

NEP 2020 and Multidisciplinary Education: Perception of Higher Secondary Teachers

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ABSTRACT

The National Education Policy 2020 (NEP 2020) is a path-breaking document in the history of Indian education. One of its most important elements is the establishment of multi-disciplinary education at all levels, including higher secondary education. The present study aims to explore the attitude of higher secondary school teachers about multidisciplinary education suggested by NEP 2020. This study employed descriptive survey approach. The sample of 120 higher secondary school teachers was recruited from government and private schools in Delhi by using purposive selection approach. The research instrument was a self-developed questionnaire of 30 items (Likert scale). The tool was confirmed to be reliable with Cronbach Alpha of 0.84. The study revealed that most teachers (68.3%) had a positive impression of the idea of multimodal education. But it also revealed major issues in the areas of teacher preparation, infrastructure and curriculum design. The survey also revealed significant disparities in perception based on gender, kind of school and years of teaching experience. The findings indicate that while teachers are mostly supportive of the concept of NEP 2020, there is an immediate need for structured training and capacity building activities to translate policy into practice.

Keywords: NEP 2020, Multidisciplinary Education, Higher Secondary Teachers, Perception, Curriculum Reform

1. INTRODUCTION

The most effective instrument for the social and economic change of any country is education. The progress of a nation and the future of residents of a nation are determined by the quality and organization of education. As a growing country with one of the highest young populations in the world, India has long realized the need for educational reform. In July 2020, the Government of India issued National Education Policy 2020 (NEP 2020) that replaced National Policy on Education of 1986. [1] NEP 2020 is a comprehensive and forward-looking plan with the purpose of changing the education system of India at all levels – from early childhood care to higher education. One of the most groundbreaking components of NEP 2020 is its focus on transdisciplinary education. The strategy envisages an education system, where students are not restricted in traditional streams like as Science, Arts or Commerce but are free to choose subjects across disciplines as per their interest, aptitude and aspirations. [2] This transition is especially important at the higher secondary level. For decades, Indian students have been forced to choose one course after Class 10, often curbing their intellectual curiosity and professional prospects. NEP 2020 aims to dismantle these artificial divisions and foster comprehensive, well-rounded individuals who think critically and contribute meaningfully to society. Of course, every improvement in educational policy is only as good as the teachers who apply it. Teachers are the pillars of any education system. Success or failure in any reform is critically dependent on their perceptions, attitudes, beliefs and willingness to accept change. [3]

In this connection the present study was undertaken to see the perspectives of higher secondary school instructors regarding multidisciplinary education envisaged by NEP 2020. Before any large-scale

implementation of this policy to be effective, knowing teachers' viewpoints, concerns and preparedness is a necessary first step.

Significance of the Study

The study is very important in the modern educational landscape because of many reasons. First, the NEP 2020 is a recent and substantial policy reform that will effect millions of children and instructors across India. Second, there is very little empirical research available on the ground level reception of NEP 2020 among teachers especially at the higher secondary level. Third, teachers' opinions are essential for determining how any new curriculum or pedagogical approach will be applied in classrooms. The outcomes of this study will be relevant to the policy makers, school administrators, teacher educators and curriculum writers in creating effective implementation strategies for NEP 2020. [4]

2. REVIEW OF RELATED LITERATURE

The present investigation was preceded by a detailed literature review to provide background and context. The literature was studied under three major themes: (a) Multidisciplinary Education, (b) Perception of teachers towards Educational Reforms and (c) NEP 2020 and its consequences.

Multidisciplinary Education

The concept of trans-disciplinary education is not new. Scholars and educationists have for long been advocating a wider and more flexible curriculum that goes beyond the confines of the topic. According to Klein [5], interdisciplinary education is an educational strategy in which students study knowledge and abilities from many disciplines, not necessarily merging them, but placing them side by side. Jacobs [6] stated that multidisciplinary approaches provide students with richer learning experiences as they are exposed to different ways of thinking and problem solving. In the Indian context, Krishnamurti [7] has stressed that real education has to develop the full being – intellectual, emotional and spiritual – and this can only come about through a broad-based flexible curriculum. Research has repeatedly proven that students exposed to multidisciplinary learning acquire higher critical thinking and creative skills than students on restrictive, single-stream curricula. Drake and Burns [8] found that integrated and diverse curriculum lead to a greater understanding of concepts and better academic results. A continuum of curricular integration from fragmented to networked models was described by Fogarty [9], who also suggested that teaching subjects in complete isolation is worse than a basic multidisciplinary model.

Teacher Perceptions towards Educational Reform

The role of teachers in the transformation of education has been thoroughly researched. Fullan [10] noted that “without the real commitment and understanding of teachers, educational change cannot occur”. He suggested that teachers should not be seen as simply implementers of policy, but as active agents of change. Richardson and Placier [11] discovered that teachers' ideas and attitudes toward reform are impacted by past experiences, professional training, school culture and personal values. A number of studies have been conducted on teachers' attitudes to curriculum revisions in India. Sharma [12] studied the attitude of elementary school teachers towards the Right to Education Act and revealed that the instructors were supportive of the policy objectives but had concerns about the practical difficulties in its implementation. Mishra and Singh [13] did a study on perspectives of secondary school teachers towards Continuous and Comprehensive Evaluation (CCE) and found considerable resistance due to lack of training and knowledge. Rao [14] investigated the reactions of higher education teachers to outcome-based education and found that

quality and availability of professional development opportunities were substantially related to favorable perceptions.

NEP 2020: Background and Key Features

The Ministry of Education, Government of India, issued the National Education Policy 2020 in July 2020 following extensive consultations at the national level. The policy was formulated by a committee led by Dr K. Kasturirangan, the former chairman of ISRO. [1] The NEP 2020 is hinged around the core pillars of Access, Equity, Quality, Affordability and Accountability. It provides for a fundamental reorganisation of the school and higher education systems. At the school level, NEP 2020 offers a new 5+3+3+4 curricular and pedagogical structure to replace the existing 10+2 system. It stresses mother tongue-based instruction in the early years, learning by experience, formative evaluation and integration with vocational education. [2] At the higher secondary level (corresponding to Grades 11-12), NEP 2020 advises that students should be allowed to choose subjects from multiple streams and construct their own multidisciplinary academic programme. This is a radical change from the present strict stream-based architecture. [3] NEP 2020 has been commented upon by several researchers as an important document. Kumar [15] termed it the greatest ambitious education reform in independent India. Tilak [16] both welcomed and cautioned that while the goals are worthy, their realization will largely depend upon financial outlay and capacity training of teachers. Panigrahi [17] studied the interdisciplinary features of NEP 2020 and found that its effectiveness at school level will depend mostly on teacher training, curriculum redesign and availability of adequate learning materials.

Gap in Literature

There is a lot of research on educational reforms and teacher perception however the study of perception of higher secondary teachers towards the multidisciplinary education provisions of NEP 2020 is extremely limited with a few empirical investigations. Most of the papers published at the period of this research were not empirical investigations but rather policy assessments or opinion articles. The present study seeks to fill this gap by offering ground level data from practicing teachers.

3. OBJECTIVES OF THE STUDY

The present study had the following goals:

1. To study the level of understanding of higher secondary school teachers on the interdisciplinary education regulations of NEP 2020.
2. To study the attitude of higher secondary school instructors towards multimodal education.
3. To determine the difficulties seen by instructors in the implementation of multidisciplinary education.
4. To compare the attitudes of teachers according to gender, kind of school and years of experience.

4. HYPOTHESES

The null hypotheses examined in the present study were as follows:

H₀₁: There is no significant difference in the perception of higher secondary school teachers towards multidisciplinary education on the basis of gender.

H₀₂: There is no significant difference in the perception of higher secondary school teachers towards multidisciplinary education on the basis of type of school (government vs. private).

H₀₃: There is no significant difference in the perception of higher secondary school teachers towards multidisciplinary education on the basis of years of teaching experience.

5. RESEARCH METHODOLOGY

Research Design

The present study followed a descriptive survey research design. Descriptive survey method is a widely used method in educational research to obtain data regarding the attitudes, views and perceptions of a big group of people. This technique was regarded suitable as the study sought to collect data on the existing perceptions and awareness level of teachers about the multi-disciplinary education requirements of NEP 2020.

Population and Sample

The population of the study comprised all the higher secondary school teachers (classes 11 and 12) of government and private schools in Delhi. The sample for this study was selected using purposive sampling technique. The sample included of 120 higher secondary school instructors. The sample consisted of 60 teachers of government schools and 60 instructors of private institutions. The composition of the 120 teachers was 65 males and 55 females.

Research Tool

The researcher developed a self-developed questionnaire titled “Perception Scale on Multidisciplinary Education under NEP 2020”. The questionnaire was separated into two pieces. Part A contained demographic data of the respondents (personal information). Part B contained 30 items on the five-point Likert scale (Strongly Agree = 5, Agree = 4, Neutral = 3, Disagree = 2, Strongly Disagree = 1). The statements were related to four dimensions namely, (i) Awareness about NEP 2020, (ii) Attitude towards Multidisciplinary Education, (iii) Perceived Benefits and (iv) Perceived Challenges. The questionnaire was validated by five professionals from prestigious universities in the area of education. A pilot research was conducted with 30 teachers not part of the final sample. Reliability of the scale was calculated using Cronbach Alpha and the coefficient was found to be 0.84 which shows high internal consistency.

Data Collection

Personal visits to the selected schools were used to collect data. The schools principals were taken prior approval. Teachers were told about the objective of the study and guaranteed strict secrecy of their answers. The filled surveys were collected the same day or after two days. 130 questionnaires were distributed, 124 (95%) were returned. The data were reviewed for completeness and 120 questionnaires were judged valid and included in the final study.

Statistical Techniques Used

The data collected were examined by utilizing the following statistical techniques: (a) Percentage analysis for descriptive data, (b) Mean and Standard Deviation for central tendency and dispersion, (c) t-test for comparison of two independent groups (gender and type of school), and (d) One-Way Analysis of Variance (ANOVA) for comparison of three or more groups (experience levels). Statistical significance was defined as $p < 0.05$.

6. RESULTS AND DISCUSSION

Table 1: Distribution of the Sample

Category	Sub-Group	Number	Percentage
Gender	Male	65	54.2%
	Female	55	45.8%
Type of School	Government	60	50.0%
	Private	60	50.0%
Experience	0-5 Years	38	31.7%
	6-15 Years	47	39.2%
	Above 15 Years	35	29.1%
Total		120	100%

Awareness of NEP 2020 among Teachers

The first feature of the questionnaire assessed the general degree of comprehension of higher secondary teachers about NEP 2020 and its trans-disciplinary provisions. The results are presented in Table 2.

Table 2: Awareness Level of Teachers about NEP 2020

Level of Awareness	Description	Frequency	Percentage
High	Score above 75%	41	34.2%
Moderate	Score 50%-75%	52	43.3%
Low	Score below 50%	27	22.5%
Total		120	100%

As per Table 2, only 34.2 per cent of instructors were found to have a high level of awareness on the interdisciplinary provisions of NEP 2020. Majority (43.3%) showed intermediate awareness. 22.5% had low awareness. The finding is crucial as it shows that the effective communication and dissemination of the policy to teachers at the ground level is still inadequate despite the announcement of the policy in July 2020. This is in consonance with the findings of Tilak and Kumar that awareness development among teachers should be the first step before implementation.

Overall Perception of Teachers towards Multidisciplinary Education

By taking the mean scores of the higher secondary teachers on the perception scale overall perception of higher secondary teachers towards multidisciplinary education was analyzed. For analysis, teachers who scored more than 3.5 (out of 5) were considered as having positive view, teachers who scored in between 2.5 and 3.5 were seen as having neutral perception and teachers who scored less than 2.5 were considered as having negative perception.

Table 3: Overall Perception of Teachers towards Multidisciplinary Education

Level of Perception	Mean Score Range	Frequency	Percentage
Positive	Above 3.50	82	68.3%
Neutral	2.50 to 3.50	28	23.3%
Negative	Below 2.50	10	8.4%
Total	Mean = 3.72, SD = 0.61	120	100%

Table 3 shows that 68.3% of higher secondary teachers have a positive opinion towards multimodal education. Negative perception was only 8.4%. The attitude is usually favourable with a mean of 3.72 (SD = 0.61) on a five-point scale. Such data show that teachers like the idea of interdisciplinary education as a concept. This result is consistent with the findings of Panigrahi and Drake and Burns who found that when educators grasp the educational justification for integration of disciplines, they generally regard it positively.

Perceived Benefits of Multidisciplinary Education

Teachers were asked to rank a number of perceived benefits of trans- disciplinary education. Table 4 presents the mean scores of each benefit.

Table 4: Mean Scores on Perceived Benefits of Multidisciplinary Education

S.No.	Perceived Benefit	Mean	S.D.
1	Develops holistic thinking in students	4.12	0.58
2	Increases student interest and motivation	3.98	0.62
3	Improves career flexibility and options	4.21	0.54
4	Encourages critical thinking and creativity	4.05	0.67
5	Reduces pressure of stream selection at Class 10	3.87	0.71
6	Makes learning more relevant to real life	3.94	0.65

From Table 4, the highest ranked benefit of multidisciplinary education was “improves career flexibility and options” (Mean = 4.21). Afterwards, 'develops holistic thinking in students' (Mean=4.12) came. Mean scores for all six benefits were above 3.80, demonstrating that teachers generally valued the educational benefits of the interdisciplinary approach. These results coincide with Fogarty's claim that diverse courses bring considerable benefits to student development.

Perceived Challenges

Despite the general positive view, teachers pinpointed a number of problems in the implementation of multidisciplinary education. Table 5 presents the mean scores on perceived challenges.

Table 5: Mean Scores on Perceived Challenges in Implementation

S. No.	Perceived Challenge	Mean	S.D.
1	Lack of teacher training for multidisciplinary teaching	4.38	0.49
2	Shortage of trained teachers in multiple subjects	4.27	0.55
3	Inadequate infrastructure and resources	4.18	0.62
4	Difficulty in designing interdisciplinary curriculum	4.09	0.66
5	Resistance from parents and students	3.76	0.74
6	Lack of clear guidelines from education department	4.22	0.58

Table 5 shows that ‘lack of teacher preparation for multidisciplinary teaching’ had the highest mean score (4.38), which indicates that it is the most critical difficulty reported by the instructors. Followed by ‘shortage of trained teachers in many subjects’ (4.27) and ‘no clear guidelines from the education department’ (4.22). Such data strongly suggest that systemic and institutional reasons are the primary hurdles to the implementation of interdisciplinary education. These findings are in line with the ideas of Fullan and Sharma who suggested that success of educational reforms needs institutional support.

6.5 Hypothesis Testing

Hypothesis 1: Gender-wise Comparison

H₀₁: There is no significant difference in the perception of higher secondary school teachers towards multidisciplinary education on the basis of gender.

Table 6: t-test for Gender-wise Comparison of Perception Scores

Group	N	Mean	SD	t-value
Male	65	3.68	0.63	1.14 (p > 0.05, NS)
Female	55	3.77	0.58	

The t-value of 1.14 is not significant at the threshold of 0.05. Hence, the null hypothesis H₀₁ is accepted. Perception of male and female teachers regarding multidisciplinary education is not significant. Male and female teachers had equal levels of positive perception. This finding implies that the goal of trans-disciplinary education is equally appealing to the teachers regardless of their gender.

Hypothesis 2: Type of School-wise Comparison

H₀₂: There is no significant difference in the perception of higher secondary school teachers towards multidisciplinary education on the basis of type of school (government vs. private).

Table 7: t-test for School Type-wise Comparison of Perception Scores

Group	N	Mean	SD	t-value
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Government	60	3.54	0.66	3.28* ($p < 0.05$)
Private	60	3.90	0.54	

The value of t is 3.28 significant at 0.05 level of significance. Therefore, we reject the null hypothesis H_{02} . There is a substantial disparity in the perception of teachers of government and private schools. Teachers at private schools (Mean=3.90) were much more favorable than teachers of government schools (Mean=3.54). This may be due to the fact that private school teachers are often more exposed to new teaching methods and more knowledgeable of current educational changes.

Hypothesis 3: Experience-wise Comparison

H_{03} : There is no significant difference in the perception of higher secondary school teachers towards multidisciplinary education on the basis of years of teaching experience.

Table 8: ANOVA for Experience-wise Comparison of Perception Scores

Experience Group	N	Mean	SD	F-value
0-5 Years	38	3.82	0.58	4.17* ($p < 0.05$)
6-15 Years	47	3.71	0.63	
Above 15 Years	35	3.58	0.61	

The F-value of 4.17 is significant at .05 level. Hence null hypothesis H_{03} is rejected. The perception of teachers differs significantly in terms of years of teaching experience. Teachers with 0-5 years of experience (Mean = 3.82) were the most favorable, while teachers with more than 15 years of experience (Mean = 3.58) were the least positive. The results indicate that younger teachers are more inclined towards multimodal education, perhaps due to their more recent training and greater familiarity with student-centred and flexible educational approaches.

7. MAJOR FINDINGS

1. On the basis of data analysis, the following major findings were drawn from the present study: Awareness level of multidisciplinary provisions of NEP 2020 was high among 34.2% of higher secondary school teachers. The majority (43.3%) had moderate awareness and 22.5% had low awareness.
2. Most of the teachers in higher secondary (68.3%) had a positive view of transdisciplinary education. Only 8.4% had unfavorable opinion. 'Improved job flexibility and options' and 'development of holistic thinking' were the most highly ranked perceived benefits of multidisciplinary education.
3. The most critical problem was 'Lack of teacher training' (Mean = 4.38) for the implementation of the multidisciplinary education at the higher secondary level.
4. There was no significant difference in the perception of male and female teachers ($t=1.14$, $p>0.05$). H_{01} was accepted.

5. The perception of instructors from government and private schools was shown to be significantly different ($t = 3.28, p < 0.05$). Private school teachers had a more positive perception. H_{02} was turned down.
6. The teachers' opinion based on experience showed a significant difference ($F = 4.17, p < 0.05$). Less experienced teachers were more complimentary. H_{03} rejected

8. CONCLUSIONS

The present study demonstrates that the higher secondary school teachers of Delhi have a positive perspective towards the notion of interdisciplinary education as envisaged by NEP 2020. However, awareness of the specific terms of the policy is modest to low. This suggests a major deficit in policy communication and dissemination at the grassroots level. Teachers recognize the potential benefits of interdisciplinary education, especially its capacity to enhance students' career flexibility, foster holistic thinking, and render learning more relevant to real life. At the same time they are well aware of the primary problems: lack of training, unavailability of trained individuals, poor infrastructure and lack of clear directions for implementation. The research also shows the type of school and the years of teaching experience have a great influence on the teachers' judgments, but gender had no effect. Teachers in private schools and with less experience are more supportive about multimodal education. To conclude, the goal of multidisciplinary education at the higher secondary level of NEP 2020 is educationally appropriate and necessary. But to make it work would require immediate, methodical action on several fronts—from teacher training and curriculum modification to appropriate resources and clear policy guidelines. Goodwill and moderate to high levels of support that already exist among teachers can only be translated into effective action through well-planned, persistent and sufficiently resourced capacity-building efforts.

9. RECOMMENDATIONS

The following are recommended in the light of the findings and conclusions of the study:

1. All the higher secondary school teachers should be given intensive orientation and training sessions on NEP 2020 as a priority.
2. State and central education ministries should come up with thorough, practical and user-friendly recommendations to implement the interdisciplinary education at school level.
3. Infrastructure development, allocation of resources and training of teachers to bring parity with private schools needs specific attention for government schools.
4. Professional development activities should be specifically targeted at experienced teachers to address opposition and promote favorable attitudes towards educational innovation.
5. The curriculum for B.Ed and M.Ed should be revised to integrate multidisciplinary teaching methodologies so that the future teachers are already trained to implement NEP 2020.
6. Implementation progress should be monitored regularly and feedback mechanisms implemented to enable prompt course correction for new difficulties.

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