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Collaboration among Teachers in Cluster School System: Its Influence on Professional Development, Teaching Practices

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Abstract

This research investigates the impact of the school cluster system on the professional development of teachers in rural areas of taluka Kingri, district Khairpur Mir's, Pakistan. This system, introduced to enhance quality education through collaboration and shared resources, plays a vital role in professional development of teacher training programs and teaching learning strategies improvement. Using a qualitative research approach based on phenomenology, data was collected through semi-structured interviews with key stakeholders, including FPs, GTs, SCs, and mainstream teachers. The results shows that the cluster school system improves professional development by facilitating collaboration, peer learning, and professional development training programs. Resource-sharing networks, decentralized decision-making, and supportive learning environments benefit the teachers. However, many challenges obstruct its effectiveness, including the unclear policy structure, resource constraints, and geographical barriers. The research shows the need for improved policy implementation, increased funding, and inclusive practices to maximize the benefits of the school cluster system. The study contributes to the give a talk on rural education reforms, stressing the importance of teacher collaboration and professional development. It provides valuable insights for policymakers, educators, and stakeholders seeking to improve the effectiveness of the cluster school model. Future research should focus on long-term outcomes and strategies for improving the sustainability of the system in resource-limited settings.

Keywords: School cluster system, professional development, collaboration,

teacher training programs

Introduction

Education is recognized as a fundamental pillar of individual and societal development by UNESCO (The United Nations Educational, Scientific and Cultural Organization). Education plays a vital role in shaping the social development of communities and the future of individuals (Maitlo et al., 2023; Ahmad et al., 2021). Quality education is essential for all individuals regardless of their background is the evidence of the successful implementation of facts (Maitlo et al., 2024; Soomro et al., 2023). However, Education is a fundamental right of everyone regardless of whether they live in urban areas or rural. In Pakistan, focusing on Sindh, the country's second-largest province, the literacy rate is 72% in urban areas and 46% in rural areas. Particularly concerning that one-third of children aged ten years are illiterate, and 30% of school-aged children lack access to educational institutions (Sindh Reading Program, 2019). To address the high literacy rate, increase enrollment, and reduce the dropout rate in post-primary education, the Sindh Government's School Education and Literacy Department (SE&LD), in collaboration with non-governmental organizations (NGOs), introduced the school clustering policy in 2016. This policy was revised on November 26, 2021, to revitalize isolated rural schools that suffer from distance teacher absenteeism, lack of resources, and the absence of professional development opportunities for teachers.

Cluster System in Context

The Cluster School System is an educational model designed to enhance school quality through collaboration and shared resources (School Education & Literacy Department, 2021). It is particularly effective in resource-constrained settings or where schools can gain mutual benefits from working together (School Education & Literacy Department, 2021). Schools are grouped into clusters based on factors such as geographic proximate, and available resources (School Education & Literacy Department, 2021). The purpose of the school cluster system according to the Basic Education System Overhaul (BESO) (2002-2007) is for teacher development because clusters support teacher capacity to teach effectively according to the new active-learning-based curriculum. Cluster systems provide the network to support teacher development. In School Cluster System Collaboration among Trained and un-trained teachers has a profound impact on professional development and teaching practices by promoting shared learning, improving instructional methods, and enhancing student achievement.

Problem Statement

Although the cluster school system is acknowledged for its potential to enhance the professional development of teachers in rural areas of district Khairpur Mir's, several obstacles limit its effectiveness. The lack of a clear policy framework governing the implementation of the cluster system often results in inconsistent practices and limited support for teachers. Additionally, resource constraints, including inadequate funding and insufficient access to teaching materials, hinder the ability of teachers to fully engage in Problem collaborative learning opportunities provided by the cluster system. Geographical barriers of District Khairpur Mir's further complicate involvement, as teachers in remote areas may struggle to attend cluster meetings and training sessions. Furthermore, while existing literature emphasizes the benefits of the cluster school system in fostering teamwork and professional growth, there is a significant lack of understanding of how these systems operate in practice and the specific factors that determine their success or failure. The lack of inclusive studies focusing on the lived experiences of teachers within the cluster system limits the ability to identify effective strategies for maximizing its impact on professional development. Hence, the problem statement for this research is: "What are the impacts of the cluster school system on the professional development of teachers in rural areas of District Khairpur Mir's, and what challenges must be addressed to enhance its effectiveness in improving educational outcomes?" This research seeks to identify the dynamics of the cluster school system, assess its role in teacher professional development, and identify actionable solutions to overcome the barriers faced by educators in rural areas of District Khairpur Mir's.

Literature Review

The literature review is the fact of previous related studies as mentioned by Maitlo et al., 2024; Ahmad et al., 2021; Khokhar et al., 2024; Shaheen et al., 2024; and Shah et al., 2024 in their studies the significant source to elaborate the cluster school system which promotes the concepts of collaboration and shared resources. A school cluster is defined as a grouping of schools that are geographically close and accessible, aimed at improving the quality of education through shared resources and collaborative practices (Giordano, 2008). This structure aligns with the Education Change Theory, which emphasizes the role of human agency in the change process (Fullan, 2007).

Benefits of the Cluster School System

Collaboration and Resource Sharing: According to Maphosa et al. (2003) school

clusters provide a forum for teachers to meet and exchange ideas, which enhances their professional growth and improves teaching practice. In the school cluster system collaborative environment is particularly beneficial in rural areas where teachers often work at isolated schools. A cluster school system helps in collaboration among teachers, allowing them to share resources, teaching strategies, and experiences. Professional Development Opportunities: The cluster system provides a stage to engage teachers in workshops, training sessions, and peer observations, which are crucial for their professional development. According to (Mphahlele & Rampa, 2003) focus on teachers in clusters benefit from structured professional development activities that are tailored to their specific needs, thereby improving instructional practices Supportive Learning Environment: the school cluster system provides support in the learning environment for teachers who experience less burden and difficulty due to guidance from their peers. When new curricula are implemented, teachers in clusters experience relaxation and ease as they depend on the guidance of their teammates (Jita & Mokhele, 2014). This is helpful in continuous improvement and development. Despite the benefit of the cluster system for the professional development of teachers, they face many challenges which retard their productivity.

**Absence of Policy Framework**:: Due to clear policy absenteeism, the cluster system has an issue in its application. Nakambode-Daniel (2018) experienced that in the absence of a legal framework, the cluster system is ineffective for the professional development of teachers.

**Limitations of Resources:** There are so many rural schools that face notable resource restraints, which can hinder the effectiveness of the cluster system. There are so many rural schools that face notable resource restraints, which can hinder the effectiveness of the cluster system. Insufficient funding and restrictions on teaching aids obstruct the competency of teachers to make them fully engaged in professional development sessions given by the cluster system (Akhmedov, 2021).

**Geographical Barriers:** According to Dittmar et al., (2002) the purpose of the cluster system is to bring schools together but geographical barriers are still challenging for teachers who may find problems in traveling to cluster meetings and training sessions, especially in rural areas. This may hinder their participation in and overall effectiveness of the cluster system.

Significance of Study

This research contributes to enhancing the understanding of improving

educational quality, enhancing resource utilization, promoting equity and access, and informing policy decisions regarding the Cluster school system model in which schools are merged into groups within a radius of 3 to 4 kilometers to share resources, expertise, collaboration, teachers' continuous professional development training, and decentralized management. It also helps the school administrators, teachers, policymakers, parents, and communities to find out the ways to overcome the gaps, professional needs, and challenges faced by the teachers who are working in rural areas of Taluka Kingri District Khairpur Mir's. This research also suggests the educational stakeholders take initiatives to resolve the issues such as lack of infrastructure, non-availability of ICT-based technology gadgets, missing basic facilities, and various resources. In addition, this study encourages the researchers to debate personalized learning about the benefits and challenges of implementing the school cluster system for quality education.

Objectives

- To evaluate the Effectiveness of the Cluster School System: determines how the cluster school system contributes to the professional development of teachers in rural areas of district Khairpur Mir's, focusing on the enhancement of teaching practices and instructional quality.

- To address the challenges faced by the teachers in the cluster school system of Taluka Kingri.

Research Questions

1. How is the cluster school system effective for the professional development of teachers in rural areas of Taluka Kingri?

2. What challenges may teachers face in the cluster school system of Taluka Kingri?

Research Methodology

This research aims to investigate the challenges faced by teachers and how these challenges affect the implementation of successful professional development of teachers in the school cluster system at Taluka Kingri District Khairpur Mir's. For this purpose, qualitative research was conducted and used by Maitlo et al., 2025; Ahmad et al., 2025; Buriro et al., 2021 the same method in their studies. This research design is used to explore participants' lived experiences in cluster schools. This study allows for a profound understanding of participants' perspectives and meanings; they attribute to their experiences (Creswell & Poth, 2018). This research is based on a phenomenological approach that helps diagnose how participants feel about a specific phenomenon (Van Manen, 2016). Focusing on

individuals' lived experiences, the study discloses in-depth insights into their perceptions, challenges, and interactions in the school cluster system.

Participants and Sampling:

Based on the study conducted by Palinkas et al. (2015), participants were selected using purposive sampling, a technique that ensures the inclusion of individuals with direct experience relevant to the study. The sample included focal persons/head teachers, guide teachers, subject coordinators, and matinees teachers. A total number of 6 participants were included, they had three years of involvement with cluster hub school. According to (Patton, 2015) purposive sampling allows for the selection of information-rich cases, providing deeper insights into the phenomenon under research.

Data Collection and Analysis

The data was collected by conducting semi-structured interviews with the head teachers to explore their personal experiences and perceptions of cluster hub schools (Kvale, 2007). With the consent of individuals, interviews and discussions were recorded and anonymized to protect their identities. The audio-taped interviews were transcribed, and coded for themes. Later on, by using thematic technique data was analyzed.

Discussion and Findings

1.   Decentralization and Educational Reform

The application of the cluster policy lines up with the Change of Educational Theory (Fullan, 2007), which focuses on the function of human agency in driving educational changes. The policy emphasizes decentralization, where Cluster Hub Schools are given authority to settle teacher-related matters, ensuring localized decision-making. The literature also contributes this, defining that the school cluster model enhances shared decision-making and resource utilization (Giordano, 2008).

2.   Teacher Training and Professional Development

Cluster school policy highlights continuous monthly professional development training programs for teachers, which improves their teaching skills. This corresponds with Mphahlele and Rampa (2003), who state that well-organized professional development activities modified to teachers' specific needs enhance teaching-learning practices. Additionally, Maphasa et al. (2003) focused that cluster school systems create a platform for teachers to exchange ideas, which stimulates the growth of professional skills. The participants further mention that

training outcomes are monitored and guided by GTs and SCs, strengthening peer observations and collaborative learning, as highlighted by Jita and Mokhele (2014).

3. Challenges in Implementation

a) Absence of Policy Framework

The respondents argue that the cluster policy is not fully implemented due to administrative involvement and a lack of clear guidelines for policies. This challenge is sounded by Nakambode-Daniel (2018), who states that the absence of a legal framework lessens the effectiveness of the cluster system in elevating professional development.

b) Limitations of Resources

Resource shortages, including electricity, ICT-based technology, and infrastructure, are frequently mentioned in the document. Akhmedov (2021) similarly notes that bounded funding and a lack of teaching aids obstruct teacher competency and engagement in professional development.

c) Geographical Barriers

The participants highlight travel difficulties faced by female teachers, in rural areas. This connects with Dittmar et al. (2002), who describe that geographical obstacles often forbid teachers from participating in training sessions, particularly in rural areas.

4. Collaboration and Resource Sharing

The respondents pay value to collaborative teaching styles, including group work, peer collaboration, and shared resources. This is highly assisted by Maphasa et al. (2003), who highlight that school clusters encourage collaboration, allowing teachers to share teaching techniques and experiences, especially in rural areas of Taluka Kingri.

5. Supportive Learning Environment

The participants state that the policy has empowered teachers to seek guidance from peers and decrease their professional burden. Jita and Mokhele (2014) reinforce this, stating that teachers through this system feel more supported during curriculum changes because they can rely on peer guidance.

6. Equity and Inclusion Issues

The gender discrimination noted as well, where only two out of twenty selected teachers were female, is a crucial concern. This limitation is not explicitly addressed but is significant for further research. However, the importance of equity and access in the system is mentioned in the significance of the study, which supports policies that promote inclusive participation.

7. Student-Centered Approach

The participants state that the cluster policy has improved students' involvement through active learning strategies. However, critical thinking is not emphasized in training sessions but supports teacher collaboration and resource sharing, which indirectly benefits students.

8. Leadership and Teacher Empowerment

The participants highlight that the cluster policy increases teachers' leadership skills, allowing them to understand student challenges and guide them accordingly. The response supports this through Education Change Theory (Fullan, 2007), which emphasizes teacher agency in educational transformation.

Conclusion

The result of this study indicates that the cluster school system plays a significant role in the professional development of teachers in rural areas of Taluka Kingri, District Khairpur Mir's. The system enhances collaboration, resource sharing, and continuous professional training, ultimately promoting teaching strategies and student learning feedback. Peer support, professional development training programs, and decentralized decision-making benefit the teachers who develop their professional growth.

However, several reasons hinder the effectiveness of the cluster school system. The unclear policy structure leads to hardships in implementation, while resource constraints, including limited access to ICT tools, basic facilities, and inadequate funding, disallow teachers' ability to fully engage in professional development. Geographical barriers further complicate female teachers who face transport challenges. Additionally, issues of equity and inclusion require to be addressed to ensure broader participation of all educators.

In the fact of these issues, the cluster school system goes on a bright model for education quality in rural settings. Educational stakeholders must emphasize addressing these hindrances by providing clear guidelines, increasing resource allocation, and ensuring inclusive participation. Promoting leadership roles and fostering a more learner-centered approach within the school cluster system will enhance its impact.

Future research should investigate the long-term consequences of the cluster school system and evolve strategies to improve its sustainability. By spouting in operation gaps, the school cluster system model maximizes its benefits for both teachers and students, ultimately contributing to a more effective and equitable education system.

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