

Professional Development and School Head–Teacher Collaboration in Secondary Schools: Evidence from Sukkur Division, Sindh, Pakistan

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Abstract

The study was concerned with determining the relationship between professional development and collaboration among school heads and teachers at the secondary level of Sukkur Division, Sindh Province, Pakistan. Collaborative efforts by school heads and teachers are crucial in ensuring improvements in school leadership, teaching, and effectiveness of the school system as a whole. Quantitative research design along with a descriptive survey approach were used in conducting the research. The respondents in the study included 333 secondary school teachers and 152 school heads, selected through the stratified random sampling technique. Data was gathered using a structured five-point Likert scale questionnaire while SPSS was used in analyzing the data using descriptive statistics and simple linear regression. Results showed that there was a positive and statistically significant influence of professional development on collaboration between school heads and teachers. Collaboration was found to be a significant predictor of a more collaborative school setting ($\beta = .282$, $t = 3.595$, $p < .001$). Thus, a greater collaboration among school heads and teachers results in enhanced collaborative practices in secondary schools. The study also reveals that professional development is very vital in ensuring that collaboration among school leaders and teachers is enhanced through improved communication, cooperation, trust, and decision-making processes. Moreover, the favorable perceptions held by school leaders and teachers suggest that professional development is an important tool that fosters collaboration in the schools. It is therefore suggested that the education authorities should develop professional development programs that foster collaborative leadership in secondary schools.

Keywords: Professional development; School head–teacher collaboration; Secondary School Teacher; School effectiveness.

Introduction

Professional development and collaboration among the school heads and the teachers have become vital factors for achieving success in school improvement and quality education. Professional development improves knowledge, skills, and competencies of the teachers, whereas collaboration improves communication, trustworthiness, decision making, and cooperation among the stakeholders in order to make schools more effective and efficient organizations (Ullah et al., 2024).

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The quality of secondary education is dependent upon the school leaders' practices and how much collaboration they create with the teachers. Effective school leadership helps to develop a conducive environment where teachers learn continuously and improve their instruction skills along with participating in activities for development of their schools (Chachar et al., 2023; Hallinger, 2011). Professional development becomes possible through mentoring, coaching, professional learning communities, and collaboration among teachers, and it improves teachers' instructional skills and commitment towards education (Goldsmith et al., 2014).

Studies have shown that the impact of professional development depends on organizational variables such as school culture, leadership, and professional collaboration among others (Desimone, 2009; Kershner et al., 2013). Organizations that exhibit good practices in communication, respectful working environment, and leadership styles are better able to engage teachers, build strong professional relations, and enhance teaching and learning activities. Thus, the integration of professional development and collaborative leadership promotes school improvement.

Despite the availability of numerous studies showing how effective schools are, schools in Pakistan still encounter several issues in terms of inadequate professional development practices, poor collaboration, and low instructional leadership (Ullah et al., 2024; Bashir & Khalil, 2017). As collaborative leadership becomes increasingly crucial, studies that establish the link between professional development and collaboration of school head-teachers are very limited, especially regarding secondary schools. It is in this light that this research attempts to explore the impact of professional development on collaboration between school heads and teachers in secondary school.

Literature Review

Teacher Professional Development

Professional development of teachers (TPD) refers to a life-long process through which teachers build on their knowledge and professional skills. Well-planned professional development activities go beyond a single training activity, but involve learning experiences that continue over time, are collaborative in nature, and are based on practice and aimed at enhancing teaching and learning processes (Chachar et al., 2023). Research evidence suggests that proper professional development allows teachers to use innovative strategies for instruction, manage their classes effectively, and boost their learners' academic performance (Darling-Hammond et al., 2017). Professional learning also strengthens teachers' confidence, reflective practice, and commitment to educational improvement (Ullah et al., 2024).

School Head–Teacher Collaboration

Collaboration of the school head with teachers means the professional cooperation of the management of the school with its teachers, marked by trust, good communication, joint decision-making, and joint responsibility for the accomplishment of school objectives (Ullah et al., 2026). A collaborative school environment fosters cooperation among people, discussions about professional issues, and joint problem solving, which results in high motivation among teachers and organizational effectiveness (Hallinger, 2011).

Professional Development and School Head–Teacher Collaboration

There is a high degree of interconnectedness between professional development and the collaborative work between the school head and teachers. School heads have a crucial part to play in ensuring professional development among teachers through instruction, mentorship, coaching, and collaborative learning (Kim & Lee, 2020). It has been found from research that professional development is effective in collaboration with collaborative leadership as this develops collaboration, communication, and trust-building between the school heads and teachers (Jacob et al., 2017). The same has been proved by Goldsmith et al. (2014) and Wallace, M. R. (2009.)

Effect of Professional Development on the Academic Performance of Students

Professional development had been considered for its effect on the performance of students. According to the study carried out by Ullah & Almani (2022), there was a positive influence of teaching skills on student performance and proficiency. Powell et al. (2016) disclosed important developments in the parts of reading and mathematical competency. Amiri (2021) and Baloch et al. (2024) further demonstrated this positive association, noting that these effects remain consistent across different educational contexts and assessment environments.

Teacher's professional knowledge and academic performance

The findings of the current study indicate a favorable correlation between students' academic achievement and instructors' professional expertise. According to Burroughs et al. (2019) and Ullah et al., (2024) encompasses both general material and pedagogical expertise, both of which have an impact on student results. Research from the United States, including studies by Metzler and Woessman (2012), indicates a favorable correlation between math proficiency and teachers' cognitive abilities. On the other hand, Blomeke et al. (2016) link professional expertise to improved material preparation and teaching quality. This relationship is recognized by researchers and scholars worldwide. A study by Gustafsson and Nilson (2016) said that teachers' professional skills and student outcomes vary between studies and environments.

Research Gap

Despite extensive international research on teacher professional development and educational leadership, limited empirical evidence exists on how professional development influences school head–teacher collaboration in Pakistan, particularly in secondary schools. In most cases, research carried out in the past has looked at either instructional leadership or the effectiveness of teachers, and few studies have been done on the correlation between professional development and collaboration. Thus, this study is an attempt to investigate how professional development impacts collaboration between school heads and teachers in secondary schools.

Statement of the Problem

Professional development is highly important for improving the knowledge of teachers, teaching methods, and efficiency of the entire school. Likewise, an effective collaboration between the head of the school and teachers can help in developing communication, trust, cooperation, and collective decision making, which result in better functioning of the school. While there have been many studies on professional development programs in Pakistan, few researchers have explored the impact of professional development programs on the collaboration between the school

head and teachers in the secondary schools of Sukkur Division of Sindh. Hence, the need arises to find out if professional development plays any role in developing the collaboration between school head and teachers.

Research Objectives

To examine the impact of professional development on collaboration between school heads and teachers in secondary schools.

To assess the level of collaboration between school heads and teachers in secondary schools.

Hypothesis of the Study

H₀₁: Professional development has no statistically significant impact on collaboration between school heads and teachers in secondary schools.

Significance of the Study

The current research is important since it gives empirical proof regarding the link between professional development and cooperation of the school heads and teachers. The results obtained from this research will help policy makers, education managers, heads of schools and teacher education institutions in designing professional development programs aimed at promoting cooperation in schools. Furthermore, this research will be helpful in contributing to the existing literature and will be a good source of information for future researchers in the field of educational leadership and teacher professional development.

Research Method

This study used a quantitative research methodology in which the descriptive-regression research design was adopted to investigate the impact of professional development on school head-teacher collaboration in secondary schools in Sukkur Division of Sindh province, Pakistan. The use of the quantitative methodology was considered suitable for the study as it allowed the gathering of numerical data and the statistical analysis of the impact of professional development on school head-teacher collaboration.

The study was carried out among secondary school teachers and secondary school heads in public secondary schools in Sukkur, Khairpur, and Ghotki districts. A total of 333 secondary school teachers and 152 secondary school heads were chosen by means of the appropriate sampling technique to provide a proper representation of the study population.

Analysis of the data collected in the research was done using Statistical Package for the Social Sciences (SPSS). Frequency, percentage, mean, and standard deviation were applied as descriptive statistics tools in analyzing the demographics and research variables of the respondents. Simple linear regression analysis was carried out to determine how much professional development predicts school head-teachers' collaboration. These findings reveal empirical proof concerning the effect of professional development on the collaboration of school heads and teachers in secondary schools in Sukkur Division, Sindh, Pakistan.

Validity and Reliability of the Research Instrument

The questionnaire was evaluated by professionals who had expertise in educational research in order to check its content validity. The researcher conducted a pilot test for checking the reliability of the instrument; in addition, Cronbach's Alpha was used to determine the internal consistency of the instrument. The findings showed that the instrument was reliable and fit for collecting data.

Data Analysis

The data collected were analyzed by the help of SPSS software. The descriptive statistical measures used for summarizing the respondents' characteristics and their responses included frequencies, percentages, mean, and standard deviation. In addition, simple linear regression analysis was used to test the effect of professional development on head-teachers' collaboration.

Table: 1 Reliability Statistics for the Head teachers' and Teachers' Questionnaires

Variables	Items	Cronbach's Alpha
Assess Collaboration Between School Heads and Teachers	5	.757
Effects of Tailored Professional Development	5	.738
Collaboration Between School Heads and Teachers	5	.842
Effects of Tailored Professional Development	5	.742

Table 2: Head teacher respondents regarding Assess Collaboration Between School Heads and Teachers.

	N	Mean	Std. Deviation
There is a strong sense of collaboration between school heads and teachers at our school.	152	4.03	.959
School heads and teachers regularly communicate about professional development needs.	152	3.92	1.077
Teachers feel supported by school heads in their professional growth.	152	3.80	1.128
There are formal structures in place to facilitate collaboration between school heads and teachers.	152	3.93	.994
Collaboration between school heads and teachers has a positive impact on student outcomes.	152	3.89	1.043

As shown in Table 2, the head teachers showed positive perceptions on the issue of collaboration between school heads and teachers with the mean score varying between 3.80 and 4.03. The strongest level of agreement existed on the issue of existence of a high level of collaboration (M=4.03, SD=0.959) while the least level of agreement existed on the issue of teachers being supported in terms of professional development (M=3.80, SD=1.128).

Table 3: Head teacher respondents regarding Effects of Tailored Professional Development

Item Statistics			
	N	Mean	Std. Deviation
Tailored professional development programs have improved individual teachers' collaboration with school heads.	152	3.97	.993
Teachers find that individualized professional development meets their specific needs better than general programs.	152	3.98	.931
School heads play an active role in tailoring professional development to teachers' needs.	152	4.02	.959
Tailored professional development programs foster a greater sense of community and collaboration within our school.	152	3.88	1.018
Individualized professional development has resulted in significant improvements in teaching practices.	152	4.05	.916

According to Table 3, it is clear that there were positive attitudes from the head teachers concerning the impacts of customized professional development, where the mean scores varied between 3.88 and 4.05. The most accepted attitude was related to the fact that customized professional development has enhanced teaching practices ($M = 4.05$, $SD = 0.916$) while the least accepted one was about customized professional development that has built greater community spirit and collaboration ($M = 3.88$, $SD = 1.018$).

Table 4: Teacher respondents regarding Collaboration Between School Heads and Teachers.

Item Statistics			
	N	Mean	Std. Deviation
There is strong collaboration between school heads and teachers at my school.	333	4.04	1.017
School heads actively seek input from teachers on school matters.	333	3.76	1.185
Collaboration between school heads and teachers is effective in my school.	333	3.86	1.158
School heads and teachers work together to solve problems.	333	3.93	1.096
There is mutual respect and trust between school heads and teachers.	333	3.79	1.163

Table 4 shows that teachers had positive perceptions regarding collaboration between school heads and teachers, with mean scores ranging from **3.76 to 4.04**. The highest agreement was for the statement that there is strong collaboration between school heads and teachers ($M = 4.04$, $SD = 1.017$), while the lowest was for school heads actively seeking teachers' input on school matters ($M = 3.76$, $SD = 1.185$). Overall, the findings indicate that teachers perceive a positive collaborative relationship characterized by teamwork, mutual respect, and effective problem-solving within their schools.

Table 5: Teacher respondents regarding Effects of Tailored Professional Development.

Item Statistics			
	N	Mean	Std. Deviation
Tailored professional development programs meet my specific needs as a teacher.	333	3.99	1.127
Individualized professional development has enhanced my collaboration with school heads.	333	3.90	1.019
I prefer tailored professional development overgeneral programs.	333	3.99	1.113
Tailored professional development has improved my teaching practices.	333	3.77	1.180
My relationship with school heads has strengthened due to individualized professional development.	333	4.17	.875

Table 5 indicates that teachers had positive perceptions regarding the effects of tailored professional development, with mean scores ranging from 3.77 to 4.17. The highest agreement was for the statement that individualized professional development strengthened their relationship with school heads ($M = 4.17$, $SD = 0.875$), while the lowest was for tailored professional development improving teaching practices ($M = 3.77$, $SD = 1.180$). Overall, the findings suggest that tailored professional development enhances teacher–school head relationships, meets teachers' professional needs, and contributes positively to collaboration and instructional improvement.

Hypothesis Testing

H₀: there is no significant level of collaboration between school heads and teachers in Sukkur Division, Sindh.

Assess Collaboration Between School Heads and Teachers

This table evaluates the relationship between collaboration between school heads and teachers and the perception of a strong sense of collaboration in schools. Below is the academic interpretation.

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.282 ^a	.079	.073	.923

a. Predictors: (Constant), Collaboration school head and teachers

The model summary shows a positive relationship between collaboration between school heads and teachers and the perception of a strong collaborative environment ($R = .282$). The predictor explains 7.9% of the variance ($R^2 = .079$), indicating a modest effect. Overall, the findings suggest that greater collaboration between school heads and teachers contributes to a stronger collaborative environment in schools.

Table 7: ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.013	1	11.013	12.924	.000 ^b
	Residual	127.822	150	.852		
	Total	138.836	151			

a. Dependent Variable: There is a strong sense of collaboration between school heads and teachers at our school.

a. Predictors: (Constant), Collaboration school head and teachers

The ANOVA results show that the regression model is statistically significant ($F(1, 150) = 12.924$, $p < .001$). This indicates that collaboration between school heads and teachers significantly predicts the perception of a strong collaborative environment in schools. Therefore, the regression model is a good fit for explaining the relationship between the predictor and the dependent variable.

Table: 8 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	2.445	.448		5.459	.000
	Collaboration school head and teachers	.395	.110	.282	3.595	.000

a. Dependent Variable: There is a strong sense of collaboration between school heads and teachers at our school.

The coefficients table indicates that collaboration between school heads and teachers has a positive and statistically significant effect on the perception of a strong collaborative environment ($\beta = .282$, $t = 3.595$, $p < .001$). The unstandardized coefficient ($B = .395$) shows that a one-unit increase in collaboration is associated with a 0.395-unit increase in the perception of strong collaboration. Overall, the findings confirm that stronger collaboration between school heads and teachers significantly enhances the collaborative environment in schools.

Results and Discussion

The findings of this study indicate that both head teachers and teachers perceived collaboration between school heads and teachers positively. There were also high levels of agreement by head teachers on the presence of collaboration, regular communication on professional development needs, supportive leadership and contribution of collaboration to student achievements. The mean scores were between 3.80 and 4.03. On the other hand, teachers had positive attitudes towards collaboration with mean scores between 3.76 and 4.04 suggesting that collaboration, respect and teamwork exist among secondary school teachers.

In addition, tailored professional development was positively received by both groups of respondents. There was agreement by head teachers on individualized professional development which improved collaboration with teachers, satisfied the needs of teachers and improved teaching ($M = 3.88-4.05$). In the same way, teachers had positive attitudes about tailored professional

development which helped to improve their relationship with school heads, satisfy their professional needs and collaborate and teach effectively ($M = 3.77-4.17$). These findings suggest that professional development programs designed according to teachers' needs contribute to stronger professional relationships and more effective teaching.

Regression analysis showed that the cooperation among school principals and teachers significantly predicted the presence of a conducive collaborative culture ($R = .282$, $R^2 = .079$, $F(1,150) = 12.924$, $p < .001$). The standardized regression coefficient ($\beta = .282$, $t = 3.595$, $p < .001$) demonstrates that more cooperation creates a conducive collaborative atmosphere in schools. Despite explaining 7.9% of the variance, the results indicate that collaboration plays an essential role in creating better relationships and organizational efficacy. The above results are aligned with other researchers, who suggest that collaboration between school administrators and teachers contributes to professional learning, decision-making, and school improvement. By offering customized professional development opportunities, teachers learn the necessary skills, and trust, cooperation, and communication develop between school leaders and teachers. Therefore, building collaborative leadership and offering need-based professional development can positively influence the quality of instruction and school efficiency.

Conclusion

Conclusively, this study has found out that collaboration between school principals and teachers is an important determinant for the creation of a conducive school environment. Both school heads and teachers have expressed positive attitudes towards collaboration, pointing to the need for communication, respect, decision making and professional growth as factors contributing to school effectiveness. Furthermore, the research has shown that customized professional development interventions are very effective in meeting the professional needs of teachers, collaboration with school heads, professional relationship development and teaching. Regression analysis has revealed that collaboration between school heads and teachers greatly contributes to the creation of a collaborative environment. While the explanatory power of the model may not have been very strong, the results highlight the fact that cooperation is still one of the key factors in making improvements at a school level. Generally speaking, the research finds that building a cooperative style of leadership and conducting professional development activities based on needs can help foster teacher growth and organizational effectiveness.

Recommendations

Based on the findings of the research, the following recommendations are proposed:

1. The head of the school should encourage the creation of a collaborative school culture through effective communication and working together among the teaching staff.
2. The education policymakers should come up with appropriate professional development strategies that would meet the needs of the teachers.
3. School leaders need to engage the teachers in assessing the professional development needs and the training programs that will help them grow professionally.
4. Effective collaboration between school leaders and teachers should be ensured through mentorship and peer learning.

5. Appropriate resources should be provided for the sustainable professional development program.

Implications of the Study

The conclusions of this study indicate that collaborative leadership and professional development are required for building healthy relations among school principals and teachers. This study has provided valuable information for policy makers and school managers to design professional development programs according to needs and facilitate collaboration so as to benefit the professional development of teachers and improve secondary education.

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