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Assessing the NPST effectiveness in Pakistan's primary teacher training and professional development: A theoretical and empirical examination

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Abstract

This qualitative study explores the efficacy of the National Professional Standards for Teachers (NPST) in primary-level teacher training in Pakistan, using Social Cognitive Theory and Constructivist Learning Theory as the theoretical framework. The research aims to understand how primary school teachers perceive and implement NPST standards in their classrooms, with a focus on their self-efficacy, prior knowledge, and contextual factors influencing their professional development. Data were collected through in-depth interviews with 10 primary school teachers from the urban and rural regions of District Muzaffargarh Pakistan. The findings highlight that while NPST training has positively influenced teachers' confidence and teaching practices, its application is significantly shaped by external factors such as school resources, peer collaboration, and administrative support. Teachers with higher self-efficacy demonstrated more significant success in applying NPST strategies, whereas those in resource-constrained environments struggled to implement the standards fully. The study contributes to the literature by offering insights into the lived experiences of teachers and the contextual challenges they face in translating NPST training into practice. The findings underscore the need for tailored professional development programs that address both internal teacher beliefs and external environmental factors to enhance the effectiveness of NPST in diverse educational settings.

Introduction

Educational reform stands at the center of national governmental priorities globally and teacher professional development functions as a vital mechanism to enhance scholar results (Arif et al., 2025a; Ismail et al., 2024). Education reform in Pakistan includes the National Professional Standards for Teachers (NPST) which serves as the baseline for primary teacher competencies according to Ministry of Education (2018). The NPST standardizes teaching approaches to achieve better instructional quality and establish persistent professional development among the teaching profession. Current global educational trends recognize teachers' quality to be crucial for student achievement and recommend its enhancement according to Darr (2020) and Burgess et al. (2022).

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The promising conceptual foundation of NPST faces numerous obstacles when trying to establish itself throughout Pakistan (Arif et al., 2024). NPST faces significant obstacles related to the substantial differences between urban academic facilities and rural educational institutions. The better resources combined with improved infrastructure found in urban schools do not extend to rural schools which endure persistent limitations in resources and infrastructure inadequacies (Espinosa Andrade et al., 2024). The diverse context creates difficulties for maintaining standard NPST implementation which leads to doubts about training-to-classroom translation success. Current predictions indicate that NPST program benefits do not perfectly match what teachers face in their daily work requiring a thorough investigation of these matters through qualitative research.

The fundamental research problem centers on a clear gap between the NPST's intended training outcomes and the realities of classroom enactment (Reños & Pontillas, 2024). Primary-level teachers report that converting NPST-based theory into practical pedagogy is hindered by insufficient school funding, weak administrative support, and cultural misalignment between the Pakistani context and the standards' English origins (Ullah et al., 2023). To date, the literature has paid scant attention to how teachers' lived experiences mediate their engagement with NPST—and how that engagement, in turn, reshapes both practice and the standards themselves. Filling this gap is crucial for pinpointing the factors that either enable or obstruct meaningful NPST implementation.

Accordingly, this study aims to explore how primary school teachers in Pakistan interpret and apply the NPST in their daily teaching practices. It specifically seeks to understand how their individual beliefs, previous classroom experiences, and broader environmental conditions influence the implementation of these standards. To guide this investigation, the study poses the following central research question: How do primary school teachers in Pakistan experience and interpret the efficacy of NPST training in their daily practice? This overarching question is further informed by three sub-themes: the nature of teachers' experiences during NPST training, the barriers and facilitators encountered in applying the standards, and the role of contextual factors—such as resource availability and cultural expectations—in shaping these experiences.

The research results have substantial value for theory and applications. Detailed ethnographic studies about standardized training experiences such as NPST enhance existing knowledge in the field of teacher professional development research. The research outcomes will enable policy creators to make decisions while advancing curriculum design and teacher training practice improvements in Pakistan through pinpointing implementation weaknesses of NPST. Through this qualitative assessment the study provides essential knowledge about how teacher agency interacts with contextual hurdles and systemic resources in education reform.

Teacher Professional Development and Standards

Teacher Professional Development (TPD) stands as the essential pillar of educational reform throughout the world since it concentrates on teaching practice enhancement to achieve better student outcomes. According to Darling-Hammond (2000) educators recognize that excellent TPD programs are necessary to advance teaching competence and academic results. TPD has undergone a transformation into an adaptive system of structured collaboration which uses new methods while embracing both technological progress and educational advances (Ahmad

et al., 2024), during this period of evidence-based educational reform. The fundamental shift in education has led to specific teaching approaches that help professionals adjust their classroom methods across changing educational needs.

The National Professional Standards for Teachers (NPST) established Pakistan as a strategic framework under Ministry of Education to advance teaching quality and educational achievements (Bird & Charteris, 2020). NPST provides a standardized system of teaching competencies which assists teachers with continuous professional development through organized structures. Multiple elements make up the standards which focus on constructing efficient teaching methods and reflective approach along with promoting continuous growth for teachers. The evaluations of NPST implementation have resulted in conflicting assessments of the program. Although Choudhary (2025) reports that major research projects demonstrate the NPST policy strengthens teachers' classroom abilities, Menon et al. (2024) contend that it fails to align with actual educational realities. The gap between policy expectations and practical execution reveals potential weaknesses in the NPST program so researchers should perform qualitative investigations to understand teaching staff's personal encounters.

Brown et al. (2021) publish documented research that demonstrates the value of matching TPD initiatives to both teachers' practical needs and their working environment contexts. According to Li and Ruppar (2020) systematic and persistent TPD program involvement delivers better results than single-event professional workshops alone. The evaluation of NPST requires more complex assessment because teacher viewpoints alongside their academic skills and the specific conditions they work in determine the effectiveness of professional development. Research into the genuine school experiences of Pakistani teachers must occur at depth to identify how policy objectives differ from actual classroom developments.

Contextual Challenges in Pakistani Education

The adoption of NPST as an educational policy depends entirely upon the social economic cultural and infrastructural conditions present in Pakistan's educational system. The Pakistani education system faces a major implementation obstacle due to the substantial discrepancies between urban schools and rural schools because urban areas receive superior facilities and resources and better professional development opportunities. Rural education facilities must combat multiple resource problems including inadequate educational resources combined with subpar infrastructure quality and insufficient administrative backing (Arif et al., 2025b). NPST training application remains inconsistent because rural school teachers lack essential facilities and support systems needed to properly implement this training framework. Murtaza and Hui (2021) explains that critical obstacles boost the turmoil rural educators face when implementing NPST classroom guidelines. Standardized teacher training programs in Pakistan encounter additional difficulties because of existing cultural influences in the country. Societal cultural standards defining teaching roles represent either supportive or obstructive factors toward adopting innovative educational practices (Zeynep & Eveyik-Aydın, 2022). Teachers operating in rural areas fight against cultural norms that block their teaching freedom and strain their motivation levels. Persistent resistance from community members stands as a barrier to teachers who want to use modern teaching methods which they learned from NPST training. The traditional teaching cultures that persist throughout many sections of Pakistan contribute to the general resistance towards change (Santos & Castro, 2020).

The combination of socio-cultural elements requires complete knowledge about how contextual hurdles affect the performance of NPST. Romblon et al. (2023) demonstrates alongside other researchers that TPD programs need both context-driven modifications and independent teaching choices to succeed. Professionals should receive freedom to adapt professional standards according to their personal situations and community characteristics since this approach makes NPST more operational in various educational settings. According to Roberts et al. (2021) and other recent studies there is a need to examine school professional cultures which demand institutional policy support for teachers as lifelong learners in combination with community-wide commitment. The evaluation and improvement of NPST require a thorough understanding of cultural factors together with contextual elements because they determine its actual implementation in real-world educational settings

Gaps in the Literature and Need for Qualitative Research

Research about TPD and NPST sets ground for teacher development comprehension yet it lacks detailed understanding about how teachers experience NPST training. The majority of studies performed quantitative research on NPST effects on teaching methods and student achievements (similar to Altaf et al., 2022) yet they did not examine how teachers perceived and implemented NPST standards in their classrooms. Qualitative research instruments generate deeper analysis of teaching professionals' perceptions through contextual information which goes beyond standard quantitative assessment methods according to Kiely and Hartman (2023). The research analyzes teachers' practical experiences to fill present gaps in professional standards literature regarding in-classroom NPST techniques. The effectiveness of professional development programs in Pakistan depends on how teachers participate in NPST training and what kinds of challenges they experience and the influence of contextual factors (socio-cultural restrictions together with resource constraints and support systems provided by schools). Dahlin, (2021), promotes teacher-oriented holistic assessment of professional development initiatives according to his approach. The research outcomes will contribute to forming educational policies that keep NPST benefits suitable for different teacher operational fields.

Theoretical Framework

The research uses Social Cognitive Theory (SCT) and Constructivist Learning Theory to examine the interaction and practice of Pakistan primary school teachers concerning the National Professional Standards for Teachers (NPST). The theories provide necessary elements for comprehending how teachers process their personal beliefs together with their external learning experiences when applying NPST in their teaching practice.

Social Cognitive Theory (SCT) by Bandura (1986) focuses on self-efficacy as the core concept whereas self-efficacy defines the degree to which individuals believe they can accomplish particular goals or execute tasks. When it comes to NPST training self-efficacy determines the level of confidence teachers have for using their acquired skills in their educational environment. Experienced educators with high self-efficacy tend to put new training methods into practical classroom application. The environmental factors of peer collaboration and school resources and administrative support are vital components of SCT since they influence how teachers apply NPST standards according to the model. When teachers work in schools that offer both helpful feedback and enough resources they develop increased self-confidence enabling them to implement the NPST strategies successfully.

According to Constructivist Learning Theory which Piaget (1970) and Vygotsky (1978) discuss learning happens through purposeful intellectual work of learners. During their knowledge-building process teachers unite fresh concepts with data already stored in their memory. Learning works best when teachers directly interact with new information alongside their reflection about how this new material relates to their prior understanding and current teaching environment. Educational staff at NPST will individualize training delivery through methods they derive from their background knowledge and years of practice experience. Learning requires social interaction according to Vygotsky (1978). Staff members achieve learning both from participating in training activities and from working together with fellows and mentors throughout their professional development courses. The interactions facilitate teachers to modify NPST training for a better match with their individual classroom requirements.

The research analyzes the impact of self-efficacy on teachers' implementation practices of NPST. Effective teacher implementation of new teaching strategies comes from believing in their own ability to successfully implement those strategies. Teachers gain increased confidence through positive feedback received from both their peers and mentors together with administrative support. External inputs enhance educator self-efficacy which leads to increased probability that they will adopt NPST strategies. The interpretation of NPST training depends on the knowledge acquired through Constructivist Learning Theory. During training teachers participate actively instead of remaining passive by linking the information with what they already know and their professional experiences. Teachers working in remote locations adapt standard NPST guidelines to solve issues regarding insufficient school materials and heavy student enrollment figures. The act of adapting training to real classroom scenarios through reflective practices makes the training applicable and meaningful for practical use.

The Interaction Between Self-Efficacy and Contextual Factors

The merging effect between self-efficacy competence and classroom-specific adaptation generates vital success elements for implementing NPST techniques. A teacher's confidence allows them to implement training content but their working environment determines whether they succeed or fail in their attempt because some contexts provide favorable resources and peer support and administrative support. An effective use of NPST strategies happens when teachers demonstrate high self-efficacy and work in environments that provide support. Teachers who demonstrate lower professional efficacy together with negative workplace support tend to face difficulties with training implementation even though the instructional content remains of high quality.

 The challenge of resource constraints affects primary education in Pakistan significantly. Schools throughout rural districts struggle to obtain essential educational supplies as well as modern learning tools and sufficient classroom facilities that block the path toward NPST strategy deployment. The superior availability of resources which teachers in urban areas enjoy makes it easier to use NPST strategies in their classrooms. The application methods of NPST differ according to whether schools are located within urban or rural districts. The professional development opportunities together with educational resources and administrative aid are more easily accessible to teachers who work in cities. Rural teachers seek access to these resources with difficulty since their locations have limited availability of such educational tools. Educational programs that aim to implement NPST should include

strategies that bridge existing disparities between teachers so the strategy works consistently in multiple learning contexts.

This study establishes a complete model for teacher NPST training behavior through the combination of Social Cognitive Theory and Constructivist Learning Theory. The combination of teacher self-efficacy and their NPST content involvement and external environmental elements regulates how NPST strategies are utilized in classrooms. This theoretical approach becomes particularly important within Pakistan's educational context because it explains how teachers interact with Non-Phonetic Teaching practices given resource and cultural and geographical barriers within the country. The research uses these theoretical models to discover important elements behind effective NPST implementation so developing productive teacher skills becomes possible in Pakistan's educational institutions.

Self-efficacy works in harmony with constructivist learning through contextual factors and as shown by a dynamic conceptual model. Self-efficacy stands as the main component of this model because it determines how teachers deploy NPST. Contextual adaptation represents the teachers' practice of modifying NPST according to their classroom settings by using their past experiences with classroom realities. The integration of NPST strategies by teachers is affected by external factors that include peer support together with mentoring and resources. These elements either promote or hinder teachers' use of NPST strategies. The elements follow a reciprocal pattern because superior reinforcement of teachers' self-efficacy leads them to use NPST more effectively and build their efficacy as well as teaching skills in subsequent cycles.
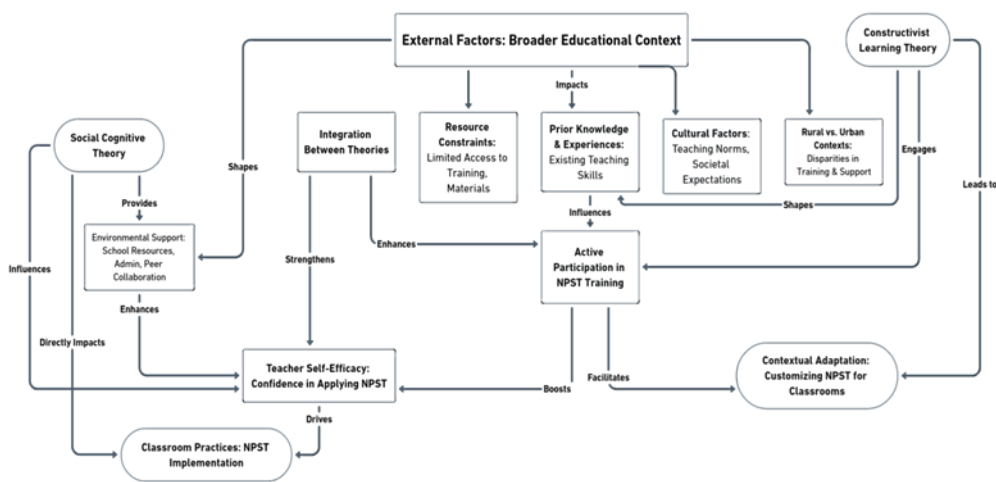

Figure 1. Conceptual model

The visual model displayed that teaching self-confidence regarding NPST usage influences a teacher's ability to effectively implement it. The relationship between Environmental Support (i.e. resources and mentoring and peer collaboration) serves as the mediator. The interpretation of NPST training by educators based on their teaching background gets stronger through social exchange activities including peer discussions while mentorship creates a cyclical positive impact on classroom implementation of NPST methods.

Method

Research Design

The research design uses qualitative interpretivist methods to analyze how Pakistani primary school teachers experience instructor training programs based on the National Professional Standards for Teachers (NPST). The interpretivist paradigm serves perfectly for discovering how teachers personally understand and tell the stories of their teaching experiences. The study examines teacher experience through individual interviews to disclose contextual and personal influences affecting NPST classroom implementation (Braun & Clarke, 2022). Interpretative Phenomenological Analysis (IPA) serves as the research method to understand how teachers process their National Professional Standards for Teachers (NPST) training experience. The researchers have chosen a qualitative method because quantitative measurement tools are unable to reveal the complete complexity of teaching development dynamics effectively.

Sampling

The researchers have chosen participants through purposive sampling to acquire diverse and deep insights into NPST training. The research includes primary school teachers who finished the NPST training between one to three years ago. The selection process aims to include teachers who work in cities as well as towns together with experienced instructors and those working in different educational environments. This method enables researchers to gather data which showcases extensive ranges of human perspectives important for achieving complete qualitative analysis (Byrne, 2021). The study requires ten participants as an optimal size to reach saturation points which will thoroughly study the experience without becoming overwhelming for analysis (Busetto et al., 2020). The following Table 1 displays a participant sample table containing demographic information for the study sample:

Table 1. Participant demographics table

Participant ID	Gender	Setting	Teaching Experience	Additional Notes
P1	Female	Urban	5	Recently completed NPST training
P2	Male	Rural	2	Veteran teacher; active in local community
P3	Female	Urban	8	Participated in peer mentoring programs
P4	Male	Rural	3	New teacher; recent NPST training
P5	Female	Urban	6	Holds a leadership role within her school
P6	Male	Urban	7	Enthusiastic about integrating technology
P7	Female	Rural	5	Experienced teacher facing diverse challenges
P8	Male	Urban	4	Keen to adopt innovative teaching methods
P9	Female	Rural	6	Proactive despite limited resources
P10	Male	Urban	9	Engages in continuous professional development

Note. The table offers essential information about the study's multiplex participant demographics which incorporates gender differences together with teaching situations alongside experience levels. The presence of different contexts requires diversity to understand NPST training because this diversity reveals how it operates among various settings.

Data Collection

Several qualitative data collection approaches are used because they strengthen and cross-validate the researcher's comprehension of the studied phenomena (Doering & Cooper, 2022). The research method includes carrying out in-depth interviews with participants to collect their personal experiences and thoughts about NPST training. The interview process lets participants express their practical experiences through their natural words to discover the parameters of both accomplishments and difficulties at work. The study plans individual interviews together with focus group discussions to facilitate teachers sharing their understanding while maintaining interactive discussions. Focus groups create interactive discussions which enable participants to generate shared themes as well as distinct views regarding NPST standards usage in different classroom settings (Gillett-Swan, 2017). The analysis of documents includes an evaluation of training resources and evaluation forms together with relevant policy documents. The new data provides relevant background information that helps validate the results acquired through interviews and focus groups.

Data Analysis

IPA stands as the data assessment method for this research because it concentrates on understanding participants' personal experiences as well as how they interpret their experiences meaningfully. Data analysis follows three stages starting with open coding which forces researchers to investigate new meanings directly extracted through reading each line of participants' interview narratives. The important components contained in the data at this first analysis phase demonstrate what teachers think and experience regarding NPST training. Axial coding sorts existing themes for finding connections between them to establish their relational structure within the study data (Braun & Clarke, 2020). By conducting this approach it organizes themes for better data pattern identification. The selective coding stage unifies the main themes through a systematic narrative which answers research queries by creating a unified response to the study objectives. The analysis process makes use of qualitative data analysis software NVivo to promote transparency along with methodological rigor. The data management system supports methodical coding activities along with interpretation functions which create a standardized analysis method (Greenland & Moore, 2021).

Ethical Considerations

The study follows ethical principles in all its operations. A process of obtaining informed consent happens before data collection where participants receive full disclosure about study aims along with their rights protections when they choose to participate voluntarily. All sensitive data receives strict confidentiality protection through two secure measures: participant identity anonymization and appropriate information security systems. Before conducting research the investigators submit their protocol to achieve ethical review and approval from the relevant institutional review board (IRB) to ensure compliance with established ethical standards. The study enables participants to exit at any time while alerting them that they face no disadvantages from withdrawal which ensures their participation remains voluntary upholding ethical standards.

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Findings and Analysis

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The evaluation of primary school teacher experiences with implementing NPST training yielded important thematic findings through qualitative data research including extensive interviews alongside group discussions and document assessment. The major emergent themes are explained in detail while theoretical perspectives receive integration alongside an analysis of urban-rural differences in this section.

Table 1. Summarizes the main findings

Theme	Subtheme	Participant Code	Frequency
Perceived effectiveness of NPST Training	Introduction of new teaching strategies	P1, P3, P4, P5,P7,	5
Impact of self-efficacy on classroom practices	Impact of confidence on teaching methods	P1, P2, P3, P4, P5,P6,P7, P8	8
Role of contextual factors	Impact of resources, administrative support, and cultural norms	P3, P4,P6,P7, P8	5
Urban contexts	Better resources and peer collaboration	P1, P2, P3, P5,P6, P8	6
Rural contexts	Resource scarcity and lack of support	P2, P3, P5,P6,P7	5

Effectiveness of NPST Training

Research findings identified the effectiveness of NPST training as a main theme which improved both pedagogical knowledge and classroom management abilities of teachers. The participants valued the NPST training because it combined conceptual intelligence with modern pedagogical methods. Urban educator P1 stated during an interview:

> I found the NPST training to be exceptional because it taught me innovative teaching strategies which I had never encountered before. My implementation of newly learned ideas faces obstacles because of restricted resources and practical barriers in my daily teaching sessions. (P1)

The participant showed that NPST training succeeds in making teachers aware of new instructional theories but external environmental issues prevent practical implementation of these methods. The suburban-based teacher (P4) contributed additional knowledge regarding the training.

> During my participation at the NPST training session I discovered tremendous intellectual value because it presented numerous groundbreaking teaching approaches. As a teacher I gained substantial knowledge from NPST training yet faced difficulties finding circumstances to apply these methods in controlled supportive learning environments. (P4)

The teachers acknowledge that NPST training adds value to content delivery but they show concern about the theoretical-practical gap especially when resources are limited for practical implementation.

Impact of Self-Efficacy on Classroom Practices

The research demonstrated teacher self-efficacy as a key theme that directs the effective implementation of NPST training into actual classroom instruction. Participants expressed that the training directly increased their confidence so they used this newfound feeling to put innovative instructional approaches into practice. During an interview at an urban school P2 declared:

> Participating in the NPST training gave me a powerful confidence increase that enabled me to try out creative educational solutions. The training converted my teaching self-assurance which now strengthens my classroom relation as well as boosting student class participation. (P2)

The notion aligns with Bandura's (1986) Social Cognitive Theory that demonstrates strong self-efficacy enables better behavioral transformation. Teachers who possess confidence toward their ability are more likely to select and transform teaching approaches that bring better educational results to their students. The evidence from a rural teacher (P7) demonstrates that self-efficacy plays a vital role when he states:

> Because of the NPST training I gained a newfound feeling of self-assurance which I had never experienced before. I attribute the reinforced sense of self-efficacy to attempt new classroom methods despite the substantial resource limitations and inadequate facilities in my teaching setting. (P7)

The study demonstrates that self-efficacy growth achieves better teaching methods regardless of how supportive the surrounding environment may be. Even so the sustained benefits from this training need supportive networks together with mentoring to endure over time.

Role of Contextual Factors

Different contextual elements especially resource availability and cultural norms and administrative support had notable impacts on teaching practices. The external components played several important roles according to teachers because they either helped or directly opposed the successful implementation of NPST training techniques. The rural teacher **P3** described this situation as follows:

> My practical experience shows that NPST application gets hindered by external barriers including insufficient teaching materials and poor facilities and negligible staff backing. The continued presence of these environmental barriers diminishes the ability of NPST training to produce meaningful changes in my teaching practices. (P3)

A second teacher (P8) working at a semi-urban community shared an identical view when he stated:

> Teachers find the NPST training theory efficient yet experience practical difficulties because school leaders fail to provide persisting support and essential resources required to utilize its potential.(P8)

The assessment shows positive results about training design yet educational conditions heavily limit its practical application in real teaching situations. Rural teachers detailed how insufficient resources interacted with weak infrastructural backing to prevent them from using the NPST strategies effectively.

Integration of Theoretical Perspectives

The research findings match perfectly with the interpretation provided by Social Cognitive Theory and Constructivist Learning Theory. The psychological concept of self-efficacy functions as a critical factor which influences how people change their behavior according to Bandura (1986). The higher confidence levels demonstrated by numerous teachers following

their training validates this theoretical framework. The findings from participant P2 shows a parallel with the idea that improved self-efficacy creates opportunities for more creative teaching approaches. Per Bandura's theory the environment produces essential elements for maintaining confidence in individuals including supportive peer mentoring sessions. The study results show that teachers received better results when they had continual support systems and useful feedback about NPST integration in their teaching.

Learners implement Constructivist Learning Theory through Piaget (1970) and Vygotsky (1978) by building new knowledge through a process of merging contemporary concepts with their current cognitive systems. Teacher participants demonstrate that their NPST training becomes an integral part of their classroom applications after they take the initiative to modify it according to their students' circumstances. The combination of these theoretical approaches creates an adequate foundation to understand NPST training success that balances inside cognitive factors against outside contextual elements. Educators' self-efficacy stands in mutual relationship with their knowledge-building activities while the entire school setting works as a critical factor of moderation.

Comparative Analysis: Urban Versus Rural Contexts

The data analysis demonstrates that NPST training receives different levels of implementation support between cities and countryside areas. The majority of teachers within urban schools found positive conditions to launch their NPST training. Such venues benefit from superior infrastructure together with plentiful resources that accompany energetic connection between professionals. The training methods of NPST became more accessible for P1 who taught in an urban school because of its culture of collaboration and abundant school resources. This teacher explained:

> Experienced teachers at our school leverage the excellent classroom resources together with their open partnership approach to adopt NPST training methods which result in better student participation and classroom interaction. (P1)

Research findings demonstrate that urban districts naturally support effective implementation of NPST standards by providing beneficial conditions that stem from self-efficacy methods and knowledge-building approaches.

The rural teachers encountered substantial obstacles that hindered their delivery of NPST training aspects. The main obstacles included insufficient teaching resources and minimal institutional support together with substandard school infrastructure. In his observation Participant P3 from a rural setting stated:

> The school's insufficient resources along with minimal administrative backing in our rural educational institution poses significant obstacles to transform training insights into practical educational practices thereby reducing the impact of the program. (P3)

The internal benefits of NPST training were recognized by P7 but external barriers frequently obstruct their educational progress.

> The scarcity of necessary learning resources combined with the weak support system in our rural school remains a significant obstacle that stands in the way of maximizing the training benefits acquired from NPST. (P7)

Environmental factors between urban and rural settings function as crucial elements which affect how effectively training at the National Professional Standards for Teaching is implemented. Training benefits urban educators through an encouraging environment that strengthens their acquired competencies while rural teachers must deal with fundamental system constraints that block their ability to use new training methods.

Synthesis

The integration of new themes with theoretical frameworks demonstrates that NPST training produces complex outcomes in its effectiveness. Training with NPST demonstrates strong capability to change educational methods by enlarging teachers' toolbox of instruction options and enhancing their self-confidence as educators. Practical classroom enhancements from benefits derived from training face significant moderation by the combination of external elements such as tangible resources, cultural practices and administrative backing.

Multiple elements from inside and outside a system must work together effectively in order to create functional results. Teachers who demonstrate high self-efficacy because of Social Cognitive Theory are predicted to experiment with and innovate NPST strategies. The ability of innovative teachers to maintain and grow their methods diminishes substantially when they work in resource-limited settings which lack support because rural areas often present these conditions. Urban teachers who work within resource-rich environments possess improved self-efficacy which allows them to implement Constructivist Learning Theory principles for active knowledge construction according to theory.

Supposing NPST training hopes to reach maximum potential both educational support programs and personal development activities must be implemented. Exclusive approaches to build teacher confidence and practice reflection need to run parallel with enhancements of institutional support services including allocation of resources and administrative oversight. A dual-strategy represents the essential mechanism to consolidate the relationship between policy initiatives and ground-level implementation hence driving sustained improvements in different educational environments.

The research outcomes demonstrate the intricate process through which Pakistan executes National Professional Standards for Teachers training programs. The study results show that training achieves its target of increasing both educator theoretical understanding and personal confidence but shows consequential limitations based on specific educational environments. Teachers who work in urban areas receive improved outcomes because of superior resources whereas rural teaching personnel struggle to implement NPST methods because of significant practical barriers.

Social Cognitive Theory when combined with Constructivist Learning Theory creates a comprehensive system which explains these effects. These findings demonstrate that vital internal processes involving teacher self-efficacy development with active knowledge construction must be prioritized for appropriate NPST execution while this standard is significantly dependent on the external conditions. The outcome of NPST training depends on multiple factors beyond instructional materials including surrounding educational settings where teachers teach. The study's findings demonstrate how professional development programs require modifications that capture specific learning conditions of the teaching

environment. Educational stakeholders should focus their efforts on resolving internal components combined with external environmental variables to improve the results of NPST training thus allowing teachers from anywhere to evolve their instructional practices.

Discussion

The research outcomes demonstrate solid evidence that Social Cognitive Theory (SCT) and Constructivist Learning Theory (CLT) can be effectively applied during NPST training for primary school teachers. Teacher self-efficacy stands as a fundamental SCT concept (Bandura, 1986) which determines the success level of innovative teaching strategies implementation. The NPST training led to boosted self-confidence in teachers who adopted new education techniques even though they encountered restricted resources. The NPST training exposed me to additional educational approaches which strengthened my classroom practices despite facing limitations regarding education resources as an urban school instructor explained. Studies conducted by Qureshi and Kalsoom (2022) have confirmed the fundamental part that self-efficacy plays when developing effective teaching methods. Research indicates confident teachers will experiment more freely because they achieve better educational results through their innovative strategies (Bandura, 1986). The research data proves consistent with Constructivist Learning Theory (Piaget, 1970; Vygotsky, 1978) as it demonstrates that learners play an active part in understanding through building new knowledge from their previous experiences. Teachers within the study transformed NPST materials through active implementation which reflected Schön's (1987) definition of reflective teaching practice. The teacher explained adapting NPST strategies to match her understanding of student challenges which produced more beneficial lessons. Research accomplished by Menon et al. (2024) shows that professional development becomes meaningful for teachers who use reflective methods to analyze and adjust new learning for their classroom settings.

The research examines obstacles outside of NPST training which restrict the practical implementation of obtained knowledge. The theoretical framework established by SCT and CLT did not prevent teachers from facing resource constraints alongside infrastructure limitations as well as inadequate administrative backing during their efforts to apply trained teaching strategies. The extreme lack of resources and continuing support was notably worse in rural schools because teachers could not obtain essential teaching materials. Research by Qaisra and Haider (2023) together with other recent investigations document how structural issues impede the achievement of effective professional development programs because of their substantial impact. Research confirms the need to evaluate success factors of NPST implementation by combining both individual teacher elements with environmental elements that exist within real-world teaching environments.

Implications for Teacher Training

This research yields important conclusions about how to improve NPST training protocols as well as design future teacher continuing education activities. During NPST training it is essential to create context-specific programs which benefit predominantly resource-poor rural teachers. The teaching staff strongly demanded practical training sessions about NPST strategies through contextualized instruction that gave them opportunities to practice in controlled environments before applying the strategies in classroom settings. The study supports current findings by Pantić et al. (2021) about the success of practice-oriented interactive professional development for educational professionals.

Teachers recognized that mentorship combined with peer collaboration capability provided the most effective way to improve their learning process. The results provide evidence to scholars who highlight the importance of sustained mentoring together with peer feedback elements in professional development formats (Menon et al., 2024). Mentorship programs led teachers to gain greater self-confidence alongside better results when they applied the training methods in their classroom activities. Structured mentorship programs and peer collaboration opportunities need to be integrated into NPST training because they enhance program effectiveness specifically for teachers working in rural or isolated areas with limited professional development resources (Altaf et al., 2022). The institutional framework along with school facilities must receive attention through targeted barriers assessment in order to support teachers who work in rural areas. According to Darling-Hammond et al. (2017) successful professional development programs need both proper institutional support and required resources for their effectiveness. Even better designed professional development programs will not achieve lasting change when schools do not have proper leadership support or basic access to teaching resources and technology.

Limitations and Future Research

This research study has delivered significant information about NPST training effects on primary school teachers but it still faces multiple constraints. The study's general effectiveness could be affected by its 15-participant sample size since Pakistan has diverse teaching venues across regions. Future investigations should analyze a broader study population that better reflects different educational settings and geographic areas in Pakistan. The research adopted a subjective approach through teachers' self-reported information thus researchers must recognize potential biases from social desirability and recall processes. Additional research should adopt classroom observation techniques together with student outcome assessment to present a fuller view of the training's outcomes.

The study adopted a one-time measurement approach, limiting the ability to observe the long-term effects of NPST (National Professional Standards for Teachers) instruction on teacher development and student achievement. Although the research findings were rich, they carried limitations, including the use of a small sample size for deep qualitative analysis, which may restrict the study's applicability to Pakistan's broader educational system. Future research should combine qualitative methods with quantitative measures to gain a more comprehensive understanding of NPST's impacts. Employing multi-year longitudinal designs would allow for the study of developmental patterns in teaching practices and the persistence of contextual influences following NPST completion. Investigating psychological and social factors such as teacher motivation, workplace culture, and parental involvement is crucial to identifying conditions that facilitate or hinder the implementation of NPST strategies.

Additionally, research on contextual factors, including school leadership and community engagement, can shed light on how these elements affect the success of NPST implementation. Further exploration of teachers' experiences in Pakistan's remote rural areas is necessary to address system-specific barriers and develop tailored interventions. Moreover, understanding the relationships between teacher self-efficacy development and educational outcomes through these investigations will help refine NPST training programs, ensuring they meet the diverse needs of educators across various educational contexts.

Conclusion

The research explored the firsthand experiences of primary school educators implementing the National Professional Standards for Teachers (NPST) in Pakistan, uncovering themes closely tied to its research questions. Participants acknowledged the benefits of NPST training in providing new pedagogical strategies and enriching theoretical knowledge, yet highlighted practical challenges rooted in local contextual factors such as funding limitations, cultural traditions, and administrative support. Teacher self-confidence was identified as pivotal, with Social Cognitive Theory (Bandura, 1986) suggesting that confident educators are more inclined to adopt innovative teaching methods. Constructivist Learning Theory (Piaget, 1970; Vygotsky, 1978) further explained how teachers internalize and adapt NPST training to their specific classroom environments. The findings underscored the value of qualitative research in examining teacher development within diverse educational settings, offering insights into both the benefits and obstacles of standardized training programs. By leveraging these theoretical frameworks, the study highlighted the intricate interplay between cognitive processes and environmental factors shaping teaching practices. Effective educational reform, therefore, requires not only standardized frameworks but also a nuanced understanding of teachers' operational contexts, with qualitative research serving as an essential tool to guide context-sensitive educational policy and practice transformations.

Declarations

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