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CRITICAL THINKING AND CREATIVITY IN SCHOOL EDUCATION: PERSPECTIVES AND IMPLICATIONS OF NEP 2020

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Abstract

Critical thinking and creativity are fundamental competencies that enable school students to analyse information, evaluate ideas, solve problems and develop original perspectives. However, the continued emphasis on rote memorisation, textbook-based instruction and examination-oriented assessment often limits opportunities for developing these abilities in school education. In this context, the National Education Policy (NEP) 2020 provides a significant policy framework for shifting classroom practices towards competency-based, experiential, inquiry-driven and learner-centred education. The present paper examines the provisions of NEP 2020 relating to the development of critical thinking and creativity among school students, with particular reference to curricular approaches, teaching-learning strategies and assessment reforms. It analyses the potential of inquiry-based learning, project work, problem-solving activities, classroom discussions, experimentation and multidisciplinary learning in promoting analytical reasoning, independent judgement, imagination and innovative thinking. The paper also examines implementation challenges, including teachers' limited preparedness for learner-centred instruction, rigid classroom practices, inadequate learning resources, large class sizes and the persistence of memory-based examinations. It emphasises the need for competency-oriented teacher preparation, flexible pedagogical practices, continuous formative assessment and institutional support to translate policy provisions into meaningful classroom experiences. The paper concludes that developing critical thinking and creativity requires a systematic alignment of curriculum, pedagogy and assessment, supported by effective implementation of NEP 2020.

Keywords: *Critical Thinking, Creativity, School Education, NEP 2020, Learner-Centred Pedagogy, Competency-Based Learning.*

Introduction

School education plays a vital role in developing students' intellectual abilities, problem-solving skills and capacity for independent thought. In a rapidly changing world, education must

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extend beyond the acquisition of factual knowledge to foster critical thinking, creativity, curiosity and the ability to apply learning to real-life situations. Critical thinking enables students to analyse information, evaluate evidence, question assumptions and make reasoned decisions, while creativity encourages them to generate original ideas, explore alternatives and develop innovative solutions. Both competencies are essential for meaningful learning, lifelong development and responsible participation in society. In the context of the twenty-first century, critical thinking and creativity have gained considerable importance due to rapid technological advancements, changing social conditions and the increasing complexity of everyday problems. Students need to develop the ability to interpret information, distinguish facts from opinions, approach problems from different perspectives and respond constructively to unfamiliar situations. These competencies also promote intellectual independence, effective communication, collaboration and adaptability. Therefore, schools have an important responsibility to create learning environments that encourage questioning, experimentation, reflection and independent exploration.

The National Education Policy (NEP) 2020 marks an important shift in India's school education system by emphasising conceptual understanding, experiential learning, inquiry-based teaching and competency-based assessment. It advocates moving away from rote memorisation towards learning that promotes analytical reasoning, creativity, flexibility and problem-solving. The policy emphasises the development of higher-order thinking skills, application of knowledge and holistic development through its curricular and pedagogical framework. Its vision also encourages multidisciplinary learning, discussion, project work, discovery-based activities and the integration of arts, sports and vocational education into the learning process. The development of critical thinking and creativity requires a shift in classroom practices from teacher-dominated instruction towards learner-centred approaches. Activities such as problem-based learning, group discussions, debates, projects, experiments, case studies and reflective exercises can provide students with opportunities to question ideas, examine evidence and develop independent perspectives. Interdisciplinary approaches further enable learners to connect knowledge across different subjects and apply it to practical situations. Such pedagogical practices can make learning more meaningful, participatory and relevant to students' everyday experiences.

Teachers play a significant role in nurturing these competencies by creating supportive and intellectually stimulating classroom environments. Their responsibilities extend beyond the transmission of subject knowledge to facilitating inquiry, encouraging diverse viewpoints, providing constructive feedback and motivating students to explore new ideas. Appropriate teacher preparation, pedagogical flexibility and professional development are therefore essential for translating the objectives of NEP 2020 into effective classroom practices. However, translating this policy vision into classroom practice remains challenging. Examination-oriented instruction, excessive dependence on memorisation, limited opportunities for student participation, inadequate teacher preparation, large class sizes and inequalities in educational resources may restrict the development of higher-order thinking skills. Furthermore, conventional assessment practices that place greater emphasis on factual recall may not adequately measure students' analytical, creative and problem-solving abilities. Addressing these challenges requires appropriate curricular

reforms, continuous teacher development, innovative assessment strategies and equitable learning opportunities. Against this background, the present paper examines the significance of critical thinking and creativity in school education under NEP 2020, analyses the policy provisions for promoting these competencies, explores pedagogical opportunities for their development, identifies key implementation challenges and proposes suitable measures to strengthen learner-centred and competency-based educational practices in India.

Objectives of the Study

- To examine the significance of critical thinking and creativity in school education.
- To analyse the provisions of NEP 2020 for promoting critical thinking and creativity among students.
- To identify pedagogical opportunities for developing higher-order thinking skills in school classrooms.
- To examine the major challenges in implementing these competencies in school education.
- To suggest policy measures for strengthening critical thinking and creativity through effective implementation of NEP 2020.

Research Methodology

The present study adopts a descriptive and analytical research approach based on secondary sources of information. The study examines the role of critical thinking and creativity in school education in the context of the National Education Policy (NEP) 2020. Relevant information is drawn from policy documents, government publications, educational reports, academic books, research articles and scholarly literature related to critical thinking, creativity, pedagogical practices and competency-based learning. Particular attention is given to the curricular and pedagogical recommendations of NEP 2020, the development of higher-order thinking skills, learner-centred instructional approaches and assessment reforms. The collected information is systematically reviewed and analysed to understand the significance of critical thinking and creativity, examine the policy provisions for developing these competencies, identify suitable pedagogical opportunities and analyse the challenges associated with their effective implementation in school education. Based on this analysis, appropriate educational and policy measures are suggested to strengthen creative and critical thinking abilities among students. The study is entirely based on secondary data and does not involve primary data collection or empirical investigation.

CRITICAL THINKING AND CREATIVITY: CONCEPTUAL FOUNDATIONS

Critical thinking and creativity are essential competencies for meaningful learning and the holistic development of students. Critical thinking involves examining information, analysing evidence, questioning assumptions and drawing reasoned conclusions. Creativity refers to the ability to generate original ideas, explore different perspectives and develop innovative approaches to problems. In school education, these competencies help learners move beyond memorisation towards understanding, independent thinking and the practical application of knowledge.

Meaning and Educational Significance of Critical Thinking and Creativity

Critical thinking enables students to evaluate information logically, distinguish facts from opinions, identify assumptions and make informed decisions. It encourages questioning, reflection and evidence-based reasoning. Creativity supports imagination, originality, curiosity and flexible thinking, allowing students to approach tasks from different perspectives and develop new ideas. Both competencies are educationally significant because they promote deeper understanding, active participation, problem-solving and lifelong learning. Their development also prepares students to respond thoughtfully to changing social, technological and professional demands.

Interrelationship between Critical Thinking and Creative Thinking

Critical thinking and creative thinking are distinct but complementary processes. Creative thinking helps students generate ideas, explore possibilities and identify alternative solutions, whereas critical thinking helps them assess those ideas, examine evidence and determine their relevance and feasibility. Creativity expands the range of possible responses, while critical thinking supports the selection and refinement of effective solutions. For example, when students address an environmental problem, creativity enables them to propose innovative approaches, while critical thinking helps them evaluate the practicality and potential consequences of each proposal. Integrating both processes into classroom learning can strengthen inquiry, innovation, independent judgement and informed decision-making. This relationship supports the learner-centred and competency-based orientation of NEP 2020.

NEP 2020 AND THE PROMOTION OF HIGHER-ORDER THINKING SKILLS

The National Education Policy (NEP) 2020 seeks to improve the quality of school education by shifting the emphasis from rote memorisation to conceptual understanding, critical thinking, creativity and problem-solving. It promotes learner-centred pedagogy, experiential learning and competency-based assessment to help students apply knowledge in meaningful contexts. These reforms provide a framework for developing higher-order thinking skills and preparing learners to address real-life challenges. Their effectiveness, however, depends on appropriate curriculum design, teacher preparedness and assessment practices.

Curriculum and Pedagogical Reforms

NEP 2020 advocates a flexible and integrated curriculum that reduces unnecessary content and prioritises essential concepts, analytical reasoning and practical understanding. It encourages interactive teaching methods, discussion, questioning, collaborative activities and interdisciplinary learning. These approaches provide opportunities for students to examine ideas, connect knowledge across subjects and develop independent perspectives. Teachers are expected to facilitate learning rather than rely exclusively on lectures and textbook-based instruction. Effective implementation requires curriculum materials and classroom practices that encourage curiosity, originality and reasoned judgement.

Experiential, Inquiry-Based and Discovery-Based Learning

NEP 2020 emphasises experiential, inquiry-based, discovery-based and activity-based learning to connect classroom knowledge with students' experiences. Experiments, projects, field activities, group discussions and problem-solving tasks encourage learners to investigate

questions, gather information, test ideas and reflect on their findings. Inquiry-based learning strengthens analytical reasoning, while discovery-based activities encourage exploration and independent learning. Experiential learning also provides opportunities for students to develop creative solutions to practical problems. Teachers play a key role in designing meaningful learning experiences and encouraging students to ask questions, explore alternatives and learn from mistakes.

Competency-Based Assessment and Holistic Development

NEP 2020 promotes competency-based assessment that evaluates students' understanding and application of knowledge rather than their ability to reproduce memorised information. Assessment practices such as projects, presentations, portfolios, practical tasks and reflective activities can help evaluate reasoning, creativity, communication and problem-solving. The policy also emphasises holistic development by recognising intellectual, social, emotional, physical and ethical dimensions of learning. Formative assessment and constructive feedback can help teachers identify learning needs and support continuous improvement. Aligning assessment with these objectives is essential for creating school environments in which critical thinking, creativity and meaningful learning are valued alongside academic achievement.

OPPORTUNITIES FOR DEVELOPING CRITICAL THINKING AND CREATIVITY

The emphasis placed by NEP 2020 on learner-centred and competency-based education creates opportunities to develop critical thinking and creativity through diverse classroom experiences. Students can strengthen these competencies when they actively participate in learning, investigate problems, exchange ideas and apply knowledge to practical situations. Effective teaching strategies, interdisciplinary activities, appropriate digital tools and supportive teacher–student relationships can help establish learning environments that encourage curiosity, independent thought and innovation.

Activity-Based and Problem-Based Learning

Activity-based and problem-based learning provide opportunities for students to engage actively with concepts rather than passively receive information. Experiments, educational games, group projects, puzzles and problem-solving tasks encourage learners to ask questions, analyse information and explore alternative solutions. Problem-based activities also help students connect theoretical knowledge with practical situations. By allowing students to investigate problems, discuss possible approaches and reflect on outcomes, teachers can promote logical reasoning, creativity, collaboration and independent learning.

Interdisciplinary Learning and Real-Life Problem-Solving

Interdisciplinary learning enables students to connect concepts from different subjects and understand complex issues from multiple perspectives. For example, a school project on water conservation can integrate science, mathematics, social science and language learning. Students may examine water usage, interpret data, investigate local concerns and propose practical conservation measures. Such activities strengthen analytical reasoning, creative thinking and the application of knowledge. They also encourage collaboration and help learners recognise the relevance of school education to everyday life and community development.

Digital Technologies and Innovative Classroom Practices

Digital technologies can expand opportunities for inquiry, exploration and creative expression when used purposefully. Educational simulations, interactive learning platforms, digital storytelling, virtual experiments and collaborative tools can help students investigate concepts, test ideas and present their understanding in different formats. Artificial intelligence tools may also support brainstorming and provide learning feedback when used responsibly under teacher guidance. However, digital access, information accuracy, privacy and excessive dependence on technology require careful attention. Technology should complement meaningful classroom interaction rather than replace independent thinking, practical experiences or teacher support.

Teacher Facilitation and Student Autonomy

Teachers play a central role in creating classrooms where students feel encouraged to question, explore and express original ideas. Open-ended questions, classroom discussions, reflective activities and opportunities to choose project topics can promote independent judgement and creative confidence. Teachers can guide learners to justify their opinions, evaluate evidence, consider alternative viewpoints and learn from mistakes. Providing constructive feedback and respecting diverse perspectives helps establish an inclusive learning environment. Greater student autonomy, supported by appropriate guidance and clear learning objectives, can strengthen motivation, responsibility, critical thinking and creativity in accordance with the learner-centred vision of NEP 2020.

CHALLENGES IN IMPLEMENTATION

Despite the emphasis of the National Education Policy (NEP) 2020 on critical thinking, creativity and competency-based learning, translating these objectives into everyday classroom practice remains challenging. Differences in school resources, teaching practices, teacher preparation and assessment systems can limit opportunities for students to engage in independent thinking and creative problem-solving. Addressing these barriers requires coordinated efforts in curriculum design, teacher development, school infrastructure and educational assessment.

Rote Learning and Examination-Oriented Practices

Rote learning and examination-oriented instruction remain significant barriers to developing critical thinking and creativity. When classroom teaching focuses primarily on memorising textbook content and reproducing expected answers, students have limited opportunities to question assumptions, evaluate evidence or explore original ideas. Pressure to achieve high examination scores may further discourage experimentation, discussion and independent inquiry. Moving towards conceptual understanding requires classroom practices that value reasoning, application, reflection and creative approaches alongside subject knowledge.

Teacher Preparedness and Pedagogical Constraints

The effective development of critical thinking and creativity depends substantially on teachers' pedagogical knowledge, confidence and professional support. Some teachers may have limited preparation in inquiry-based teaching, problem-based learning, interdisciplinary activities and assessment of higher-order thinking skills. Heavy workloads, syllabus completion pressures

and limited opportunities for professional development can make it difficult to adopt these approaches consistently. Continuous, practice-oriented teacher education, mentoring and access to suitable teaching resources are therefore essential for translating NEP 2020's objectives into classroom practice.

Classroom Size, Infrastructure and Resource Inequalities

Large class sizes can restrict individual attention, meaningful discussion, collaborative learning and the assessment of students' reasoning processes. Inadequate libraries, laboratories, learning materials and digital facilities may further limit opportunities for practical investigation and creative activities. These challenges are particularly significant where schools differ considerably in infrastructure, funding and access to educational resources. Such inequalities can result in uneven opportunities to develop critical thinking and creativity. Equitable resource allocation and context-sensitive teaching strategies are necessary to ensure that these competencies are promoted across different school settings.

Assessment Practices and Curriculum-Related Constraints

Assessment systems that primarily reward factual recall may not adequately measure students' analytical reasoning, originality, problem-solving or ability to apply knowledge. Similarly, content-heavy curricula and limited classroom time can reduce opportunities for projects, inquiry and reflective learning. Teachers may also find it difficult to assess creativity fairly because students can demonstrate original thinking in different ways. Aligning classroom assessment with curricular objectives requires appropriate evaluation criteria, formative feedback, performance-based tasks and greater emphasis on conceptual understanding. Without such alignment, the intended shift towards competency-based education may remain limited in practice.

POLICY IMPLICATIONS AND RECOMMENDATIONS

The effective implementation of NEP 2020 requires coordinated policy measures that translate the objectives of critical thinking and creativity into everyday school practices. Curriculum reform alone is insufficient unless teachers receive appropriate support, assessment methods encourage higher-order thinking, and schools have adequate learning resources. Policy implementation should therefore focus on strengthening teacher capacity, promoting learner-centred pedagogy, reducing educational inequalities and monitoring learning outcomes through appropriate indicators.

Teacher Professional Development

Teacher professional development should prioritise practical competencies in inquiry-based learning, problem-solving, creative teaching strategies and formative assessment. Regular workshops, mentoring, peer collaboration and classroom-based training can help teachers design activities that encourage questioning, reasoning and original thinking. Professional development programmes should also provide opportunities for teachers to reflect on their practices and evaluate student learning. Integrating these competencies into pre-service teacher education and continuous professional development would support the effective implementation of NEP 2020.

Reform of Classroom Teaching and Assessment

Schools should strengthen teaching practices that promote conceptual understanding, independent inquiry and the application of knowledge. Classroom discussions, projects, experiments, interdisciplinary activities and real-life problem-solving tasks should complement textbook instruction. Assessment systems should move beyond excessive reliance on memorisation and include analytical questions, portfolios, presentations and performance-based tasks. Clear assessment criteria and constructive feedback can help teachers recognise students' reasoning, originality and progress. Curriculum content, classroom instruction and assessment should be aligned to reinforce critical thinking and creativity consistently.

Equitable Learning Resources and Support

Equitable access to learning resources is essential for ensuring that all students have opportunities to develop higher-order thinking skills. Education authorities should strengthen school libraries, laboratories, teaching materials and digital facilities, particularly in resource-constrained schools. Locally available materials and low-cost activities can support experiential learning where advanced facilities are unavailable. Additional academic and institutional support should be provided to schools facing geographical, socioeconomic or infrastructural disadvantages. Resource allocation should respond to actual school needs so that opportunities for critical thinking and creativity do not depend on students' backgrounds or the type of school they attend.

School-Level Monitoring and Evaluation

Schools should establish systematic mechanisms to monitor the development of critical thinking and creativity alongside academic achievement. Teachers and school leaders can use classroom observations, student projects, portfolios, reflective tasks and periodic reviews to assess progress. School development plans should include specific actions for promoting inquiry-based learning, creative expression and student participation. Education authorities should provide clear indicators, appropriate guidance and regular professional support rather than relying exclusively on examination results or administrative compliance. Evidence from these reviews should inform improvements in teaching practices, resource allocation and teacher development, ensuring that the objectives of NEP 2020 translate into meaningful learning outcomes.

Conclusion

Critical thinking and creativity are essential for developing independent, reflective and innovative learners in contemporary school education. The National Education Policy (NEP) 2020 provides an important framework for promoting these competencies through conceptual understanding, experiential learning, learner-centred pedagogy and competency-based assessment. However, persistent reliance on rote learning, examination-oriented practices, inadequate teacher preparation and unequal access to educational resources may constrain their effective development.

Realising the objectives of NEP 2020 requires sustained efforts to strengthen teacher professional development, reform classroom assessment, provide equitable learning opportunities and monitor educational progress. Schools must create supportive environments in which students can question

ideas, evaluate evidence, explore alternatives and apply knowledge to real-life problems. Ultimately, the success of these reforms should be assessed not merely through academic achievement but also through students' ability to think critically, generate creative solutions and respond responsibly to changing societal needs.

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