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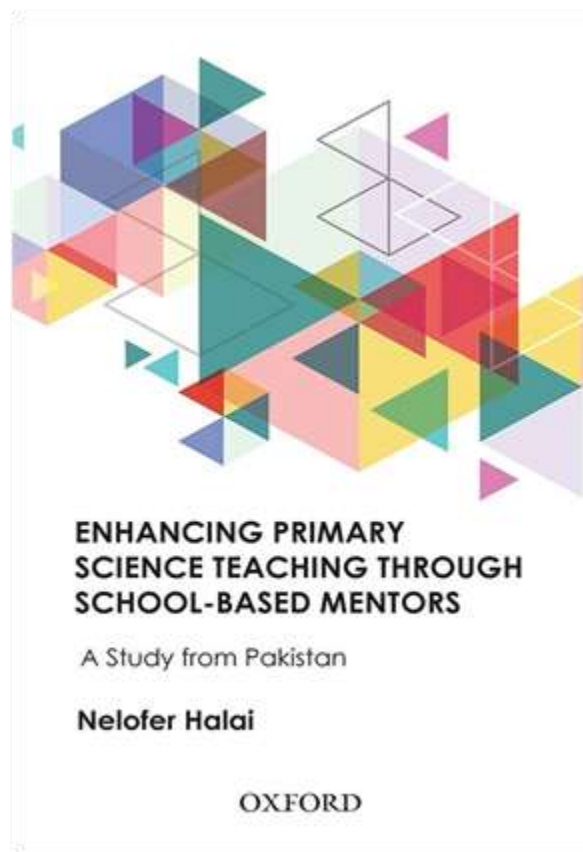
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Enhancing Primary Science Teaching Through School-based Mentors: A Study from Pakistan is a practical guide for teachers, mentors, and teacher educators for their professional journey. In response to the dire need for enhancing the quality of primary education in Pakistan, author Nelofer Halai has provided an indigenous model of teacher education as a viable route to achieving this goal. Dr. Nelofer Halai is a Professor at Aga Khan University – Institute for Education Development (AKU-IED), Karachi, Pakistan. Her 25-year long association with educational research, teacher development, and science education is evident in her writings. Like her other publications in refereed journals and books, this work is based on field-stories analyzed using a grounded theory framework. Hence, this book helps the readers to understand the contextual dynamics and practical approaches for teacher development in rural Sindh-Pakistan rather than merely focusing on borrowed models from the West.

The book is based on an earlier research study, *Mentoring Science Teachers in Rural*



Sindh (MSTARS), undertaken by the author under the aegis of the Strengthening Teachers Education in Pakistan (STEP) Project¹. The book is a report of the research findings of the Cluster Based Mentoring Program (CBMP) that was carried out in the districts of Thatta and Sukkur as a part of the STEP project. The purpose of this research study was three-fold: to explore the perceptions of mentors about their changed identity as mentors as well as teachers; to explore the processes of developing mentors; and to explore the practices of mentors in supporting science teachers in classrooms. At 194 pages, the book contains eight chapters structured in a logical flow covering all components necessary for an empirical study: rationale for and background of the study, the theoretical framework and literature review, research questions and methodology, research participants, findings and interpretation, and finally, recommendations and implications for teacher education. Logically linked and systematically presented, these chapters help the reader to build thematic connections among the concepts discussed.

While the author fulfills the goal of addressing the research questions quite admirably, the content of the text serves various purposes to diverse audiences. For example, the author highlights several aspects of teacher development, provides activity-based teaching ideas related to a few science topics from the curriculum, and presents an excellent example of a qualitative research study in education. Consequently, she offers guidance to teacher educators, primary science teachers, and MPhil and PhD students. Further, the author covers multiple facets of teacher learning, including content knowledge, pedagogical knowledge, mentoring skills, reflective practice, field-based support, follow-up mechanisms, and many more topics. The

¹ STEP is a multi-faceted project conducted and supervised by AKU-IED with the collaboration of Canadian International Development Agency (CIDA) with a goal to improve the quality and

coverage allows private and government teacher educators to rethink and align their existing practices and programs, such as inclusion of reflective practice and mentoring skills in the practicum component of B.Ed. and M.Ed.

The cover image of the book presents triangles of different sizes and colors that appear as prisms – the symbols of reflectivity. This symbolism aligns with the content of the book, as Halai critiques, compares, and categorizes different aspects of mentorship and their impacts on teacher learning. The author covers complex concepts in a simple, concise way, and her use of local and international literature, statistical data, figures and line-diagrams, and quotes of research participants helps readers comprehend the main concepts from beginning to end. In particular, the narratives stemming from workshops conducted by mentors, along with the details of the mentors' educational and professional selves grabbed my attention as if I was witnessing the workshop in real time. Phrases like “actual teaching begins when the activity ends” and “effective mentors need to be effective practitioners of science teaching in their own classrooms” give some glimpses of the author's critical insights and accomplishments as a science educator.

Unlike most of the published books in Pakistan that present varied perspectives drawn from different projects and geographic lenses, this book is unique in that it is entirely based on a single study. In the second chapter while setting the scene, Halai presented a quick review of the status of education in Pakistan generally and in Sindh specifically, using statistical and descriptive data from reliable sources. Such systematic though concise information provides the reader a clear understanding about the onset of the

delivery of services in elementary education while working on three areas including teacher education, teaching, learning and education management; policies, practices and networking.

STEP project within the historical and political contexts of Sindh. It is tragic to discover that Pakistan is at the second lowest position in literacy rate among the South Asian Association for Regional Cooperation (SAARC) countries. Issues like poor governance, political influence, and absence of monitoring reveal that corruption is endemic in the society. CBMP, on the other hand, provided a ray of hope of producing impact-oriented intervention for educational development in Sindh-Pakistan, which otherwise seems very difficult in the current depressing situation. The author also brought in various local and international perspectives and models of mentoring which help the reader to understand the theoretical framework used in the study.

The bitter reality in rural areas like Sukkar and Thatta is that most science teachers themselves have not studied science at the secondary level. This results in a superficial level of teaching in science classrooms leading to conceptual gaps for the students. As a result, the vicious cycle continues if students take science teaching as their future career. This situation justifies the increased inclination of mentors during CBMP towards science content learning as a part of a development process. Hence, “content” is a key component of a mentoring model in the rural context. The author also highlights the ongoing struggle of mentors in balancing multiple identities like teacher, head teacher, and mentor due to various factors including lack of skills and support, numerous responsibilities, and a shift in the priorities in different roles. As these indicators suggest, any program in rural areas should be sensitive to these needs and should devise a mechanism to address them proactively.

Beside these challenges, the author’s findings reveal that CBMP has opened the possibility of adapting Western models to make them contextually relevant. Designing programs that utilize a more universal framework of professional development and

infusing them with local ideas provides a perfect blend of global and local perspectives. For example, drawing lessons from the international literature on the mentor-mentee relationship and embedding the same in a locally designed program to create a community of practice within clusters is a good example of *glocalization*. Another strength of the book is the author’s use of narratives about each mentor in order to show: 1) how social and personal selves contribute in developing the professional self; 2) how a bumpy ride for a “change agent” can be turned into a smooth journey with hard work, practice, self-motivation, and passion; 3) how a gender issue, a mentor’s perception or power dynamics in the rural context can influence a mentor’s practices; and 4) how to move the apprenticeship stage of the mentoring process into the competency and reflective stage.

Halai also reflects on the practices and perception of mentors in comparison to the support provided to them in the form of Advanced Diploma in Primary Education (ADIPE). However, a detailed description of the scope, content, and strategies of ADIPE would have given the reader a better understanding of the author’s analysis. For example, the description of action research in ADIPE could have shown why mentors did not regard it as a mode of learning. Apart from this, my own inclination towards qualitative research directed my attention to the data collection tools given as appendices, best explaining how the purpose of a well-designed study can be kept aligned through several stages of data collection. The book points out some of the administrative and financial constraints faced during the project; however, its detailed discussion in connection with the efficacy of a mentoring model would have added to the literature.

This is a must read book for all those who are directly or indirectly associated with education in Pakistan. I also highly recommend this book to educational leaders,

policy makers, educators, and students who are keen to broaden their understanding of teacher development. The author gives detailed accounts of how novice mentors construct their roles as teacher educators, the practical challenges involved in transforming traditional science teachers into constructivist

teachers, and strategies for developing school-based models for science teachers' learning. Though specific to MSTARs findings, I found this book a perfect blend of theoretical background, practical approaches, field oriented strategies, and insider reflections.


About the Reviewer

Shairose Irfan Jessani is a PhD student working in the area of teacher learning in science education. For 18 years, she has been involved in curriculum development and teacher education through various platforms, including EdLinks and the Ministry of Education, Pakistan.



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