

Teachers' Attitudes Towards Interdisciplinary Teaching in Secondary Education under the National Education Policy 2020

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Abstract

The National Education Policy (NEP) 2020 promotes interdisciplinary learning, competency based education, and the holistic development of learners. Achieving these goals depends largely on teachers, whose attitudes influence the adoption and implementation of interdisciplinary teaching practices. This review examines published studies on interdisciplinary teaching, teacher attitudes, teacher readiness, educational reforms under NEP 2020, and attitude scale development in secondary education. The reviewed literature shows that interdisciplinary teaching supports conceptual understanding, critical thinking, creativity, collaboration, and the application of knowledge to real life situations. It also indicates that teachers' awareness, professional readiness, institutional support, and opportunities for professional development influence their willingness to implement interdisciplinary teaching. Studies related to NEP 2020 report generally favourable attitudes towards the policy while also identifying challenges such as inadequate training, limited resources, and difficulties in classroom implementation. The review further shows that several validated attitude scales have been developed for different educational contexts; however, a validated instrument specifically designed to measure secondary school teachers' attitudes towards interdisciplinary teaching under NEP 2020 was not identified in the reviewed literature. This gap highlights the need for the development of a context specific attitude scale that can support future research and educational practice. The review brings together current evidence on interdisciplinary teaching and teacher attitudes and provides a basis for future studies on attitude measurement in the context of NEP 2020.

Keywords: Teacher attitude; interdisciplinary teaching; secondary education; National Education Policy 2020; interdisciplinary education; teacher readiness; attitude scale.

Introduction

Education in the twenty first century places increasing emphasis on preparing learners with the knowledge, skills, and values needed to respond to complex social, scientific, and technological challenges. This has encouraged a gradual shift from subject based instruction to teaching approaches that connect knowledge across disciplines. Interdisciplinary teaching has gained considerable attention because it enables learners to relate concepts from different subjects, apply their learning to real life situations, and develop critical thinking, creativity, collaboration, and problem solving skills [13], [14].

In secondary education, interdisciplinary teaching encourages learners to explore relationships among different subject areas rather than studying them in isolation. Earlier studies have shown that this approach improves conceptual understanding, learner engagement, and the practical application of knowledge. It also creates opportunities for

teachers to design learning experiences that integrate ideas from science, mathematics, social sciences, languages, and other disciplines [1], [7], [12]. The National Education Policy (NEP) 2020 supports this shift by encouraging competency based education, experiential learning, curriculum flexibility, and multidisciplinary learning. These recommendations require schools to adopt teaching practices that help students connect knowledge across disciplines while promoting their overall development. The effective implementation of these reforms, however, depends largely on teachers and their willingness to adopt new approaches to teaching and learning [3], [4].

Teachers' attitudes influence how educational reforms are implemented in classrooms. Positive attitudes towards interdisciplinary teaching can encourage teachers to adopt innovative instructional practices, whereas limited awareness, inadequate training, and insufficient institutional

support may affect implementation. Studies related to NEP 2020 have reported that teachers generally hold favourable views towards the policy but continue to face practical challenges during its implementation [6], [9].

Previous research has examined interdisciplinary teaching, teacher attitudes, educational reforms, and attitude scale development from different perspectives. However, these areas have largely been investigated independently. This review examines published studies on interdisciplinary teaching, teacher attitudes, teacher readiness, educational reforms under NEP 2020, and attitude scale development to present the current state of knowledge. It also discusses the need for a context specific instrument to measure secondary school teachers' attitudes towards interdisciplinary teaching under NEP 2020.

Interdisciplinary Teaching in Secondary Education

Interdisciplinary teaching is an educational approach that integrates knowledge, concepts, and methods from two or more disciplines to help learners develop a broader understanding of a topic or problem. Instead of treating subjects as separate areas of study, it encourages students to recognise relationships among disciplines and apply their learning to practical situations. Tripathi (2016) described interdisciplinary teaching as a means of connecting knowledge across subject boundaries to make learning more meaningful, while Wang and Sang (2024) emphasised its role in preparing learners to address complex issues that cannot be understood through a single discipline.

The reviewed studies suggest that interdisciplinary teaching has become increasingly relevant in secondary education because it promotes learning experiences that reflect real life situations. Kanmaz (2022) reported that teachers viewed interdisciplinary teaching as an opportunity to improve student participation, communication, and collaborative learning. Patel and Bhatt (2024) also observed that integrating different subjects within the school curriculum helps students understand concepts more effectively and relate classroom learning to everyday experiences.

Interdisciplinary teaching also encourages changes in classroom practice. Rather than relying solely on lecture based instruction, teachers are expected

to use inquiry based activities, projects, discussions, and collaborative learning experiences that draw upon knowledge from multiple disciplines. According to Tonnetti and Lentillon-Kaestner (2023), successful implementation of interdisciplinary teaching depends on cooperation among teachers, shared planning, and institutional support. Their findings indicate that interdisciplinary teaching requires organisational as well as pedagogical changes within schools.

Although the educational benefits of interdisciplinary teaching are widely recognised, the reviewed studies also describe several implementation challenges. Teachers frequently report difficulties related to lesson planning, coordination among different subject teachers, limited instructional time, and insufficient professional preparation [1], [12]. These findings suggest that successful implementation depends not only on curriculum design but also on teacher preparedness and support from educational institutions.

Overall, the reviewed literature presents interdisciplinary teaching as an approach that extends beyond the integration of subjects. It encourages learners to examine problems from multiple perspectives and supports the development of knowledge, skills, and attitudes required in contemporary education. At the same time, its successful implementation depends on teachers' willingness, preparation, and the support available within schools.

Interdisciplinary Teaching under the National Education Policy 2020

The National Education Policy (NEP) 2020 marks an important step towards transforming school education in India by encouraging learning that goes beyond traditional subject boundaries. It recommends competency based education, experiential learning, curriculum flexibility, and multidisciplinary learning to help students develop knowledge, skills, values, and problem solving abilities required for the twenty first century [3], [4].

A key feature of NEP 2020 is its emphasis on connecting different disciplines rather than teaching subjects in isolation. The policy encourages schools to design learning experiences that integrate concepts from various fields,

enabling students to understand relationships among disciplines and apply their learning in real life situations. Kumari (2025) noted that multidisciplinary and interdisciplinary approaches are central to the policy's vision of improving the quality of school education. Similarly, Lenka and Singh (2024) highlighted that curriculum flexibility and competency based learning provide opportunities for schools to adopt interdisciplinary teaching practices.

The reviewed studies indicate that the goals of NEP 2020 and the principles of interdisciplinary teaching complement each other. Patel and Bhatt (2024) reported that interdisciplinary teaching makes classroom learning more meaningful by integrating concepts from different subjects. Tripathi (2016) also argued that connecting knowledge across disciplines helps learners develop a broader understanding of academic concepts and their practical applications. Together, these studies suggest that interdisciplinary teaching provides an effective means of achieving several educational objectives proposed in NEP 2020.

Although the policy provides a clear direction, its implementation depends largely on teachers. Studies examining teachers' awareness and attitudes towards NEP 2020 indicate that educators generally welcome the reforms while also identifying practical challenges related to training, classroom implementation, teaching resources, and institutional support [6], [9]. These findings suggest that successful implementation requires not only policy reforms but also adequate support for teachers.

Overall, the reviewed literature indicates that NEP 2020 provides a favourable framework for promoting interdisciplinary teaching in secondary education. However, translating policy recommendations into classroom practice depends on teachers' understanding of interdisciplinary teaching, their professional readiness, and the support available within educational institutions.

Teacher Attitudes towards Interdisciplinary Teaching

Teachers play an important role in determining how educational reforms are implemented in schools. Their attitudes influence instructional decisions, classroom practices, and their willingness to adopt new teaching approaches.

Positive attitudes often encourage teachers to accept educational innovations, whereas uncertainty or negative perceptions may discourage changes in established teaching practices [6], [8].

Teacher attitude refers to an individual's beliefs, feelings, and behavioural tendencies towards a particular idea or practice. In the context of interdisciplinary teaching, it reflects teachers' perceptions of integrating different disciplines, collaborating with colleagues, and using learner centred instructional approaches. Since interdisciplinary teaching requires changes in both teaching methods and classroom organisation, teachers' attitudes become an important factor in its successful implementation [5], [10].

The reviewed studies indicate that teachers generally recognise the educational value of interdisciplinary teaching. Kanmaz (2022) reported that teachers viewed interdisciplinary teaching as beneficial for student learning and professional collaboration, although they also described challenges related to planning and coordination. Patel and Bhatt (2024) similarly observed that integrating concepts across subjects helps make learning more relevant and encourages active student participation. These findings suggest that teachers are more likely to support interdisciplinary teaching when they perceive clear educational benefits.

Teachers' attitudes towards interdisciplinary teaching are also shaped by their perceptions of educational reforms. Studies on NEP 2020 reported that many teachers expressed favourable views towards the policy's emphasis on competency based education, curriculum flexibility, and interdisciplinary learning. However, they also pointed to concerns regarding teacher preparation, teaching resources, and institutional support required for effective implementation [6], [9].

Overall, the reviewed literature suggests that teacher attitude extends beyond personal opinion. It influences teachers' willingness to adopt interdisciplinary teaching, participate in educational reforms, and introduce changes in classroom practice. Understanding these attitudes is therefore important for improving the implementation of interdisciplinary teaching in secondary schools and for supporting the objectives of NEP 2020.

Factors Influencing Teacher Attitudes towards Interdisciplinary Teaching

Teachers' attitudes towards interdisciplinary teaching are influenced by a combination of individual, professional, and institutional factors. The reviewed studies suggest that favourable attitudes are not developed solely through personal interest but are shaped by teachers' understanding of interdisciplinary teaching, their professional preparation, opportunities for collaboration, and the support available within schools.

One of the major factors influencing teachers' attitudes is their awareness and understanding of interdisciplinary teaching and the objectives of the National Education Policy 2020. Teachers who have a clear understanding of educational reforms are generally more confident in adopting new instructional approaches. Studies on teachers' awareness of NEP 2020 reported that greater awareness was associated with more favourable attitudes towards policy implementation, whereas limited understanding created uncertainty about classroom practice [6]. Professional readiness and training also influence teachers' attitudes. Interdisciplinary teaching requires teachers to plan lessons that connect concepts across subjects, adopt learner centred teaching methods, and work beyond conventional subject boundaries. Raju and Priya (2025) reported that teachers supported the objectives of NEP 2020 but emphasised the need for structured training and continuous professional development to implement the proposed reforms effectively. Similar observations were reported by Rawat et al. (2024), who highlighted teacher preparedness as an important requirement for successful policy implementation.

The reviewed studies further emphasise the importance of collaboration among teachers. Interdisciplinary teaching often requires teachers from different subject areas to work together while planning lessons, classroom activities, and assessments. Kanmaz (2022) found that interdisciplinary team teaching promoted professional learning and collaboration, although it also required additional planning and coordination. Tonnetti and Lentillon-Kaestner (2023) similarly reported that collaboration among teachers contributed to more effective interdisciplinary teaching and improved classroom practice.

Another important factor is institutional support.

Schools that provide administrative encouragement, adequate teaching resources, flexible schedules, and opportunities for collaborative planning create conditions that encourage interdisciplinary teaching. In contrast, limited resources, heavy workloads, and rigid curriculum structures may discourage teachers from adopting new teaching approaches [2], [7].

The reviewed literature suggests that teachers' attitudes are shaped by the interaction of these factors rather than by any single influence. Improving teachers' awareness, strengthening professional preparation, encouraging collaboration, and providing institutional support can create favourable conditions for the successful implementation of interdisciplinary teaching in secondary schools.

Measuring Teacher Attitudes through Existing Scales and Psychometric Approaches

Measuring teacher attitudes requires reliable and valid instruments that accurately assess teachers' beliefs, perceptions, and behavioural tendencies. The reviewed studies show that attitude scales are widely used in educational research to examine teachers' views on different aspects of teaching, educational reforms, and classroom practices. These instruments provide a systematic method for collecting information that can support educational research, policy implementation, and teacher development [5], [10].

The studies reviewed followed similar procedures while developing attitude scales. These included identifying the construct to be measured, reviewing relevant literature, preparing an initial pool of statements, obtaining expert opinions to establish content validity, conducting pilot studies, analysing individual items, and examining the reliability and validity of the final instrument. Such procedures help ensure that the scale measures the intended construct consistently and accurately [5], [10].

Ramzan et al. (2014) developed the Prospective Teachers' Teaching Attitude Scale (PTTAS) to assess attitudes towards the teaching profession. Their study demonstrated the importance of systematic item development and psychometric testing in constructing a dependable attitude scale. Likewise, Mazi (2025) developed a Teacher Attitude Scale for Inclusive Mathematics

Education and reported satisfactory evidence of validity and reliability. Although both studies provide useful guidance for attitude scale development, their instruments were designed for different educational contexts.

The reviewed literature also includes studies that examined teachers' attitudes towards NEP 2020 and interdisciplinary teaching [6], [9]. These studies provide valuable information about teachers' awareness, perceptions, and readiness for educational change. However, they primarily measured these variables using questionnaires or survey tools rather than developing and validating a dedicated attitude scale.

Overall, the reviewed studies demonstrate that established procedures are available for developing reliable attitude scales in education. At the same time, they indicate the need for a context specific instrument that can systematically measure secondary school teachers' attitudes towards interdisciplinary teaching under the National Education Policy 2020. Such an instrument would strengthen future research by providing a standardised method for assessing teachers' attitudes in this emerging area.

Research Gaps and Scope for Future Research

The reviewed studies have contributed substantially to the understanding of interdisciplinary teaching, teacher attitudes, and educational reforms under the National Education Policy 2020. Previous research has explained the concept of interdisciplinary teaching, discussed its educational benefits, and examined the experiences of teachers in implementing interdisciplinary practices. Other studies have investigated teachers' awareness, readiness, and attitudes towards NEP 2020, while some have developed validated attitude scales for different

educational contexts. Together, these studies provide a useful foundation for understanding the relationship between teachers' attitudes and educational change.

Despite these contributions, the reviewed literature also reveals certain limitations. Studies on interdisciplinary teaching have mainly focused on its educational value, classroom practices, and implementation challenges. Research related to NEP 2020 has largely examined teachers' awareness, perceptions, and readiness for educational reforms. Likewise, the available attitude scale studies were developed for specific educational settings and do not address interdisciplinary teaching in secondary education. As a result, these areas have largely progressed as separate lines of research.

The review did not identify a validated instrument specifically designed to measure secondary school teachers' attitudes towards interdisciplinary teaching under the National Education Policy 2020. The absence of such an instrument makes it difficult to assess teachers' attitudes systematically, compare findings across different educational settings, and evaluate the effectiveness of programmes intended to promote interdisciplinary teaching.

Future research may therefore focus on developing and validating a context specific attitude scale for secondary school teachers. Such a scale would provide a standardised method for assessing teachers' attitudes and could support further research on interdisciplinary teaching, teacher education, professional development, and the implementation of NEP 2020. Studies conducted across different regions and school settings may also improve understanding of the factors that influence teachers' attitudes and their role in implementing interdisciplinary teaching.

Sr. No.	Author(s) & Year	Study Focus	Key Findings	Relevance to the Present Review
1	Tripathi (2016)	Interdisciplinary teaching	Explained the concept and significance of interdisciplinary teaching.	Conceptual foundation of the review.
2	Kanmaz (2022)	Teachers' experiences with interdisciplinary teaching	Identified benefits and implementation challenges.	Evidence on teachers' experiences and attitudes.

3	Tonnetti & Lentillon Kaestner (2023)	Interdisciplinary teaching in secondary schools	Highlighted collaboration and institutional support.	Supported discussion on implementation.
4	Patel & Bhatt (2024)	Interdisciplinary teaching in school education	Reported improved learner engagement and conceptual understanding.	Supported educational benefits of interdisciplinary teaching.
5	Kumari (2025)	NEP 2020	Discussed interdisciplinary and competency based education.	Linked interdisciplinary teaching with NEP 2020.
6	Neelofar & Bai (2024)	Teachers' attitudes towards NEP 2020	Examined teachers' awareness, attitudes, and implementation challenges.	Supported discussion on teacher attitudes.
7	Raju & Priya (2025)	Teachers' readiness for NEP 2020	Emphasised training and professional readiness.	Supported factors influencing teacher attitudes.
8	Ramzan et al. (2014)	Teaching attitude scale development	Developed and validated a teaching attitude scale.	Methodological basis for attitude scale development.
9	Mazi (2025)	Teacher attitude scale	Developed and validated a subject specific teacher attitude scale.	Demonstrated psychometric procedures relevant to the proposed scale.

Table 1. Summary of Major Studies Included in the Review

Conclusion

Interdisciplinary teaching has become an important approach for promoting holistic learning, critical thinking, and the integration of knowledge across disciplines. The National Education Policy 2020 has further strengthened its relevance by encouraging multidisciplinary learning and competency based education. The reviewed literature indicates that teachers generally recognise the educational value of interdisciplinary teaching; however, its successful implementation depends on teachers' attitudes, professional readiness, collaboration, and institutional support.

The review also shows that although previous studies have examined interdisciplinary teaching, teacher attitudes, and NEP 2020 independently, limited attention has been given to understanding teachers' attitudes towards interdisciplinary teaching within the specific context of NEP 2020. Furthermore, while several validated teacher attitude scales have been developed for different educational contexts, no context specific instrument was identified for assessing secondary school teachers' attitudes towards

interdisciplinary teaching under NEP 2020.

This review highlights the need for the development and validation of such an instrument. A reliable attitude scale would facilitate systematic assessment of teachers' attitudes, support future educational research, and provide useful evidence for teacher education, professional development, and policy implementation. Strengthening teachers' preparedness and understanding of interdisciplinary teaching may ultimately contribute to the effective implementation of NEP 2020 and improve the quality of secondary education.

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