Teachers' Insights: Exploring In-Service Teacher Education in Select Districts of Punjab

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Abstract

Teachers form the backbone of the education system, and their continuous professional development is crucial for improving student outcomes. The Government of India (GoI) has placed significant emphasis on enhancing teachers' capacity to deliver and improve learning outcomes, apart from focusing on other parameters for imparting quality education. The government of Punjab has taken proactive steps to improve professional development opportunities for teachers. This study examines the state government's perception of government middle school teachers from two districts—SAS Nagar and Ferozepur—regarding the quality and effectiveness of in-service training imparted to teachers by the State Council of Educational Research and Training (SCERT), Punjab. The findings provide valuable insights into the effectiveness, relevance and impact of SCERT's initiatives. Additionally, the research identifies the challenges faced by teachers and head teachers in implementing these training programs and provides policy recommendations to enhance the overall quality of teacher education in the State. While the Punjab government has taken commendable steps to enhance teacher development, addressing challenges related to quality and accountability is essential to maximise the impact of these training programs.

Keywords: *In-service teacher education, teacher training, SCERT, Punjab, teachers' insights*

Introduction

India has made significant progress since the enactment of the Right of Children to Free and Compulsory Education (RTE) Act, 2009 and the launch of the SarvaShikshaAbhiyan in 2001-02. These initiatives have led to improvements in access, equity and quality of elementary education across the country. Additionally, the number of out-of-school children and dropout rates have also reduced significantly, though some concerns persist. Challenges, such as teacher shortage and poor quality of teaching continue to impact learning outcomes in classrooms.

A teacher plays a crucial role in classroom transactions, impacting the learning outcomes of students. The Government of India (GoI) has placed significant emphasis on strengthening teachers' capacity to improve learning outcomes. To achieve this, a number of teacher education programmes have been introduced to build teachers' capacity. In 2019–20, the Department of School Education and Literacy, Ministry of Education,GoI, launched a national mission to improve learning outcomes through an Integrated Teacher Training Programme (ITTP) called National Initiative for School Heads' and Teachers' Holistic Advancement (NISHTHA) under the centrally-sponsored Samagra Shiksha Scheme. The ITTP's primary objective is to impart training to teachers at all levels of school education in a creative and effective manner,equipping them to foster critical thinking in students, manage diverse classroom situations and act as first-level counselors. NISHTHA focuses on enhancing teachers' skills in key areas, such as learning outcomes, competency-based

learning and assessment, learner-centered pedagogy, school safety and security, personal and social development, inclusive education, information and communication technology, and health and well-being.

Initially, face-to-face training sessions were conducted in various states, reaching a large number of teachers and school heads. However, the COVID-19 pandemic disrupted these efforts, leading to the launch of online NISHTHA courses through the Digital Infrastructure for Knowledge Sharing (DIKSHA) platform—a national portal that provides access to digital resources for teachers and students.

The government of Punjab, in line with the Central government's teacher education initiatives, launched the Padho Punjab Padhao Punjab programme to improve the quality of education in the State. The State Council of Educational Research and Training (SCERT) and District Institutes of Education and Training (DIETs) are two key institutions set up in all states of India, including Punjab, to improve the quality of education and teacher training at the state and district levels. The SCERTs serve as the nodal agencies responsible for planning and organising teacher training programmes, whereas DIETs play a vital role in conducting action research and field studies to identify local educational challenges. In Punjab, these institutions are crucial for the continuous in-service training of teachers, curriculum innovation and implementation of education policies. The training provided are part of a broader, ongoing professional development initiative, commonly referred to in literature as 'teacher education'.

Punjab has implemented a cascade model of training, where in various training activities and interventions were undertaken to achieve the broader objective of teacher education. Under this model, a State Resource Group (SRG), comprising trainers for various subjects, received training from national-level research and training organisations like the National Council of Education Research and Training (NCERT) and the National Institute of Education Planning and Administration (NIEPA). The training programmes for the SRG was conducted in phases, primarily focusing on developing subject-specific training modules, content, pedagogy, teacher training on child development, creation of learning material, preparation of weekly teaching planners and improving the classroom environment. The SRG, in turn, trained District Resource Persons (DRPs), who further trained Block Resource Persons (BRPs). As master trainers or teacher-mentors, the BRPs were primarily responsible for providing academic support to teachers in schools. This structure ensured that subject-specific expertise was effectively passed down to teachers at the grassroots level, enabling them to address challenges in real time. The COVID-19 pandemic prompted a shift towards online teacher education methods (The Times of India, 16 December 2020), with the State adopting technology-driven training approaches, utilizing digital platforms like Zoom and Cisco Webex. Additionally, Punjab launched the Ghar Baithe Sikhya programme through various Direct to Home (DTH) channels to facilitate remote learning.

Review of the Literature

Numerous studies conducted across the states of Haryana (Saini, 2017), Punjab (Kaur, 2016, and Garg, 2012), Assam (Kalita, 2004), Kerala and Tamil Nadu (Pillai, 2018), Himachal Pradesh (Anand, 2011, and Kumar, 2011), and Karnataka (Pattanshetti, 2012) have highlighted the importance of in-service teacher training in bringing about qualitative improvement in school education. Additionally, teacher education positively impacts classroom transaction, knowledge and motivation (Omar, 2014, and Kidwai, et al., 2013). Nevertheless, the effectiveness and significance of these teacher education programmes and policies largely depend on the ability to translate the 'what' of educational content into the 'how' of classroom learning. Without this crucial transition, no significant improvement in education can be brought

about (Mohan, 2021). Several studies (Azim Premji Foundation, 2010; Bordia, 2019; Dhawan, 2003; Kidwai, et al., 2013, and Mohanty, 2013) emphasize the critical role of SCERTs and DIETs in implementing teacher education programmes that cater to the evolving needs of teachers in an ever-changing educational landscape. However, teachers have reported facing certain challenges in training programmes, including excessive workload, time constraints and a perceived lack of relevance in some training modules (Kaur, 2016, and Garg, 2012).

Need for the Study

Teachers' insights can lead to targeted improvements in teacher education programmes by addressing workload issues, promoting technology integration and ensuring the practical application of training. This study aims to contribute to more effective professional development, ultimately enhancing teaching practices and improving student outcomes in Punjab. The study is significant as it seeks to assess the nature and effectiveness of in-service teacher training in SAS Nagar (Mohali) and Ferozepur districts, while also identifying the existing inequities. These districts were selected on the basis of their performance in the National Achievement Survey (GoI, 2017). Despite being located on the international border with Pakistan, Ferozepur performed above average in the quality of education at the pre-primary, primary and middle levels. In contrast, SAS Nagar, situated on the outskirts of Chandigarh, has recorded below-average performance.

Objectives and Methodology

This empirical study aimed to explore and assess the perception of government middle school teachers from SAS Nagar and Ferozepur districts regarding the quality and effectiveness of in-service teacher education provided by SCERT, Punjab. The study examined various aspects, including the nature of training imparted, training content, quality of trainers, follow-up mechanisms, and challenges faced by head teachers/principals and teachers during their time away for training. It also sought to identify factors influencing teachers' perception, such as content relevance, delivery methodology and motivation, while suggesting improvements in these areas.

Sampling: Using a multi-stage stratified random sampling method, two districts—SAS Nagar and Ferozepur—were selected. A total of 110 government middle school teachers from these districts, representing all blocks, were chosen for the study (Table 1). Additionally, head teachers and principals of the selected schools were interviewed.

Table 1: Sample Size of Teachers from SAS Nagar and Ferozepur

Districts	Sample Schools	No. of Sample Schools	No. of Teachers
Ferozepur (Blocks: 6)	Government middle schools were selected from each block	13	41 (37.2%)
SAS Nagar (Blocks: 3)		30	69 (62.7%)
Total No. of Teachers			**110**

Data Collection and Analysis: Data on the relevance and effectiveness of teacher education was collected through structured interview schedules and informal discussions, conducted telephonically with government middle school teachers and teacher-mentors (BRPs) from the sample schools in SAS Nagar and Ferozepur. The teacher-mentors interviewed were subject-specific mentors for English, Mathematics and Social Sciences. The activity was undertaken between August 2020 and June 2021, during the nationwide COVID-19 lockdown. Subsequently, school visits were conducted in 2022 to interact with teachers and head teachers/principals. The collected

data was coded, and the frequency and the percentage of responses was calculated.

Results and Discussion

As shown in Table 1, a total of 41 teachers from Ferozepur and 69 from SAS Nagar were selected for the study. Table 2 and 3 depict the demographic profile and educational qualifications of the teachers. The majority of the sample fell within the age group of 31–50 years, encompassing both male and female teachers (Table 2).

Table 2: Demographic Statistics of Teachers (Age in Years)

S.No.	Male (Age Groups)					Female (Age Groups)				
	21–30	31–40	41–50	51–60	Total	21–30	31–40	41–50	51–60	Total
SAS Nagar (69)	0	6 (8.6)	5 (7.2)	6 (8.6)	17 (24.4)	0	17 (24.6)	19 (27.5)	16 (23.1)	52 (75.2)
Ferozepur (41)	2 (12.5)	9 (56.2)	4 (25)	1 (6.25)	16 (39)	4 (16)	10 (40)	10 (40)	1 (4)	25 (60.97)
Total (110)	2	15	9	7	33	4	27	29	17	77

Note: Figures in parentheses are percentages

Table 3 shows that most respondents possessed high educational qualifications (holding a postgraduate degree along with a B.Ed or M.Ed). Besides, they were trained in educational pedagogy and teaching–learning processes. In-service teacher education has been an integral part of employment, with training being mandatory for all teachers recruited by the State.

Table 3: Educational Qualifications of Teachers

S.No.	Educational Qualification of Teachers											
	BA/ B.Sc and B.Ed		BA/B.Sc and B.ED.		MA/M.Sc and B.Ed		MA/M.Sc and M.Ed		M.Phil		Others	
	M	F	M	F	M	F	M	F	M	F	M	F
SAS Nagar (69)	5 (7.2)	11 (15.9)	0	0	10 (14.4)	22 (31.8)	2 (2.8)	9 (13)	0	4 (5.7)	1 (1.4)	5 (7.2)
Ferozepur (41)	1 (0.41)	2 (0.82)	0	1 (0.41)	5 (2.05)	22 (9.02)	3 (1.23)	4 (1.64)	0	2 (0.82)	1 (0.41)	0
Total (110)	6	13	0	1	15	44	5	13	0	6	2	5

Note: Figures in parentheses are percentages

Nature and Mode of Training

The teachers shared that the SCERT regularly conducted in-service teacher training programmes and seminars on various aspects of classroom teaching like lesson planning, curriculum construction, etc. Since it was mandatory to attend these training programmes, all teachers included in the sample had participated in them, either in physical or online mode (Table 4), which impacted their motivation levels. While some teachers perceived the training sessions as irrelevant and repetitive, considering them a waste of time due to the similarity of content each year, others suggested introducing a provision for recognition, incentives or rewards for teachers who actively engaged in these programmes, as it could significantly boost their motivation and enthusiasm.

Table 4: Status of Training Programmes Undertaken in 2019 and 2020

Frequency of teachers who took training	SAS Nagar		Ferozepur	
	2019	2020	2019	2020
	Physical	Online	Physical	Online
	69 (100)	69 (100)	41 (100)	41 (100)

Note: Figures in parentheses are percentages

Additionally, the nature and duration of training programmes was determined by the SCERT and the Office of the Director, School Education, Punjab, and varied each academic year. These training programmes ranged from two days to a week and were either subject-specific or covered topics like soft skills, leadership, ethics, etc. They also covered pedagogical skills, such as the use of innovative teaching aids, activity-based learning (ABL) in subjects like geography, English and mathematics. The teachers employed engaging teaching–learning methods, such as teaching Vedic mathematics and introducing the 'Word of the Day' exercise to improve vocabulary, enhancing students' interest and motivation, while reducing the likelihood of dropouts.

The teachers informed that the training content during the COVID-19 pandemic initially focused on the use of online platforms like Zoom, Google Classroom, as well as constructing and utilizing Google forms. While teachers had previously incorporated technology into their teaching, like using YouTube and creating video clips for students, their proficiency and confidence in using digital tools for education improved significantly. However, master trainers preferred physical mode of training over online sessions. Additionally, no training calendar was available online or provided to the researchers.

Training Need Assessment

Teachers and SCERT officials in Punjab, stated that teachers' training needs were assessed on the basis of the feedback provided by the respondents. The feedback was recognized as a vital component of the education process, with all participants confirming that they completed feedback forms and provided suggestions at the end of training programmes. However, a significant number of respondents expressed that their suggestions were often overlooked, primarily due to centralized decision-making on training schedules by higher authorities. SCERT officials in SAS Nagar clarified that despite their earnest efforts to tailor training sessions based on needs analysis and incorporate teacher suggestions, they sometimes had to follow directives from the Central and State governments. This occasionally resulted in hastily planned training programmes, making it challenging to fully align with the preferences and recommendations of the participating teachers.

Material or Equipment Provided at the Training Centres

The availability and use of necessary resources, such as teaching–learning materials (TLMs), technology and support staff during and after training, can influence how teachers perceive the effectiveness of training. All respondents agreed that they were provided with TLMs like globes, maps, science charts, etc., during training to make the learning process engaging, interactive and practical for students.

Table 5 outlines the teachers' responses regarding the utilisation of the provided TLMs in classrooms during teaching–learning process.

Table 5: Use of TLMs at Training Centres

TLMs provided at schools	SAS Nagar (N=69)		Ferozepur (N=41)	
	Yes	No	Yes	No
Films and filmstrips	17 (24.6)	52 (75.3)	10 (24.39)	31 (75.6)
Globes, wall maps, relief maps	24 (34.7)	45 (65.3)	26 (63.4)	15 (36.5)
Science charts and models	32 (46.3)	37 (53.6)	23 (56.09)	18 (43.90)
Projectors and tape recorders	11 (15.9)	58 (84.0)	25 (60.97)	16 (39.02)
Social Sciences charts	11(15.9)	58 (84.0)	17(41.46)	24 (58.5)
Others	12 (17.3)	57 (82.6)	02 (4.87)	29 (70.73)

Note: Figures in parentheses are percentages

On visits to the sample schools, it was observed that science kits, models of human heart, human organs, globes, maps, mathematical models, etc., were stored in a designated room, and teachers frequently used these aids for demonstrations. However, the teachers' responses to the questionnaire, as shown in Table 5, does not present an encouraging picture.

In SAS Nagar, most of the respondents did not use TLMs like films and filmstrips (75.3%), science charts and models (53.6%), projectors and tape recorders (84%), and social sciences charts (84%) while teaching. Only 34.7% used globes, wall maps and relief maps.

The findings further indicate that teachers in SAS Nagar and Ferozepur districts restrictively used TLMs, technology and support material/equipment in their classrooms due to limited availability of resources. Additionally, many teachers had to visit DIETs, which were often located at faraway locations, to collect TLMs. So, most teachers in SAS Nagar did not use these materials.

In contrast, in the border district of Ferozepur, the usage of TLMs in classroom varied significantly. For instance, only 24.39% used films and filmstrips; 63.4% used globes, wall maps and relief maps; 56.09% used science charts and models; and 41.46% used social sciences charts. All teachers unanimously agreed that training had positive impacted students' learning outcomes. Training programmes had enhanced their knowledge, skills and capabilities to teach creatively. Additionally, most middle schools were now equipped with projectors, television sets and Internet connectivity further supporting the teaching–learning process.

As shared by teachers and principals of sample schools, the condition of school infrastructure, including classrooms, libraries and laboratories, can affect the practicality of applying what is learned during training. Further, there is a need to put in more efforts to motivate teachers to use TLMs provided in schools. Post-training monitoring is essential to make training effective and productive.

Use of New and Innovative Techniques

Teachers have been introduced to various teaching strategies, such as group methods, project work, reading skills, new concepts of evaluation in class tests, field studies, etc. Table 6 shows that a majority of teachers in both districts used improvised teaching aids, project method of teaching and group methods.

The teachers also used smart boards, charts, posters, laboratories, television sets and digital technology. They shared that students were actively engaged in learning and were encouraged to collaborate with their peers in groups to showcase their learning. However, senior teachers showed resistance to new teaching approaches and expressed dissatisfaction when a younger teacher became their mentor and conducted training sessions.

Table 6: New Teaching Techniques Introduced in Classroom due to the Training Received

New Techniques Introduced in Classroom Teaching	SAS Nagar (N=69)		Ferozepur (N=41)	
	Yes	No	Yes	No
Group methods in teaching	43 (62.31)	26 (37.68)	31 (75.60)	10 (24.39)
Project method of teaching	44 (63.76)	25 (36.23)	25 (60.97)	16 (39.02)
Developing reading skills	39 (56.52)	30 (43.47)	22 (53.65)	19 (46.34)
Use of improvised teaching aids, tools and equipment	46 (66.66)	23 (33.33)	28 (68.29)	13 (31.70)
New concept of evaluation used in designing class tests	21 (30.43)	48 (69.56)	16 (39.02)	25 (60.97)
Lectures	19 (27.53)	50 (72.46)	17 (41.46)	24 (58.53)
Classwork and coursework	31 (44.92)	38 (55.07)	20 (48.78)	21 (51.21)
Homework	25 (36.23)	44 (63.76)	21 (51.21)	20 (48.78)
Field studies	09 (13.04)	60 (86.95)	11 (26.82)	30 (73.17)
Others	01 (1.44)	68 (98.55)	9 (21.95)	32 (78.08)

Note: Figures in parentheses are percentages

Implementation of Activities Post-training

The sample teachers were asked about the various activities organised in their schools post-training (Table 7). In SAS Nagar, most respondents reported introducing experimental projects after the training, while in Ferozepur, a majority of the respondents did not introduce such projects in science and mathematics classes. Audio-visual aids were largely unused in SAS Nagar but were embraced by a significant percentage of teachers in Ferozepur. Very few schools in both districts initiated activities like class libraries, museums, student clubs, and student government or Model United Nations (MUN). Notably, due to limited space, some libraries operated from the head teacher/principal's office. Besides, a small number of schools in the districts organised activities like MUN or mock parliaments. Despite these efforts, further collective involvement from all stakeholders was deemed necessary for sustained impact of training programmes.

Table 7: Activities Organized by Teachers in Their Schools Post-Training

Activities Organised	SAS Nagar (N=69)		Ferozepur (N=41)	
	Yes	No	Yes	No
Experimental projects	39 (56.52)	30 (43.47)	15 (36.58)	26 (63.41)
Class museums	02 (2.89)	67 (97.10)	02 (4.87)	39 (95.12)
Class Libraries	15 (21.73)	54 (78.26)	13 (31.70)	28 (68.29)
Student clubs	08 (11.59)	61 (88.40)	10 (24.39)	31(75.60)

Making improvised A/V Aids	08 (11.59)	61 (88.40)	26 (63.4)	15 (36.5)
MUN/Mock Parliament	04 (5.79)	65 (94.20)	06 (19.35)	25 (80.64)
Others	05 (7.24)	64 (92.75)	03 (9.67)	28 (90.32)

Note: Figures in parentheses are percentages

Hindrances Faced in Using New Techniques

It was assumed that teachers encountered several challenges in using new techniques, such as pressure to complete the syllabus, lack of support, time management, curriculum adjustments, discipline issues, and feeling overwhelmed by workload and time constraints. However, the findings indicate that a majority of the respondents in both the districts did not face any major challenge in implementing the new techniques learnt in training sessions (Table 8).

Table 8: Hindrances in Using New Techniques

Hindrances	SAS Nagar (N=69)		Ferozepur (N=41)	
	Yes	No	Yes	No
Rigid syllabus	02 (2.89)	67 (97.1)	13(31.70)	28(68.29)
Excessive emphasis on final exams	01 (1.44)	68 (98.5)	09 (21.95)	32(78)
Overloaded teaching schedule	03 (4.34)	66 (95.65)	16(39)	25 (60.97)
Others	56 (81.15)	13 (18.84)	23 (56.09)	18 (43.90)

Note: Figures in parentheses are percentages

The DIETs provide academic and resource support to schools by developing materials and creating instructional aids, which can be utilised by schools to improve the quality of teaching. Table 9 depicts the responses of the sample teachers in SAS Nagar and Ferozepur regarding the difficulties faced in using audio-visual aids. In SAS Nagar, only 14.49% teachers cited lack of facilities at school, and 8.69%mentioned inadequate transportation facilities for securing audio-visual aids from training centres as hindrances. In Ferozepur, the teachers faced problems due to the lack of infrastructure facilities and other resources (Table 9).

Table 9: Difficulties in using the audio-visual materials

Sl.No.	New Techniques Introduced in Classroom Teaching	SAS Nagar (N=69)		Ferozepur (N=41)	
		Yes	No	Yes	No
1.	Lack of facilities at school	10 (14.49)	59 (85.5)	09 (21.9)	32 (78)
2.	Inadequate transportation facilities	03 (4.34)	66 (95.6)	05 (12.1)	36 (87.8)
3.	Inadequate arrangements for securing them from training centres	06 (8.69)	63 (91.3)	05 (12.1)	36 (87.8)
4.	Lack of cooperation from concerned persons	0	69 (100)	07 (17)	34 (82.9)
5.	Others	53 (76.81)	16 (23.1)	25 (60.97)	16 (39.02)

Note: Figures in parentheses are percentages

Teachers' Perception regarding the Impact of Training Received

Table 10 shows that a majority of the teachers (92.75% in SAS Nagar and 85.3% in Ferozepur) believed that training helped them explain concepts to students in a better way, improving their understanding. Similarly, 75.36%teachers in SAS Nagar and 85.3% in Ferozepur felt that there was a positive change in the learning attitude of students, as they were now able to impart education in a more effective and efficient manner after receiving training.

Table 10: Effect of Training Received

Effect of Training	SAS Nagar (N=69)		Ferozepur (N=41)	
	Yes	No	Yes	No
Change in the learning attitude of students	52 (75.36)	17 (24.63)	35 (85.3)	06 (14.6)
Better understanding of concepts	64 (92.75)	5 (7.24)	35 (85.3)	06 (14.6)
Understanding of the concepts remains the same	05 (7.24)	64 (92.75)	04 (9.75)	27 (65.85)
Improved achievement as shown by test scores	34 (49.27)	35 (50.72)	24 (58.53)	17 (41.4)
Encouraging the interest of learners	46 (66.66)	23 (33.33)	34 (82.9)	07 (17.07)
Others	01 (1.44)	68 (98.55)	08 (19.5)	33 (80.48)

Note: Figures in parentheses are percentages

Furthermore, to varying degrees, sample teachers in both districts felt that there had been an improvement in the achievement levels of students and that their interest in learning had enhanced. These aspects of student achievement were confirmed through telephonic interviews and discussions with the teachers during field visits.

Teachers' Perceptions on Continuous Monitoring by Teacher-mentors

In Punjab, subject-specific teacher-mentors (BRPs) have been assigned to school teachers to improve teaching–learning and pedagogy. Their primary responsibility is to maintain regular contact with teachers by visiting the assigned schools, monitoring their pedagogy post-training and providing immediate solutions to challenges faced. It was learned that teacher-mentors visited the selected schools to observe classroom sessions during regular teaching conditions. They also reviewed materials, such as notebooks, lesson plans, test papers and TLMs in a supportive manner. The teachers were evaluated based on these aspects and constructive feedback was provided for improvement. Additionally, the mentors conducted demonstration lessons to model effective teaching practices for the teachers.

Table 11: Frequency of Teacher-mentors' School Visits

S. No.	Frequency of Visits	SAS Nagar (N=69)	Ferozepur (N=41)
		Yes	Yes
1.	Once a fortnight	49 (71.01)	23 (56.09)
2.	Once a month	08 (11.59)	10 (25.8)
3.	Once a year	03 (4.34)	07 (22.5)

4.	Once a term	03 (4.34)	01 (3.2)
5.	Never	06 (8.69)	0

Note: Figures in parentheses are percentages

The frequency of teacher-mentors' visit to schools was discussed with the respondents (Table 11), and a majority of the teachers (71.01% in SAS Nagar and 56.09% in Ferozepur) stated that their subject-specific teacher-mentors visited their schools regularly once a fortnight, attended their classes and monitored their way of teaching. However, a few teachers in both districts said their teacher-mentors rarely visited their schools—either once every two terms, or once a year, or never. While these responses were scattered, they raise concerns and authorities need to closely monitor the situation. Some teachers specifically pointed out that the lack of follow-up support hindered the application of new teaching strategies in their classrooms.

Perceptions of Head Teachers or Principals and Mentors

The head teachers or principals in the sample schools reported that teachers' training programmes were useful and effective in classroom management and teaching practices. They opined that these training programmes had a positive impact on learning outcomes, and provided opportunities for collaborative learning and sharing of best practices with fellow teachers. However, discussions with head teachers or principals highlighted several challenges, such as resistance of senior teachers to participate in training sessions and adopt new teaching methods, balancing academic and administrative responsibilities, managing multiple classes by a single teacher, and difficulties in completing the syllabus on time.

All teacher-mentors unanimously agreed that the training provided to teachers was highly relevant and effective in enhancing their pedagogical skills and positively impacting learning outcomes. However, they collectively emphasised the need to fill vacancies in DIETs, develop a curriculum tailored to specific needs and return to offline training to further improve its effectiveness.

Perception of State Officials

Officials from the State government involved in in-service teacher training programmes found the process to be thorough and comprehensive. They believed the training sessions were effective and aligned with teachers' needs. SRG members were generally satisfied with the training but recommended some updates to ensure it remains relevant to current educational needs. Based on the discussion, the challenges faced by key stakeholders have been identified, and some policy recommendations have been made.

Challenges in Implementation

The teachers, as well as the head teachers or principals, largely expressed their satisfaction with the nature and content of training imparted. They also shared various challenges faced during the training sessions, which impacted both the effectiveness of the programmes and their overall professional development, as elucidated below.

Issues in Teacher Training Institutions in Punjab

According to the Annual Work Plan and Budget, 2019–20, Government of Punjab, there were over 82% vacancies in sanctioned academic positions at DIETs and 55% at SCERT, Punjab. The document mentioned that organisational restructuring of SCERT was underway and the training centres were operating with deficient staff. Despite repeated visits by the research team to SCERT, Punjab, the officials failed to provide a training calendar and statistical data with

respect to the total number of teachers trained annually. This highlights significant gaps in staffing, which directly impacts the capacity and quality of teacher training programmes in the state. These issues are critical for understanding systemic limitations affecting the overall quality and reach of teacher training initiatives in Punjab.

Difficulties Faced by Teachers

Teacher Workload and Time Constraints: The respondents shared that their workload, including extracurricular duties and administrative tasks, affected their capacity to actively participate in training programmes and apply what they learnt during the sessions.

Lack of Relevance of Training Programmes: If the training programmes were not directly related to their subject areas or grade levels, the teachers perceived them as irrelevant and a waste of time. Besides, many senior teachers, who had undergone several training sessions in previous years, found the content to be repetitive year after year.

Limited Resources: In many cases, teachers in both rural and urban schools had limited access to TLMs, technology and support, making it difficult to implement new strategies in their classrooms.

Resistance to Change: Some respondents also resisted new teaching methods or approaches introduced during training programmes, especially if they had been teaching in a certain way for a long time. Additionally, senior teachers expressed dissatisfaction when a young or new teacher became their teacher-mentor and conducted their training sessions.

Insufficient Training Follow-ups: Some of the respondents shared that teacher-mentors followed-up on training programmes, but their visits were irregular and ineffective. They felt the lack of consistent follow-up support and mentorship after the training sessions hindered the application of new skills and strategies in classrooms.

Challenges Faced by Head Teachers or Principals

The head teachers or principals included in the study were supportive of teacher training programmes, but they pointed out several challenges when they had to relieve their teachers for training sessions.

Resource Allocation: Head teachers and principals often struggled to allocate the necessary resources for in-service training, including time, funding (substitute) and personnel. They also mentioned problems, such as a single teacher managing multiple classes simultaneously and difficulties in covering the syllabus on time. These problems were particularly felt in schools having less than five teachers.

Teacher Resistance: Informal discussions revealed resistance of senior teachers to participate in training sessions and adopt new teaching methods. In fact, many teachers felt these sessions to be irrelevant and demotivating.

Balancing Administrative Duties: It was observed that head teachers and principals had to perform numerous administrative duties, which were time-consuming. They shared that balancing these responsibilities while also attending training sessions was challenging, and they struggled in managing competing priorities.

Evaluating the Impact of Training Sessions: The teachers stated that it was challenging to evaluate the impact of in-service training on teachers' performance and learning outcomes, as it requires both time and expertise in assessment methods.

Addressing these challenges requires a multi-faceted approach that includes not only designing effective training programmes but also providing ongoing support, recognising the unique needs of teachers and schools, and fostering a culture of continuous improvement in education. Collaboration among teachers, principals and educational authorities is crucial to overcome these challenges and ensure the success of in-service teacher training.

Policy Recommendations

The research demonstrates that in-service training by SCERT, Punjab, has been beneficial to teachers, but there is scope for improvement. It has been found that teachers exposed to modern teaching methodologies and subject-specific training are more likely to implement innovative approaches in the classroom, leading to enhanced student engagement and learning outcomes. Based on the research findings, the following policy recommendations as suggested.

Need-Based Training:It is important to regularly evaluate the effectiveness of training programmes and gather feedback from teachers to make necessary improvements. Further, customized need-based training modules should be developed to cater to the specific needs and challenges faced by teachers at different stages.

Technology Integration: SCERT, Punjab, should incorporate more technology-based training methods to improve teachers' digital literacy and equip them with modern teaching techniques. Additionally, digital interventions aimed at strengthening teacher–student interactions in classrooms should be prioritised.

Structured Follow-up and Mentorship: The State should establish consistent and effective follow-up mechanisms through teacher-mentors. Regular visits and continuous post-training support are essential to facilitate and evaluate the application of acquired skills in classrooms.

Nurturing Leadership and Decision-making: Focusing on the training and professional development of newly promoted principals or head teachers is crucial. Additionally, the State government must ensure that most talented and committed teachers, not just the most senior, are selected into roles to lead clusters, blocks and districts. These leaders require extensive training in leading change, coaching, facilitating and managing teacher performance.

Conclusion

Thus, it can be concluded that effective teacher training plays a pivotal role in shaping student learning outcomes. Dynamic and engaging teaching methodologies not only boost student interest and motivation but also significantly reduce the likelihood of student dropouts. Moreover, sustaining this impact requires a continuous cycle of support and evaluation. Through consistent follow-up and robust evaluation mechanisms, the enduring effects of training on classroom practices and student achievements are reinforced, ensuring a profound and lasting influence on the educational journey.

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