

Transformative Influence of Continuing Professional Development (CPD) on Teaching Approaches: A Case Study of Secondary School Teachers in Makran Division, Balochistan, Pakistan

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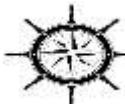
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Abstract

This study examines the impact and effectiveness of Continuing Professional Development (CPD) programs for secondary school teachers in Makran Division, Balochistan, Pakistan. The study employs a mixed-method approach, the study collected data from 38 head teachers and 220 secondary school teachers who participated in CPD programs. The research investigates the influence of CPD on teachers' knowledge, teaching methods, technology integration, professional growth, and reflection on teaching practices. Additionally, the study explores the effects of CPD programs on student performance. The findings indicate that participating in CPD programs positively affects teachers' knowledge and teaching approaches, particularly in terms of modern teaching methods and assessment techniques. However, the study highlights the need for improvement in addressing diverse learning needs, fostering a supportive and inclusive classroom environment, and enhancing the quality and engagement of facilitators. The results of hypothesis testing using regression analysis demonstrate a significant positive impact of CPD on student performance ($\beta = 0.160$, $p < 0.05$). The conclusions emphasize the overall benefits of CPD programs for teachers' professional development and underscore the importance of refining these programs to address specific needs, improve facilitator quality, promote active engagement, and align with local educational contexts. By implementing these recommendations, educational institutions and policymakers can effectively support teachers' growth and contribute to improved student performance.

Keywords: Transformative Influence, Continuing Professional Development (CPD), Teaching Approaches, Secondary School, Balochistan.



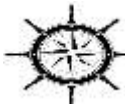
Introduction

Continuing Professional Development (CPD) plays a crucial role in enhancing the knowledge, skills, and competencies of educators, empowering them to deliver high-quality education (Smith, 2019). In the realm of secondary education, the transformative impact of CPD on teaching approaches is particularly significant, as it directly influences students' learning outcomes and academic achievement (Johnson, 2020). Therefore, this case study aims to explore the transformative influence of CPD on teaching approaches among secondary school teachers in the Makran Division of Balochistan, Pakistan.

The education landscape in Balochistan, Pakistan's largest province, is beset with numerous challenges, including resource limitations, inadequate infrastructure, and a scarcity of qualified teachers (Ullah & Almani, 2022; Khan, 2018). In this context, CPD programs have emerged as a potential solution to bridge the gaps in professional development among secondary school teachers (Ahmed et al., 2022). CPD offers opportunities for teachers to engage in continuous learning, acquire new pedagogical techniques, and remain updated on the latest educational practices.

The Makran Division, located in the southwestern region of Balochistan, encompasses diverse rural and urban communities. Gaining an understanding of the impact of CPD on teaching approaches within this specific context is essential for informing policy and practice interventions that can contribute to enhancing the overall quality of education. Teachers play a crucial role in the advancement of students at school, serving as facilitators in the process of teaching and learning (Ghunio, Niamatullah, & Shaikh, 2023). Thus, this case study aims to elucidate the specific challenges faced by secondary school teachers in the Makran Division and explore the strategies they employ to improve their teaching practices.

Through this case study, a comprehensive analysis will be conducted to investigate the changes in teaching approaches among secondary school teachers subsequent to their participation in CPD programs. The study will delve into various components of CPD, such as workshops, training sessions, collaborative learning, and mentoring, in order to comprehend how these interventions influence teachers' instructional practices and pedagogical strategies (Rizvi & Raza, 2020).



Furthermore, the case study will examine the factors that facilitate or impede the implementation of CPD initiatives in the Makran Division, including institutional support, teacher motivation, and contextual constraints.

The findings of this case study will contribute to the existing body of knowledge on the transformative influence of CPD on teaching approaches within a specific regional and cultural context. The insights gleaned from this research will prove valuable for educational policymakers, school administrators, and CPD providers, enabling them to design and implement more effective professional development programs tailored to the needs of secondary school teachers in the Makran Division and similar settings. Ultimately, this research aims to foster educational improvement and contribute to the overall advancement of secondary education in Balochistan, Pakistan.

Literature Review

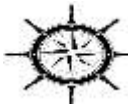
Continuing Professional Development (CPD) has gained recognition as a vital tool for enhancing teacher effectiveness and improving student learning outcomes. This section presents a review of relevant literature focusing on the transformative influence of CPD on teaching approaches, specifically in the context of secondary school teachers in Makran Division, Balochistan, Pakistan.

The Concept of Continuing Professional Development (CPD)

Continuing Professional Development (CPD) refers to the process of continuous learning and development that educators undertake to enhance their professional knowledge, skills, and attitudes (Kaptein, 2018). It involves engaging in a variety of activities such as workshops, conferences, collaborative learning, reflective practice, and ongoing professional learning communities. CPD is considered essential for teachers to adapt to changing educational contexts and to promote effective teaching practices (Day & Sachs, 2004).

The Importance of CPD in Teaching

Research highlights the significant role of CPD in improving teaching effectiveness and student achievement. CPD provides teachers with opportunities to acquire new knowledge and skills, stay updated with emerging educational research, and refine instructional practices. It enables



teachers to reflect on their teaching approaches, identify areas for improvement, and implement innovative strategies in the classroom (Darling-Hammond et al., 2017). Moreover, CPD fosters collaboration among educators, facilitates professional networking, and promotes a culture of continuous improvement in schools (Opfer & Pedder, 2011).

CPD Initiatives in Pakistan

In the Pakistani context, CPD programs have gained importance as a means to enhance teacher professionalism and improve the quality of education. The National Professional Development Program for Teachers (NPDP) has been launched to provide teachers with opportunities for ongoing learning and development (Saeed et al., 2021). CPD initiatives in Pakistan focus on areas such as curriculum development, pedagogical training, and the integration of technology in teaching (Ashraf et al., 2020). However, limited research exists specifically on the transformative influence of CPD on teaching approaches in Balochistan, particularly in Makran Division.

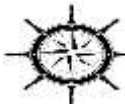
Transformative Influence of CPD on Teaching Approaches

Studies from different contexts have highlighted the transformative influence of CPD on teaching approaches. For instance, a study conducted by Yendol-Hoppey and Dana (2016) explored the impact of CPD on teachers' instructional practices and found that it led to changes in pedagogical strategies, increased self-efficacy, and improved student engagement. Similarly, a study by Khoiriyah et al. (2019) investigated the effects of CPD on teachers' professional growth and student learning outcomes in Indonesia, revealing positive changes in teaching practices and student achievement.

Gaps in Research: Balochistan and Makran Division

While research on CPD's impact on teaching approaches exists in various contexts, there is a dearth of studies specifically focusing on Balochistan, particularly Makran Division.

Understanding the transformative influence of CPD on teaching approaches in this specific region is crucial for informing policy and practice. Addressing this research gap will shed light on the effectiveness of CPD initiatives and their contribution to improving the quality of education in Makran Division. Continuing Professional Development (CPD) has the potential to bring about transformative changes in teaching approaches among secondary school teachers. The literature review highlights the significance of CPD in enhancing instructional practices,



fostering collaboration among educators, and promoting a culture of continuous improvement. However, limited research exists on the transformative.

Method and Materials

This study employed a mixed-methods research design to explore the transformative impact of Continuing Professional Development (CPD) on teaching approaches among secondary school teachers in the Makran Division of Balochistan, Pakistan. A purposive sample of 220 secondary school teachers and 38 head teachers, who had participated in CPD programs, was selected. Quantitative data were gathered through surveys and analyzed using descriptive statistics and regression analysis with SPSS software (version 26) to examine the relationships between variables and teaching approaches. Qualitative data were collected via semi-structured interviews, which were subjected to thematic analysis to identify recurring patterns and themes pertaining to the transformative influence of CPD. This mixed-methods approach yields a comprehensive understanding of the experiences and perceptions of teachers and head teachers, thereby contributing to the existing literature on CPD and offering insights for future CPD initiatives in the region.

Validity and Reliability

Validity and reliability are crucial concepts in research. Validity refers to the accuracy of a measurement, ensuring that it measures what it intends to measure. Reliability, on the other hand, focuses on the consistency and stability of a measurement over time and situations. Researchers use various strategies to establish validity and reliability. One commonly used method to assess reliability is Cronbach's alpha, which measures the internal consistency of a scale or questionnaire. A Cronbach's alpha of .900 indicates a high level of reliability. In this case, a 20-item scale with a Cronbach's alpha of .900 demonstrates strong internal consistency, suggesting that the items in the scale are measuring the same underlying construct consistently.

Result and Data Analysis

The respondents were presented with the following statements to assess the inquiry and select the corresponding option appropriately. Participants were requested to evaluate each statement using a 5-point Likert scale, indicating their degree of agreement or disagreement as follows: "Strongly Disagree" (1), "Disagree" (2), "Neutral" (3), "Agree" (4), and "Strongly Agree" (5).

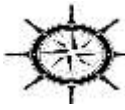


Table 1

Teacher Perception of CPD Program Impact on Secondary School Teaching Approaches

No.	Item	N	Mean	Std. D
1	CPD programs have improved my knowledge and understanding of modern teaching approaches.	220	3.87	.990
2	CPD programs have influenced my teaching methods positively.	220	3.43	1.358
3	CPD programs have helped me integrate technology effectively into my teaching practices.	220	3.67	1.128
4	CPD programs have enhanced my ability to design and implement student-centered learning activities.	220	3.01	1.380
5	CPD programs have contributed to my professional growth as an educator.	220	3.66	1.141
6	CPD programs have equipped me with the necessary skills to address diverse learning needs in the classroom.	220	2.82	1.388
7	CPD programs have increased my confidence in using assessment and evaluation techniques.	220	3.71	1.084
8	CPD programs have positively impacted my ability to create a supportive and inclusive classroom environment.	220	3.23	1.482
9	CPD programs have helped me stay updated with the latest educational trends and research.	220	3.42	1.357
10	CPD programs have influenced my ability to reflect on my teaching practices and make necessary improvements.	220	3.66	1.128

The study findings indicate that participating in CPD programs has had a positive impact on educators' knowledge, teaching methods, technology integration, professional growth, and reflection on teaching practices. On average, participants reported improvements in these areas, with mean scores ranging from mean=2.82 to mean=3.87 (SD=0.990 to SD=1.482). The programs were particularly effective in enhancing knowledge and understanding of modern teaching approaches (mean=3.87, SD=0.990) and increasing confidence in assessment and evaluation techniques (mean=3.71, SD=1.084). However, there were mixed results in terms of addressing diverse learning needs (mean=2.82, SD=1.388) and creating a supportive classroom environment (mean=3.23, SD=1.482). CPD programs also helped participants stay updated with educational trends and research (mean=3.42, SD=1.357). Overall, the findings highlight the beneficial effects of CPD programs on various aspects of teaching and professional development, while acknowledging the variability in individual experiences.

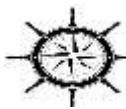


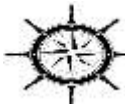
Table 2

Head Teachers' Perception of Key Factors for Effective CPD Programs.

No.	Item	N	Mean	Std. D
1	The relevance of CPD programs to the specific needs and challenges faced by teachers in Makran Division.	38	3.92	1.050
2	The quality and expertise of facilitators or trainers delivering the CPD programs.	38	3.42	1.464
3	The availability of resources and materials that support the implementation of CPD learnings in the classroom.	38	3.87	1.070
4	The duration and intensity of CPD programs, allowing for in-depth learning and practice opportunities.	38	3.97	.915
5	The level of engagement and active participation encouraged during CPD sessions.	38	3.79	1.094
6	The provision of ongoing support and mentoring for teachers following CPD programs.	38	3.82	1.036
7	The alignment of CPD programs with the local curriculum and educational policies in Makran Division.	38	4.00	.986
8	The incorporation of practical and hands-on activities, that enable teachers to apply new strategies and techniques.	38	3.37	1.478
9	The inclusion of collaborative and peer learning opportunities to facilitate knowledge sharing among teachers.	38	3.81	1.111
10	The evaluation and feedback mechanisms in place to assess the effectiveness and impact of CPD programs on teaching practices.	38	3.97	.972

The table evaluates Continuing Professional Development (CPD) programs for teachers in Makran Division. It reflects respondents' perceptions on different aspects of the programs. Mean scores and standard deviations reveal average ratings and variability among opinions.

The relevance of CPD programs to teachers' needs received positive ratings (mean=3.92, SD=1.050), indicating alignment with requirements. The quality of facilitators had moderate favorability (mean=3.42, SD=1.464), suggesting varying opinions on competence. Resource availability was perceived positively (mean=3.87, SD=1.070), though responses varied. Duration and intensity were well-regarded (mean=3.97, SD=0.915), with higher agreement. Engagement and active participation during CPD sessions had a moderately positive perception (mean=3.79, SD=1.094), indicating room for improvement. Ongoing support and mentoring were moderately rated (mean=3.82, SD=1.036), with varying perceptions. Alignment with local curriculum and policies was highly regarded (mean=4.00, SD=0.986).



Incorporation of practical activities had room for improvement (mean=3.37, SD=1.478), with varied opinions. Collaborative and peer learning opportunities received a moderately positive perception (mean=3.81, SD=1.111), with some variability. Evaluation and feedback mechanisms were highly regarded (mean=3.97, SD=0.972).

In summary, the evaluation highlights strengths and areas for improvement. Enhancing facilitator quality, incorporating practical activities, and promoting engagement are important. The results can guide CPD program development and refinement.

Hypothesis Testing

There is no significance Influence of Continuing Professional Development (CPD) on Teaching Approaches in Secondary School Teachers in Makran Division, Balochistan.

Table 3

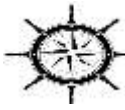
Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	2.070	.403		5.143	.000
	Continuing Professional Development (CPD).	.272	.114	.160	2.396	.017

a. Dependent Variable: Students Performance

A regression analysis was conducted to examine the relationship between student performance (the dependent variable) and Continuing Professional Development (CPD) (the predictor variable). The results of the analysis are presented in Table 3.

In the above table displays the unstandardized coefficients (B), standardized coefficients (Beta), standard errors, t-values, and significance levels (Sig.) for the regression model. The constant coefficient, representing the intercept term, is estimated to be 2.070 with a standard error of 0.403. The t-value for the constant is 5.143, indicating its statistical significance ($p < 0.001$). According to the analysis, the coefficient for CPD (Continuous Professional Development) is 0.272, with a standard error of 0.114. The standardized coefficient (Beta) for CPD is 0.160. The t-value associated with CPD is 2.396, indicating statistical significance at the $p < 0.05$ level (Sig.



= 0.017). Therefore, the results indicate that the null hypothesis is rejected, suggesting that CPD has a positive effect on student performance at the secondary school level in this study.

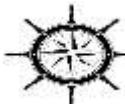
In summary, the regression analysis reveals that CPD is a statistically significant predictor of student performance. For every one-unit increase in CPD, student performance is expected to increase by 0.272 units. Moreover, the standardized coefficient (Beta) of 0.160 indicates that each one-standard-deviation increase in CPD is associated with a 0.160 standard deviation increase in student performance.

Results and Discussion of Findings

The study findings presented valuable insights into the impact and effectiveness of Continuing Professional Development (CPD) programs for secondary school teachers in Makran Division, Balochistan, Pakistan. The results indicated that participating in CPD programs had a positive influence on various aspects of teachers' professional development and teaching practices. The mean scores, ranging from mean=2.82 to mean=3.87, with corresponding standard deviations, provided a quantitative understanding of the improvements reported by participants.

Specifically, CPD programs effectively enhance teachers' understanding of modern teaching approaches, with a mean score of 3.87 and a standard deviation of 0.990, enabling educators to adapt their methods to contemporary educational trends. Furthermore, participating teachers report increased confidence in assessment and evaluation techniques (mean=3.71, SD=1.084), suggesting that CPD equips them with the necessary skills to evaluate student progress more effectively, ultimately leading to improved teaching practices. The study also identifies areas in need of attention and improvement. CPD programs display mixed results in addressing diverse learning needs (mean=2.82, SD=1.388) and creating a supportive and inclusive classroom environment (mean=3.23, SD=1.482). This highlights the importance of customizing CPD initiatives to cater to the diverse needs of students and promoting inclusivity in the learning environment to foster the success of all learners.

Additionally, the quality and expertise of CPD facilitators receive moderate favorability (mean=3.42, SD=1.464), indicating varying opinions on their competence. Thus, efforts should be made to ensure that facilitators possess the necessary qualifications and capabilities to deliver high-quality professional development experiences. Moreover, the study reveals that active



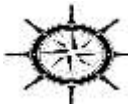
engagement during CPD sessions has a moderately positive perception (mean=3.79, SD=1.094), signaling the need for improvements in this area. Encouraging more active participation from teachers could enhance the overall effectiveness of CPD programs.

The incorporation of practical activities within CPD sessions also requires attention, with varied opinions among participants (mean=3.37, SD=1.478). This underscores the importance of making CPD sessions more hands-on and interactive to enhance the practical application of new knowledge and skills.

On a positive note, the study highlights that CPD programs align well with teachers' needs, as indicated by a mean score of 3.92 and a standard deviation of 1.050. This suggests that the CPD initiatives offered in the context of the study were relevant and catered to the specific requirements of participating teachers. Furthermore, the duration and intensity of CPD programs are well-regarded, with a mean score of 3.97 and a standard deviation of 0.915, indicating that the length and depth of professional development experiences were appropriate and positively received by teachers.

The study also sheds light on the moderately rated ongoing support and mentoring provided (mean=3.82, SD=1.036), emphasizing the importance of establishing effective support systems for teachers even after the completion of CPD programs to ensure continued growth and development. Additionally, the alignment of CPD programs with the local curriculum and policies receives high regard, with a mean score of 4.00 and a standard deviation of 0.986. This suggests that the CPD initiatives were well-integrated into the educational context of the region.

Finally, a hypothesis testing analysis demonstrates that CPD has a significant positive effect on student performance at the secondary school level ($p < 0.05$). This finding underscores the importance of investing in ongoing professional development for teachers, as it directly correlates with improved student outcomes. In conclusion, this study provides robust evidence supporting the beneficial effects of CPD programs on various aspects of teaching and professional development for secondary school teachers in Makran Division, Balochistan, Pakistan. While CPD initiatives positively influence teachers' knowledge, teaching methods, technology integration, and professional growth, the study also identifies areas requiring



improvement, such as addressing diverse learning needs and creating a supportive classroom environment.

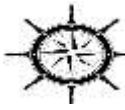
To enhance the effectiveness of CPD programs, it is crucial to ensure that facilitators possess the necessary expertise, actively engage participants during sessions, and incorporate practical activities. Additionally, aligning CPD programs with teachers' specific needs and challenges, as well as local curriculum and policies, is essential to maximize their impact. Overall, this study underscores the significance of continuous professional development for educators and its direct correlation with improved student performance. As the educational landscape continues to evolve, investing in high-quality CPD programs remains an integral part of promoting excellence in teaching and learning.

Conclusion

In conclusion, the presented findings provide valuable insights into the impact and effectiveness of Continuing Professional Development (CPD) programs for secondary school teachers in Makran Division, Balochistan, Pakistan. The study indicates that participating in CPD programs has positively influenced teachers' knowledge, teaching methods, technology integration, professional growth, and reflection on teaching practices. The programs have been particularly effective in improving knowledge of modern teaching approaches and increasing confidence in assessment and evaluation techniques.

However, there are areas that require attention and improvement. CPD programs showed mixed results in addressing diverse learning needs and creating a supportive and inclusive classroom environment. Additionally, the quality and expertise of facilitators, the level of engagement and active participation during CPD sessions, and the incorporation of practical activities could be further enhanced. Ensuring the relevance of CPD programs to teachers' specific needs and challenges, as well as aligning them with the local curriculum and educational policies, are important considerations.

Furthermore, a hypothesis testing analysis revealed a significant influence of CPD on student performance in secondary schools. The results indicated that CPD positively affected student performance, highlighting the importance of ongoing professional development for teachers.



These conclusions emphasize the overall benefits of CPD programs in improving teaching approaches and professional development among secondary school teachers. They also highlight the importance of continuously refining CPD programs to address specific needs and challenges, enhance facilitator quality, promote active engagement, and align with local educational contexts. By implementing these recommendations, educational institutions and policymakers can ensure that CPD programs effectively support teachers' growth and ultimately contribute to improved student outcomes.

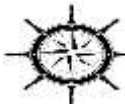
Recommendation of the study

Based on the study's findings, several recommendations are proposed to enhance the effectiveness and impact of Continuing Professional Development (CPD) programs on the teaching approaches of secondary school teachers in the Makran Division, Balochistan, Pakistan:

1: Strengthen and diversify CPD offerings: Based on the positive perceptions expressed by the participants, it is recommended to continue investing in CPD programs. However, efforts should be made to enhance the content and delivery methods of these programs to cater to the specific needs of teachers in Makran Division. Diversifying the range of topics and incorporating innovative pedagogical approaches can further enrich the CPD offerings.

2: Foster collaboration and peer learning: Encouraging collaboration among teachers can enhance the effectiveness of CPD programs. Providing opportunities for teachers to share their experiences, exchange best practices, and engage in collaborative lesson planning can foster professional growth and facilitate the implementation of new teaching approaches. Establishing professional learning communities and organizing regular workshops or seminars can support such collaborative efforts.

3: Tailor CPD programs to address context-specific challenges: The study was conducted in the specific context of Makran Division, Balochistan, Pakistan. Therefore, it is crucial to identify and address the unique challenges faced by teachers in this region. CPD programs should be designed to provide targeted support and resources to address these challenges, such as curriculum adaptations, classroom management strategies, or addressing students' socio-cultural needs.



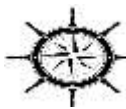
4: Incorporate ongoing follow-up and support: To ensure the sustainability of the impact generated by CPD programs, it is important to provide ongoing support to teachers. This can be achieved through follow-up sessions, mentoring programs, or instructional coaching. Regular feedback and opportunities for reflection should be integrated into the CPD programs to help teachers refine their teaching approaches and continuously improve their professional practice.

5: Conduct further research and evaluation: Continual research and evaluation are essential to assess the long-term impact of CPD programs on teaching approaches. Future studies could focus on measuring student outcomes, exploring the factors that contribute to successful CPD implementation, and identifying any potential barriers or limitations. The findings from such research can inform the refinement and improvement of CPD initiatives in Makran Division and beyond.

By implementing these recommendations, educational authorities and policymakers can ensure the continuous improvement of CPD programs and contribute to the professional development and growth of secondary school teachers in Makran Division, Balochistan, Pakistan.

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