT skills, communication skills and social emotional competencies in teacher training programs suggesting urgent changes in curriculum design of pre-service teacher.

Das Ramya (2024), In this paper the researcher focuses on the importance of pre-service teacher education program enhancing the quality of school education. This paper highlights some points like equipping future educators with pedagogical knowledge, management skill to handle the classroom, and to understand the learner. The conclusion of the paper is that the pre-service teacher training is important to prepare competency based futuristic teachers.

Kerimoglu Esra, Altun Sertel (2024), The researcher here discusses about the Backward Design (BD), instructional framework to enhance curriculum knowledge in early childhood education. The researcher highlighted improvement in certain areas of curriculum literacy and achievement test score.

Dass Krishna Rama (2024), In this paper, the researcher focuses on holistic approach for pre-service teacher education in India with respect to NEP 2020 to address demands of 21st century teachers. This paper focuses on developing teachers with competencies like critical thinking, adaptability, emotional intelligence, to cater the various learning challenges.

Sharma Manoj (2024), The researcher in this paper critically examines the aspiration and challenges of NEP 2020 in transforming teacher education. This paper focuses on four-year integrated program by 2030, that is to be designed to combine pedagogical skills, subject expertise and foundational values. It talks about enhancing quality education by development of multidisciplinary teacher education institutes.

Oluwatoyin Ayodele Ajani (2023), This paper discusses about inequalities that are in country's educational system which calls a shift towards inclusivity and equity in higher education. The researcher suggested integrating IKS (indigenous knowledge system), local histories and diverse social culture perspective. Researcher focuses on the role of

social justice fostering inclusivity and equity for a transformative curriculum of pre-service teachers to bridge the local and global knowledge system.

Zhang Yingqian, Zhu Jiabin (2023), The researcher reviewed 166 articles for recent trends and research in STEM pre-service teacher education from 2021 to 2022. The researcher suggests the need of integration in robust education system and practice adaptability to improve the stem pre-service teacher education quality.

Radha L, Arumugam J (2023), In this paper, the researcher talks about the alignment of NEP 2020 with sustainable development goal (SDG) to promote quality education. It focuses on integrating SDGs into curriculum to enhance pre-service teacher program to foster inclusive, innovative and multidisciplinary education. At the end, it concludes as integration of SDGs in curriculum and in education policies will contribute to sustainable development in India and globally.

Tiwari Anshuman (2022), The researcher in this research paper discusses about the NEP 2020 and its transformative approves to teacher education in India Researcher here focuses on ITEP Program to set minimum qualification for school teacher. It includes multidisciplinary and interdisciplinary learning, integrating pedagogy and content knowledge to prepare skill teachers in India.

Yin Mar Win (2021), In this paper, the researcher discusses about the lesson study (LS), integration into pre-service teacher education. The researcher here interviewed 8 teachers from 6 education institutes. Researcher found LS as valuable tool for lesson planning, learning teaching process in pre-service teacher education.

Aithal P.S. (2020), This paper discusses about the evaluation of the implementation strategies of NEP 2020. Researcher highlights the potential challenges like constraints of resource, infrastructure, inefficiencies of regulatory body and offers strategic solutions to foster problem solving collaboration between public, private and foreign institutes. The paper suggests actionable recommendations to achieve goals of NEP 2020.

Prathima, B., & Rao, M. T. (2020), This research paper explores about futuristic curriculum, to address the emerging demand of the society expectations. The researcher indicates curriculum as a comprehensive tool including content knowledge, evaluation, critical thinking and inclusivity. In this paper the researcher finds key components of a futuristic curriculum, including integration of local and global knowledge. This paper at last concludes that a well-designed futuristic curriculum is important for empowering learners to succeed in a rapidly changing world, ensuring educational equity and relevance for future generations.

3. MEANING OF COMPETENCY BASED CURRICULUM:

It is a type of curriculum in which the learners are equipped with specific competencies such as skills, attitudes and knowledge which are important for the learner to know to handle the real-world situations. It focuses on hands on experience, experiential learning, problem solving method, critical thinking etc.

4. THE MAIN FEATURES OF COMPETENCY-BASED CURRICULUM:

1. **Learner centric approach:** The competency-based curriculum focuses on the process in which the learner is the active participant and hence it leads to the development of the learner.
2. **Integrating Knowledge and Skills:** The competency-based curriculum focuses on applying the knowledge into the practical way and promoting hands on experience for the development of skills which are needed for one to deal with real life situations.
3. **Flexible and adaptable:** As competency-based curriculum focuses on learner centric approach, hence the curriculum which is designed is flexible and adaptable in nature which means that it changes with the needs and requirements of the learner, as well as the society.

- 4. Focus is on outcomes:** The competency-based curriculum is designed in such a way that it basically focuses on the reflection of skills and competencies which are required for professional development.

5. FUTURE PERSPECTIVE OF COMPETENCY-BASED CURRICULUM FOR PRE-SERVICE TEACHERS IN CONTEXT WITH NEP 2020:

- 1. Aligning curriculum with competencies for the holistic development of teachers:** The competencies which are required for effective teaching can be identified first for the development of competency-based curriculum. For example, competency such as proper knowledge of the pedagogy and subject matter to let the teacher know that what knowledge he has to deliver to his students using which appropriate knowledge for effective teaching. The teacher should have proper, clear communication skills so that he can convey their knowledge to the students in an effective manner. Moreover, the teacher should focus on developing the 21st century skills among children such as critical thinking, problem solving abilities, etc. with the proper use and integration of technology.
- 2. Using innovative teaching methodologies** for development of 21st century skills, as discussed in NEP 2020. To promote active learning and developing 21st century skills among the students it is important that the teachers must be aware of the innovative teaching methodologies so that they can effectively engage the students and focus on practical learnings of the students. Some of the innovative teaching methodologies involves:
 - **PBL (Project based learning):** Providing pre-service teachers with real life situations and allowing them to think, do research, brainstorming and allowing them to come up with ideas on their own and hence preparing them for practical teaching scenarios.
 - **Experiential Learning:** By introducing internships, field visits and working with community program in the pre-service course will provide an opportunity to the future teachers to learn through hands on experiences which further helps them to apply theoretical knowledge to practical situations.
 - **Cooperative And Collaborative Learning:** Encouraging cooperative and collaborative learning among the pre- service teachers can help them to improve their communication skill, problem solving ability and the spirit of working with the team, management, etc. Allowing them to explore the different perspectives.
- 3. Strategies of assessment:** It is important to apply innovative strategies of assessment, as there is an important role of assessment to evaluate the effectiveness of competency-based learning as traditional methods of assessment failed to assess the full range of competencies developed by the pre service teachers. Some assessment methods can be:
 - **Formative Assessment:** It is a type of assessment which occurs in between the sessions to know how far the pre-service teachers have learnt and to diagnose the difficulty areas for them. It consists of quizzes, peer evaluation, test, etc. to let the pre-service teachers know their progress.

- **Portfolio Assessment:** It is the modern method of assessment. It helps the pre-service teachers to compile their work such as lesson plans, students feedback, reflection of the journals, etc. At one place to note the progress for a comprehensive view for their growth and development.
- **Performance Based Assessment:** When one evaluates the pre-service teacher based on their abilities and competencies through practical, internships, etc. can help them to apply their knowledge effectively.

4. Continuous professional development: As the demand of the society changes, it becomes necessary that the teaching method and the curriculum should also change and for this Continuous professional development should be made an integral part of the training of pre-service teachers, as it helps them to regulate their skills as per the need of the time. Below are given some methods by which continuous professional development of pre-service teachers can be done:

- **Conducting Workshops and Seminars:** Workshops and Seminar should be organized on emerging recent trends in the field of Education by it related to the integration of technology while teaching, developing 21st century skills among children, new pedagogical strategies, etc.
- **Mentorship Programs:** Experienced mentors can give their valuable insights and guidance to the pre-service teachers and provide them directions to the new teachers to be.
- **Reflective Practice:** Helping the teachers to engage in reflective practice, which helps them to analyze their performance and evaluate it from time to time.
- **Learning through online communities:** The pre-service teachers can join online learning platforms to enhance their teaching learning methods, pedagogical knowledge, etc.

5. Technology Integration: In this modern era technology plays an important role, so it is essential for the pre-service teachers to become proficient in using it. Integration of technology in competency-based curriculum can be made in the following ways:

- **Collaboration with online platforms:** Pre-service teachers should be taught how to collaborate with online platforms to engage their students in a better way and help in their effective learning.
- **Data literacy:** Pre-service teacher should know how to analyze the data with the help of technology to save their time and efforts to make the best use of time.
- **Digital tools training:** Training on the usage of various digital tools such as educational applications, virtual labs, digital boards, etc. should be given to the pre-service teachers to announce their competencies-based skills.

6. CHALLENGES IN IMPLEMENTING COMPETENCY-BASED CURRICULUM:

- 1. Standardization of assessment:** It is challenging to develop such assessment methods, which can accurately assess the competencies as many skills are subjective in nature, and they need more comprehensive assessment methods for the pre-service teacher program.
- 2. Proper integration of theories with practical:** It becomes difficult some time to align the theory with practical and hence making it difficult for the all-round development of the educators.
- 3. Proper training of the educators:** There is a lack of proper training environment for the pre-service teachers. The training techniques which are used are old and hence improvement is required in the training techniques by incorporating new methods and strategies in the curriculum.

4. **Constraint of resources:** There is also a constraint of resources such as proper training material, technological devices, and qualified trainees etc. are not available and hence it becomes difficult to train the future teachers in such a manner that they are ready to teach the future generation.
5. **Resistance to change:** The institutions are not ready to accept the competency-based curriculum, as they are more accustomed to traditional curriculum. Hence the educational institutes have a rigid mindset and does not accept the change easily, which makes it more difficult to introduce new changes in the educational stream.

7. PERCEPTIONS SURROUNDING THE IMPLEMENTATION OF NEP 2020:

There are a wide range of perceptions regarding the implication of NEP 2020 which can be categorized into positive, neutral and negative by the parents, students, policy makers educators, etc. These perceptions reflect the diverse opinions of some of the perception regarding the policy, or as follows:

1. Positive perception:

- **Holistic development:** Holistic development focuses on the all-round development of the pre-service teachers. Its main focus is to nurture the academic as well as known academic skills such as social, emotional and physical development of the future educators.
- **Flexibility in curriculum:** The curriculum of the future educators is designed in such a manner when they are free to choose their subjects and study the subjects in which they are really interested in. It will help the future educators to explore new fields beyond their conventional boundaries helping them to think beyond their comfort areas.
- **Emphasis on vocational training:** The introduction of vocational training into the curriculum will help the educators to develop the basic skills which are needed for employment, enhancing the professional development of the pre-service teachers.
- **Focus on research and development:** NEP 2020 encourages research and development to enhance the global standing position of India in higher education and contribute to knowledge creation. It promotes various projects and schemes which focuses on research and development.
- **Integration of Technology:** Integration of technology in the pre-service courses will help the future educators to let them know how to use technology in an effective manner to teach in the classroom, making teaching learning process more enjoyable and long lasting.

2. Neutral perception:

- **Mixed expectations:** The expectations from NEP 2020 for the curriculum given by it for the preservice teachers are mixed in nature. Some see them as a challenge, while others regard them as benefits. But at the same time, they also highlight the complexities involved in its implementation in the educational system.
- **Understanding and awareness:** The details about the pre-service curriculum as posed by NEP 2020 is still unfamiliar among many peoples and hence the awareness about it should be spread through seminars, workshops, discussions, etc.
- **Wait and see approach:** Some stakeholders believe that it is just better to wait and see the proper

implementation of the policy before forming any strong opinions and after that, suggesting necessary changes in it with time.

3. Negative perception:

- **Overemphasis on multilingualism:** According to expert over emphasis is made on multilinguals, which creates a fear of that it may dilute the quality of instruction provided by the teachers.
- **Pressure on the students:** The introduction of new curriculum has created a confusion in the minds of the pre-service teachers, which makes it difficult for them for what subject combination they have to choose, in which extracurricular activity they have to indulge in, etc.
- **Implementation challenge:** Many implementations' challenges are still there, which even the stakeholders also are not aware of it properly, as there are various concerns emerging day by day with the effectiveness of the policy is seen.

8. CONCLUSION:

In conclusion as we delve into the complexities of educational reform in India, it can be said that teachers are at the heart of this transition. A curriculum which is aligned with NEP 2020 not only help the future teachers to develop the 21st century skills, but this will also help them to improve the quality of the education by developing such a curriculum will prepare the future educators according to the upcoming demands of the society, as India is moving towards the global landscape in the world.

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