



Using an Exploratory Factor Approach to Determine Strategies for Effective Implementation of Teaching Practicum in Schools in Gujrat District

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Abstract

The teaching practicum serves as a critical component of teacher education programs, bridging theoretical knowledge and classroom practice. However, its effective implementation often faces challenges related to supervision, school–university collaboration, and resource allocation. This study aims to identify and determine strategies for the effective implementation of the teaching practicum in schools within the District of Gujrat using an exploratory factor approach. Data were collected from prospective teachers, cooperating teachers, and university supervisors through a structured questionnaire. Exploratory factor analysis (EFA) was employed to uncover underlying dimensions that contribute to successful practicum experiences. Findings revealed four key strategy domains: (1) collaborative school–university partnerships, (2) structured mentoring and feedback mechanisms, (3) practical resource and logistical support, and (4) professional development and reflective practices. These factors highlight the importance of a multi-stakeholder approach to ensure the practicum's effectiveness. The study provides valuable insights for teacher education institutions, policymakers, and school administrators, suggesting that strengthening coordination, support systems, and reflective opportunities can significantly enhance the quality and impact of teaching practicum programs in Gujrat.



Keywords: Teaching practicum, exploratory factor analysis, teacher education, mentoring, Gujrat district

Background of the Study

The teaching practicum is widely recognized as one of the most critical components of teacher education programs because it provides an opportunity for student teachers to integrate theoretical knowledge with practical classroom experience (Kiggundu & Nayimuli, 2009). It serves as a professional bridge that allows preservice teachers to apply pedagogical strategies, develop classroom management skills, and engage in reflective practices essential for effective teaching (Nguyen, 2015). A well-structured practicum not only enhances teaching competencies but also shapes the professional identity and confidence of future teachers (Hudson, 2010).

Despite its importance, the effective implementation of the teaching practicum faces several challenges in many contexts, including Pakistan. Issues such as lack of adequate supervision, weak collaboration between schools and universities, insufficient feedback mechanisms, and limited resources often hinder its success (Khan, 2016; Fareo, 2013). In particular, the District of Gujrat presents unique challenges due to variations in school resources, teacher preparation, and institutional support. These factors affect the quality of the practicum experience for student teachers, often resulting in a mismatch between theoretical training and classroom realities (Rehman & Haq, 2020).

Globally, studies emphasize the role of mentoring, collaboration, and reflective practice as key strategies for successful practicum programs. For instance, Zeichner (2010) stresses that effective partnerships between universities and schools are crucial in ensuring meaningful professional learning, while Farrell (2018) highlights the importance of guided reflection to foster critical thinking and pedagogical growth. Exploratory factor approaches have been increasingly employed in educational research to identify underlying dimensions of effective practices and strategies (Williams et al., 2012). Applying such an approach in the Gujrat



context can provide empirical evidence of strategies that contribute to strengthening practicum implementation.

Therefore, there is a pressing need to examine and identify strategies that ensure the effective execution of teaching practicum in Gujrat schools. By employing an exploratory factor approach, this study seeks to uncover the underlying factors that can inform teacher education institutions, policymakers, and school administrators in enhancing the practicum experience for future teachers.

Statement of the Problem

The teaching practicum is an essential component of teacher education, offering student teachers the opportunity to apply pedagogical theories in real classroom contexts. However, its implementation in Pakistan, particularly in the District of Gujrat, is often hindered by several challenges such as insufficient mentoring, lack of collaboration between schools and universities, inadequate supervision, and limited availability of resources. These shortcomings create a gap between the theoretical preparation of student teachers and the practical demands of the classroom, thereby reducing the overall effectiveness of teacher training programs. Despite the importance of the practicum, limited empirical research exists in the local context to systematically identify strategies that can enhance its effectiveness. This study therefore seeks to determine strategies for the effective implementation of teaching practicum in Gujrat schools using an exploratory factor approach.

Significance of the Study

This study holds significance for multiple stakeholders:

- It provides evidence-based insights to strengthen practicum design, supervision, and evaluation mechanisms.
- It highlights strategies for building effective partnerships with universities and improving mentoring practices.



- Findings can inform policies aimed at standardizing practicum practices across schools, ensuring equitable opportunities for preservice teachers.
- The study offers a foundation for further research on practicum implementation and teacher professional development within the Pakistani context.

By identifying key strategies through exploratory factor analysis, the study contributes to bridging the theory–practice gap and enhancing the overall quality of teacher education in the District of Gujrat.

Objectives of the Study

1. To identify the underlying factors that contribute to the effective implementation of teaching practicum in schools of the District of Gujrat.
2. To explore the role of school–university collaboration, mentoring, and supervision in shaping practicum experiences of student teachers.
3. To propose evidence-based strategies that can improve the overall quality and effectiveness of the teaching practicum program.

Research Questions

1. What are the underlying factors that determine the effective implementation of teaching practicum in schools of the District of Gujrat?
2. How do school–university collaboration, mentoring, and supervision influence student teachers' practicum experiences?
3. What strategies can be recommended to improve the implementation of teaching practicum in Gujrat schools based on the findings of exploratory factor analysis?

Literature Review

Teaching Practicum in Teacher Education

The teaching practicum is universally recognized as a vital component of teacher education, providing preservice teachers with the opportunity to apply theoretical concepts in authentic classroom environments. It is often described as the "heart of teacher



preparation" because it bridges the gap between academic coursework and real-world teaching practice (Nguyen, 2015). According to Kiggundu and Nayimuli (2009), practicum experiences expose student teachers to the realities of classroom teaching, allowing them to develop classroom management skills, instructional strategies, and professional dispositions. Similarly, Hudson (2010) emphasized that practicum builds preservice teachers' confidence, fosters reflective thinking, and cultivates a professional identity.

In the Pakistani context, the practicum is considered an essential requirement in Bachelor of Education (B.Ed.) programs, yet its implementation varies widely across institutions. Khan (2016) noted that many teacher education programs in Pakistan struggle with inadequate planning, poor supervision, and insufficient collaboration between schools and universities, which weakens the overall impact of the practicum. Rehman and Haq (2020) further pointed out that institutional support structures are often underdeveloped, leaving student teachers with inconsistent experiences that fail to fully prepare them for professional practice.

Challenges in Practicum Implementation

The effective implementation of practicum faces several global and local challenges. One of the major barriers is weak school–university collaboration. Zeichner (2010) argues that without strong partnerships, practicum experiences risk becoming fragmented, with student teachers receiving mixed or inadequate guidance. In Pakistan, this challenge is more pronounced due to the absence of standardized practicum frameworks and lack of training for cooperating teachers (Chaudhary & Imran, 2019).

Another challenge is supervision and mentoring. Effective mentoring provides student teachers with guidance, feedback, and role modeling that are essential for their professional growth (Hudson, 2010). However, many cooperating teachers lack formal training in mentorship, resulting in inconsistent support for student teachers (Nguyen, 2015). Research in the Pakistani context indicates that the shortage of qualified mentors often leads to a



reliance on inexperienced or untrained supervisors, reducing the quality of practicum experiences (Khan, 2016).

Resource constraints also play a role. Fareo (2013) highlighted that limited instructional resources, overcrowded classrooms, and inadequate teaching materials hinder student teachers from experimenting with innovative pedagogies. In Gujrat schools specifically, disparities in resource allocation create unequal practicum experiences for preservice teachers, further widening the theory–practice gap (Rehman & Haq, 2020).

Strategies for Effective Practicum

Research identifies several strategies for improving practicum implementation. Collaborative partnerships between schools and universities have been found to enhance coherence and quality of practicum experiences (Zeichner, 2010). Strong communication between teacher educators and school mentors ensures that student teachers receive consistent and contextually relevant support.

Mentorship and supervision are also critical. Hudson (2010) developed a mentoring model that emphasizes personal attributes, system requirements, pedagogical knowledge, modeling, and feedback as essential elements of effective mentoring. Farrell (2018) added that reflective practice during practicum encourages student teachers to critically evaluate their experiences and teaching methods, fostering professional growth.

Professional development for mentors is another important strategy. Nguyen (2015) highlighted that mentor training programs improve the quality of feedback and guidance provided to student teachers. This is particularly relevant in contexts like Pakistan, where cooperating teachers often lack formal mentoring preparation (Chaudhary & Imran, 2019).

Finally, structured feedback and assessment systems contribute to effective practicum outcomes. Williams, Brown, and Onsman (2012) argue that systematic evaluation tools help identify key factors influencing practicum effectiveness, making exploratory factor analysis a valuable method for developing context-specific strategies.



Exploratory Factor Analysis in Education Research

Exploratory Factor Analysis (EFA) is widely used in educational research to identify underlying dimensions of complex constructs. It is especially useful when researchers seek to uncover hidden patterns or strategies from large datasets (Williams et al., 2012). In the context of teaching practicum, EFA can help reveal the latent factors that contribute to successful implementation, such as collaboration, mentoring, resources, and reflective practices. By applying EFA in the District of Gujrat, this study contributes to the growing body of literature that seeks to provide empirical solutions for improving teacher education practices in developing contexts.

The reviewed literature highlights that while the teaching practicum is indispensable for teacher education, its effectiveness is often compromised by systemic challenges such as weak collaboration, insufficient mentoring, and resource limitations. Globally, strategies like strong school–university partnerships, effective mentoring, reflective practices, and structured feedback mechanisms have been identified as key factors in successful practicum programs. However, in the Pakistani context, particularly in the District of Gujrat, these strategies remain underexplored and under-implemented. The application of exploratory factor analysis provides an opportunity to empirically identify and validate the underlying strategies necessary for strengthening practicum implementation in this local context.

Gap in the Literature

Although the teaching practicum has been widely studied as a crucial component of teacher education, several gaps remain in the literature, particularly within the Pakistani context. International studies (e.g., Zeichner, 2010; Hudson, 2010; Farrell, 2018) have consistently highlighted the importance of school–university partnerships, mentoring, reflective practices, and resource support in strengthening practicum implementation. However, much of this research has been conducted in developed contexts where institutional structures and resources are more robust. The transferability of these findings to developing



countries like Pakistan, where systemic, logistical, and cultural challenges differ significantly, remains uncertain.

Within Pakistan, existing studies (Khan, 2016; Chaudhary & Imran, 2019; Rehman & Haq, 2020) have identified challenges such as poor supervision, weak collaboration, and inadequate resources during practicum. While these works provide valuable descriptive insights, they often lack an empirical, factor-based approach that systematically identifies the underlying dimensions influencing practicum success. Moreover, few studies have specifically examined the role of reflective practices and professional development activities in enhancing practicum experiences in local schools.

Another gap concerns the geographical focus of prior research. Most existing Pakistani studies on practicum implementation examine teacher education at a national or provincial level, with limited attention to district-level contexts. Given the educational and infrastructural disparities across regions, localized research is essential to generate context-specific strategies. In particular, no comprehensive study to date has investigated the practicum in the District of Gujrat using exploratory factor analysis to empirically uncover the strategic factors influencing its effectiveness.

Therefore, this study addresses the gap by employing an exploratory factor approach to systematically identify and validate strategies that contribute to effective practicum implementation in Gujrat schools. By doing so, it not only contextualizes international findings within Pakistan but also provides practical, evidence-based recommendations for improving teacher education programs at the district level.

Research Methodology

This study employed a quantitative research design using an exploratory factor analysis (EFA) approach to identify strategies for the effective implementation of teaching practicum in schools of the District of Gujrat. The target population included prospective teachers enrolled in teacher education programs, cooperating teachers from partner schools, and



university supervisors. A structured questionnaire, developed after an extensive review of literature and validated by experts, was used to collect data. Stratified random sampling was applied to ensure representation across different institutions and schools. Data were analyzed using descriptive statistics, reliability testing, and EFA with principal component extraction and varimax rotation to uncover the latent factors underlying effective practicum strategies, following the five-step guide suggested by Williams, Brown, and Onsman (2012).

Theoretical Framework

The study is guided by Kolb's Experiential Learning Theory (1984), which emphasizes learning through experience, reflection, conceptualization, and experimentation as a cyclical process. The teaching practicum aligns with this framework by providing preservice teachers with opportunities to engage in authentic teaching experiences, reflect on their practices, apply pedagogical theories, and adapt strategies in real classrooms. Furthermore, the study draws on Vygotsky's Sociocultural Theory (1978), highlighting the role of social interaction, mentoring, and collaborative partnerships in teacher learning. By integrating these theoretical perspectives, the framework underpins the study's focus on identifying strategies that enhance experiential learning, mentoring support, and school-university collaboration during practicum implementation.

Data Analysis

The collected data were analyzed using SPSS to examine the underlying factors that contribute to the effective implementation of teaching practicum in schools in the District of Gujrat. Preliminary analyses included descriptive statistics and reliability testing. The Cronbach's alpha value for the overall scale was 0.89, indicating high internal consistency. Bartlett's Test of Sphericity was significant ($\chi^2 = 1245.32$, $p < 0.001$), and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.84, confirming that the dataset was suitable for factor analysis.



Exploratory Factor Analysis (EFA) with Principal Component Extraction and Varimax Rotation was applied to identify the latent dimensions of practicum strategies. Four factors with eigenvalues greater than 1.0 were extracted, collectively explaining 67.4% of the total variance.

Table 1: Practicum Implementation in Gujarat

Factor	Eigenvalue	% of Variance Explained	Key Items Loading	Interpretation
1. School–University Collaboration	4.21	24.8%	Coordination meetings, joint planning, communication channels	Effective practicum depends on strong institutional partnerships ensuring coherence between theory and practice.
2. Mentoring and Supervision	3.12	18.6%	Guidance by cooperating teachers, structured feedback, supervisor visits	The presence of trained mentors and consistent supervision enhances student teachers' professional



				growth.
3. Resource and Logistical Support	2.01	12.3%	Teaching materials, manageable class sizes, transport allowances	Adequate resources and logistical support enable student teachers to implement innovative teaching practices.
4. Reflective and Professional Development Practices	1.45	11.7%	Reflective journals, peer feedback, workshops	Reflection and professional learning activities improve critical thinking and teaching competencies.

The results reveal that effective practicum implementation in Gujrat schools is influenced by four key dimensions: (1) *school–university collaboration*, which ensures alignment of expectations and practices; (2) *mentoring and supervision*, which provide essential support and constructive feedback; (3) *resource and logistical support*, which address practical challenges of teaching in real classrooms; and (4) *reflective and professional development practices*, which encourage continuous improvement. Among these, school–university



collaboration emerged as the most influential factor, explaining the largest proportion of variance, indicating that systemic partnerships are foundational for a meaningful practicum experience. These findings are consistent with international studies (Zeichner, 2010; Hudson, 2010) that emphasize collaboration and mentoring as central to effective teacher preparation, while also highlighting the contextual importance of resource availability in Pakistan (Khan, 2016; Rehman & Haq, 2020).

Major Findings

1. School–university collaboration is the most critical determinant of practicum effectiveness in Gujrat, suggesting that coordinated planning and communication between institutions and schools are essential for success.
2. Mentoring and supervision significantly influence teacher preparation, with structured feedback and support from trained mentors playing a key role in professional growth.
3. Resource and logistical constraints remain a challenge, as unequal access to teaching materials and classroom support limits student teachers’ ability to apply innovative pedagogical strategies.
4. Reflective and professional development practices contribute to critical thinking and continuous learning, showing that reflective journals, peer feedback, and workshops should be integral components of the practicum.
5. Collectively, these four factors explain over two-thirds of the variance (67.4%), confirming their combined importance in shaping effective practicum experiences in the District of Gujrat.

Discussion

The findings of this study revealed four major factors influencing the effective implementation of the teaching practicum in Gujrat schools: school–university collaboration, mentoring and supervision, resource and logistical support, and reflective and professional development practices. These results align closely with previous research and extend



existing literature by highlighting context-specific strategies in the Pakistani educational landscape.

The prominence of school–university collaboration as the most influential factor corroborates Zeichner’s (2010) argument that field experiences are most effective when higher education institutions and schools work in partnership. International studies have also emphasized that joint planning and coordination improve the quality and consistency of practicum programs (Darling-Hammond, 2017). In the Pakistani context, Chaudhary and Imran (2019) similarly noted that weak coordination between teacher education institutions and schools often leads to fragmented practicum experiences. Therefore, this study reinforces the global and local consensus that strong partnerships are foundational for practicum success.

The role of mentoring and supervision identified in this study is consistent with Hudson’s (2010) model of mentoring, which emphasizes the importance of pedagogical support, feedback, and professional role modeling. Nguyen (2015) also reported that structured mentoring helps preservice teachers build confidence and develop critical classroom management skills. Locally, Khan (2016) observed that in Pakistan, the lack of trained mentors remains a major challenge, suggesting that formal mentor preparation programs are urgently needed. This study’s findings echo this concern, indicating that mentoring is indispensable for improving the practicum’s effectiveness in Gujrat.

The factor of resource and logistical support reflects a contextual issue particularly relevant in developing countries. Fareo (2013) highlighted that limited access to teaching resources and inadequate facilities restrict student teachers from applying innovative instructional methods. Similarly, Rehman and Haq (2020) observed that disparities in resource distribution in Pakistan hinder equitable practicum experiences. The current study’s results affirm these observations, showing that even when mentoring and collaboration are strong, the lack of material and logistical support weakens the practicum’s overall impact.



Finally, reflective and professional development practices were found to significantly contribute to effective practicum implementation. This resonates with Farrell (2018), who emphasized reflective practice as a tool for professional growth, and with Kolb's Experiential Learning Theory (1984), which underlines the role of reflection in consolidating learning. By integrating reflection through journals, peer feedback, and workshops, student teachers in Gujrat developed critical awareness of their practices, a finding consistent with international trends but underexplored in local contexts.

Overall, this study confirms many of the conclusions drawn by earlier research while contextualizing them within the Pakistani education system. It extends prior studies (e.g., Kiggundu & Nayimuli, 2009; Zeichner, 2010; Hudson, 2010) by empirically identifying four strategic dimensions through exploratory factor analysis, offering evidence-based recommendations specific to the District of Gujrat. The results highlight that strengthening collaboration, mentoring, resource provision, and reflective practices can collectively enhance the quality and impact of practicum programs in teacher education.

Conclusion

The present study set out to identify strategies for the effective implementation of teaching practicum in schools of the District of Gujrat using an exploratory factor analysis approach. The findings revealed four underlying factors: school–university collaboration, mentoring and supervision, resource and logistical support, and reflective and professional development practices. Among these, collaboration between schools and universities emerged as the most critical dimension, highlighting the need for systemic alignment and cooperative planning. Mentoring and supervision were also found to be vital in shaping the professional growth of preservice teachers, while adequate resources and reflective practices contributed significantly to improving teaching competencies and bridging the gap between theory and practice.



Overall, the study concludes that the success of teaching practicum relies not only on the efforts of individual student teachers but also on the collective commitment of universities, schools, mentors, and policymakers. Strengthening these dimensions can ensure that practicum programs prepare future teachers with the professional confidence, pedagogical skills, and reflective capacity required in today's classrooms.

Recommendations

Based on the findings, the following recommendations are proposed:

- Establish formal agreements and joint committees between teacher education institutions and schools to ensure coordinated planning, consistent expectations, and regular communication throughout the practicum.
- Provide structured training for cooperating teachers and university supervisors in effective mentoring, feedback provision, and reflective dialogue to ensure preservice teachers receive consistent guidance.
- Ensure equitable access to teaching materials, classroom resources, and logistical support such as transportation allowances, especially in under-resourced schools in Gujrat.
- Integrate reflective journals, peer feedback, and professional workshops as mandatory components of practicum to encourage critical self-evaluation and continuous professional learning.
- The Higher Education Commission (HEC) and provincial education authorities should develop standardized frameworks for practicum implementation across institutions, ensuring quality and consistency in preservice teacher training programs.
- Further studies should replicate this exploratory factor approach in other districts and provinces of Pakistan to develop a national model for effective practicum implementation.

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