



STAKEHOLDERS' PERCEPTION ON INTERDISCIPLINARY EDUCATION IN SCHOOLS

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Abstract:

Interdisciplinary education has been an issue of high concern in current education reforms as a way of enhancing holistic learning, critical thinking and problem-solving skills in real life circumstances among learners. The current research compares the views of the main stakeholders that include teachers and students on interdisciplinary pedagogy in schools. The study took a descriptive survey mix research method. The sample involved teachers of secondary schools and students in the private schools of Kotdwara, Uttarakhand. Purposive sampling was used to select 60 respondents of which 30 teachers and 30 students were included. The data collection was by use of self-constructed questionnaires that included Likert scale items and open-ended questions. The analysis of quantitative data was conducted by means of percentage analysis, and the thematic analysis was applied to analysis of the qualitative responses. The results indicate that the level of awareness and positive attitude of teachers towards interdisciplinary education is high; their confidence in their practical ability to use interdisciplinary teaching is moderate. Among the major challenges, it is noted that there are lack of time, strict curriculum structure, inadequate training and assessment problems. The perceptions of students turned out to be very positive, which is a reflection of enhanced understanding, engagement, motivation, and retention of concepts in the long-term when using interdisciplinary learning.

Keywords: Interdisciplinary Education, Stakeholder Perception, Secondary Education, NEP 2020

I. INTRODUCTION

The twenty-first century has been characterized with a tremendous transformation of education owing to the fast-changing science, technology, and society. The modern educational strategies are focused on the skill of critical thinking, imagination, teamwork, and problem solving instead of the transfer of factual information. In this context, interdisciplinary education has already become a significant pedagogical strategy that incorporates knowledge and views on various fields to solve complicated real-life issues.

Conventional education systems tend to divide knowledge into orthodox barriers of discipline, and this might restrict the student to relate concepts across disciplines. Interdisciplinary education tries to address this shortcoming by facilitating the use of integrated learning experiences to motivate students to synthesize concepts and make knowledge useful in real-life situations.

In India, reforms in education systems like the National Education Policy (2020) and National Curriculum Framework of School Education (2023) focus on the interdisciplinary learning at all levels of education. The reforms are meant to produce flexible curriculums, experiential learning, and conceptual as opposed to rote learning. Nevertheless, even with good policy support, the perceptions and readiness of both the teachers and the students are of paramount importance to the good implementation of the interdisciplinary education at the classroom level.

In interdisciplinary teaching, teachers are significant in the design and implementation of the teaching strategy, and students are the main beneficiary of such an interdisciplinary teaching experience. Their perceptions can also be used to offer useful insights into the opportunities and challenges that are involved with interdisciplinary education within schools. As such, the current research examines the perceptions of the stakeholders towards interdisciplinary learning at the secondary level of education.

II. REVIEW OF RELATED LITERATURE

1. In the study *Interdisciplinary Research: Transforming Higher Education in India*, Sharma and Singh (2015) explored interdisciplinarity as a transformative approach that challenges rigid disciplinary boundaries in Indian higher education. The study focused on the synthesis-based framework of Newell and Green (1998) and the typology of Heckhausen (1972), and also brought out the fact that the interdisciplinary integration enhances critically, creativity, teamwork and problem-solving skills. The Yash Pal Committee Report (2009) and the FICCI–Ernst & Young Summit (2014), two national assessments that emphasized on the issues which included the outdated curricula, a lack of faculty knowledge, and academic fragmentation, were also mentioned. The authors concluded that in order to increase graduate employability, academic relevance, and the global competitiveness of Indian higher education, a systemic change towards interdisciplinary research is necessary.

2. In their study *Interdisciplinarity in Primary and Secondary School: Issues and Perspectives*, Yves Lenoir and Abdelkrim Hasni (2016) explored the conceptual foundations, rationale, and constraints of integrating interdisciplinarity into basic education. The authors emphasized the importance of interdisciplinarity in schools in order to promote students' cognitive, social, and affective development, address fragmented knowledge, and foster meaningful learning. The study highlighted the importance of enabling significant contextualization of learning activities, teacher collaboration, integrative learning processes, and defined disciplinary foundations for successful interdisciplinary practices. Additionally, it warned against superficial or pseudo-interdisciplinary approaches that ignored disciplinary rigor. The researchers concluded that interdisciplinarity supported the integration of knowledge and learning, and assist in transforming primary and secondary education more comprehensive, critical, and socially relevant

3. In the paper *Study of an Interdisciplinary Didactic Model in a Secondary Education Music Class*, Cuervo (2018) investigated how effectively interdisciplinary teaching strategy improved secondary students' abilities to compose music. The research was based on a quasi-experimental design to examine holistic approach that is interdisciplinary that incorporated music, science, technology, and art in combination with a traditional teacher-centered approach. The findings were that the learners that were exposed to the interdisciplinary model were in a much better place in regards to their creativity, adaptability, critical thinking, motivation and meaningful grasp of musical concepts. The research also found out that interdisciplinary teachings encouraged confidence, participation, and holistic learning, thus the importance of collaborative teaching as well as curriculum development that crosses the academic boundaries in secondary education.

4. In the study *Interdisciplinary Learning in Secondary Schools: From Multiple Perspectives*, Tsui and Mok (2020) investigated the effectiveness of interdisciplinary learning based on a STEM-based project on renewable energy among secondary school students in Hong Kong. The research was founded on the multi-perspective model of Lattuca et al. (2004) who found out that interdisciplinary project-based learning enhanced the motivation and conceptual learning in students, their problem-solving skills and their capacity to relate new knowledge to existing knowledge in mathematics, geography, and integrated science. Also, the students showed the positive attitude to the inquiry-based learning process and practical knowledge application. Nevertheless, challenges were found such as poor teacher preparedness, inflexibility in the curriculum and time constraints. The scholar evaluated that adequate preparation and institutionally assisted interdisciplinary learning is capable of introducing meaningful, holistic, and skill-based learning experiences at the high school level.

5. In the study *The Implication of Interdisciplinary Approach in Education – An Exploratory Study*, Rekha (2022) emphasized the concept of interdisciplinarity as a transformative pedagogy that fosters critical thinking, lifelong learning, and holistic development as a focus of the research. The research based on the key studies such as Kolb (1971), Jones (2000) and Bransford et al. (2000) concluded that in interdisciplinary approaches the interest and performance of science and math became better and stronger (Beane, 1997; Bybee, 1997), problem-solving skills were strengthened (Beane, 1997; Bybee, 1997) and the ecological literacy enhanced (Staples, 2005). Several scholars emphasized on the importance of interdisciplinarity in scientific progress, reflective learning, and socially concerned education. The study came to the conclusion that although interdisciplinarity has a lot of potential but still it required more empirical research and the development of academic, cognitive, and emotional abilities is crucial for its successful implementation.

6. In their paper *Implementing Interdisciplinary Teaching Approaches: Challenges and Strategies in Teacher Education under NEP 2020*, Lenka and Singh (2024) highlighted interdisciplinary teaching as vital approach for developing well-rounded students with critical thinking, creativity, and problem-solving skills in teacher education under NEP 2020. Their study emphasized the obstacles of NEP 2020's vision of connecting subjects which included teachers' resistance to change, lack of collaboration, assessment challenges and lack of funding. They emphasized that departmental silos hinder teamwork & that teacher who used traditional techniques hesitate to adopt new ideas. In order to address these, the researcher suggested different strategies such as teachers training program, interdisciplinary committees to promote collaboration, innovative assessment like project-based evaluation and resource development by digital platforms for educational resources. They emphasized that while these strategies can support NEP 2020 goals by fostering a dynamic, inclusive learning environment, but requires more research which is necessary to ensure their long-term viability, particularly in diverse educational settings.

7. In the review *Interdisciplinary Competence of Primary and Secondary School Teachers: A Systematic Literature Review*, Wang and Sang (2024) discovers that interdisciplinarity is the primary factor that helps to make students prepared to address more complex real-life problems; yet, this approach is not always effective. The review highlighted that the teachers need to be well knowledgeable in their subject, flexible in their pedagogy, and collaborative, but most of them do not have adequate training, resources, and institutional support. Interdisciplinary competence does not merely focus on integrating content but also promoting critical thinking, problem solving and creativity within learners. Nevertheless, there are knowledge gaps in the development and evaluation of these competencies in the teacher education programs. On balance, the review comes to a conclusion that interdisciplinarity is a poorly developed yet vital field, which needs further professional development, research and systemic support at primary and secondary education levels.

III. RESEARCH GAP

There has been much research concerning interdisciplinary education within various kinds of schools however most of these are related to higher education, or curriculum frameworks or policy perspective. Empirical studies about the views of teachers and learners in India on interdisciplinary teaching in secondary schools are in the paucity. This research aims at determining the perception of stakeholders regarding interdisciplinary education in secondary schools.

IV. OBJECTIVES OF THE STUDY

The study was conducted with the following objectives:

1. To assess the level of preparedness of teachers for applying interdisciplinary pedagogy in classrooms.
2. To explore the challenges faced by teachers in implementing interdisciplinary teaching.
3. To study the perception of students on interdisciplinary pedagogy in classrooms.

V. RESEARCH METHODOLOGY

Research Design

The research used a mixed methods descriptive survey design, which was a combination of both quantitative and qualitative research.

Population

The population consisted of secondary school teachers and students of the private schools in Kotdwara, Uttarakhand.

Sample

The total number of respondents involved in the study was 60:

- Teachers: 30
- Students: 30

Participants were selected using purposive sampling technique.

Tool for Data Collection

Self-developed questionnaires were used in collecting the data.

- Teacher questionnaire: 10 Likert-scale items + 2 open-ended questions
- Student questionnaire: 10 Likert-scale items

Data Analysis

The quantitative method of data analysis involved the analysis of data by the percentage as the qualitative method of data analysis involved thematic analysis of the data.

VI. FINDINGS OF THE STUDY

Teacher Preparedness

The findings indicate that the teachers are highly enlightened with respect to interdisciplinary education and they are cognizant of the significance of interdisciplinary education in ensuring that the lessons taught are meaningful. However, the confidence of their combination of subjects is not high practically i.e. moderate.

Challenges in Implementation

According to teachers, a number of difficulties were observed in the process of implementing interdisciplinary education and they included:

- Lack of time because of the work overload in the syllabus.
- Rigid curriculum structure
- Insufficient training
- Difficulty in designing appropriate assessments

These challenges indicates that institutional support and professional development programs are required.

Student Perceptions

The perceptions of interdisciplinary learning proved to be highly positive by students. The findings show that interdisciplinary instruction:

- improves understanding of concepts
- creates interest and motivation

- promotes classroom engagement
- enhances long-term retention of knowledge
- encourages critical thinking

Overall, interdisciplinary learning was perceived as more meaningful and interesting as compared to the traditional subject-based teaching by the students.

VII. CONCLUSION

The research concludes that meaningful learning experiences at secondary school level could be significantly enhanced through interdisciplinary education. A majority of teachers expresses a positive attitude when it comes to interdisciplinary teaching yet they require practical training and assistance of their schools to succeed. Such structural barriers as limited time, rigid curriculums, and traditional assessment techniques still remain a major challenge.

Conversely, students strongly appreciate interdisciplinary learning since it makes them more engaged, discover things more easily and better academic performance. To make interdisciplinary education successful, therefore, teachers, schools, curriculum designers, and policy makers should collaborate.

Interdisciplinary pedagogy can be used well in the secondary schools by providing them with professional development opportunities, flexible curriculum structures and supportive learning environments.

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