



Significance of Teacher Training Programs on Teacher Motivation, Professional Development and Self-Efficacy

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ABSTRACT

This research shows how teacher training programs (TTPs) for secondary school teachers can influence the motivation, professional development and self-efficacy of the educators. There were three primary goals of this study; the first objective of this research was to examine the impact of TTPs on the motivation levels of teachers, the second purpose of this investigation was to evaluate the impact of TTPs on the professional development of educators and the final objective of the study was to examine the effects of TTPs on teachers' self-efficacy. For this study, a survey was used as a primary method of collecting information. 340 teachers in private and public schools across Punjab, Pakistan, were surveyed using a self-made questionnaire. The results of the questionnaire were examined statistically. Teachers are motivated to attend these workshops because they know it will help them develop professionally and personally. The study found that TTPs were highly beneficial in motivating teachers, helping them grow professionally and improving their self-efficacy. Therefore, this study argues that TTPs hold significant importance in facilitating the growth and development of secondary school teachers.



Introduction

Training teachers is an ideal approach to impart expertise, abilities, and motivation to those who will be passing it on to students. It's a way to maintain learning for individuals who've already committed to their future in education and obtained their credentials. But to what extent do we define "teacher training" in this context? It's a methodical action plan designed to improve teachers' knowledge, skills, and perceptions (Koellner & Greenblatt, 2018). As, TTPs aim to improve the curriculum expertise, job skills, and motivation of educators. That's why given the pivotal role of a teacher in the classroom, the degree of their motivation can significantly impact the learning potential of their students. And it is imperative that TTPs offer educators ongoing opportunities for professional development as well as constant motivation (Gorozidis & Papaioannou, 2014). Hence, TTPs hold significant importance and it can be conducted in a variety of contexts including meetings, training courses, formal or informal discussions, and other meetings. Like the World Health Organization, several other global entities also provide guidance, support and funds for TTPs. In Pakistani universities, TTPs are less widespread in the university sector than it is in the K-12 sector. And in K-12 sector, TTPs may be found in every kind of school, both public and private. There are several national institutes that offer arrangements with these schools to offer TTPs.

Considering the significance of teaching training programs nationally and internationally, we can claim that educating teachers at the K-12 level improves their knowledge, skills, and enthusiasm. As a result, training programs leave favorable impacts on educators, making teacher training an essential technique for enhancing teacher motivation and ensuring professional development and self-efficacy. So, teacher motivation, professional development and self-efficacy are critical variables in maintaining a successful teaching process. Therefore, it may be beneficial to acquire knowledge about the significance of TTPs regarding teachers' motivation, professional development and self-efficacy. So, this research investigates the effectiveness of TTPs for teachers' motivational, professional development and self-efficacy. And the findings might be useful for administrators and training providers in their efforts to improve TTPs. Furthermore, the study's findings might also be applied to the question of what features of TTPs are most beneficial to teachers and what is the widespread opinion of the faculty toward these TTPs. This research might be valuable to academicians and politicians interested in examining and upgrading educational system

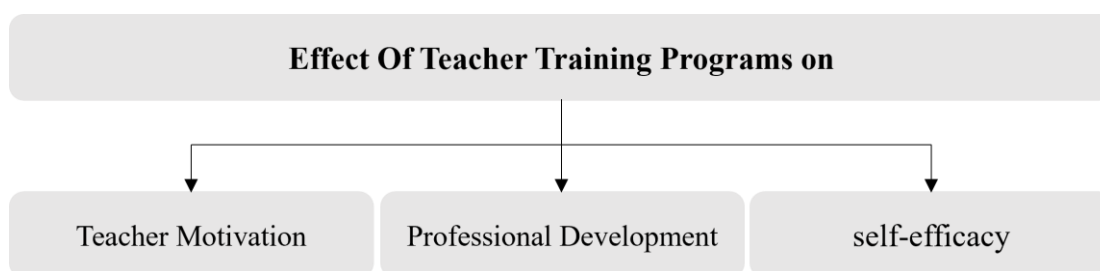


Figure 1: Conceptual framework of effect of TTPs.

Literature Review

Teacher Training

Teacher training refers to a comprehensive range of programs aimed to enhance both educational and professional abilities of teachers (Omar, 2014). It is widely accepted that teachers are the backbone of any successful educational system (Szucs, 2009). So, teacher training can be summed up as "programs and activities designed to help teachers to improve their skills and expertise" (Osamwonyi, 2016). Junejo et al (2017) argues for the carrying out of regular TTPs, because consistent investment in teachers is essential for enhancing their capabilities. Fisher (2013) stated that teacher need to be taught new abilities if they are to deal with a generation who is also learning beyond school boundaries. Additionally, teacher training is important to learn novel educational strategies, technological advancements, and emerging tendencies in education and implementation of these advancement and trends in their own classrooms (Ramatlapan, 2009). Jahangir et al. (2012) stated that teacher training is a systematic and effective approach to enhancing views and actions of teachers to provide a high-quality education. According to the findings of Ekpoh et al (2013), a significant difference exists between teachers with and without formal teacher training regarding their teaching approaches, subject-specific knowledge as well as evaluation strategies. So, according to Omar (2014), TTPs play a pivotal role in enhancing the teachers' performance within the classroom. TTPs influence positively on the teachers' beliefs, according to Nawab (2017); however, there are some obstacles that make progress difficult to the teachers for the implementation of learned concepts in the classrooms. It has been pointed out that to get the better performance of teacher, teacher training is not only itself vital, but it also provide administrative, professional, and financial assistance (Hussain & Ali, 2010).

Schunk, Meece, and Pintrich (2002) also argue that training programs make a considerable contribution in upgrading the quality of education. Based on research by Zimmerman et al (2000), we can say that an educator has a greater impact on their students and provide to help them in a variety of ways; because teacher who have participated in a variety of training programs have improved awareness, broadened perspective, and evolved into inclusive practitioners. According to Kazmi, Pervez, and Mumtaz (2011), training programs equip educators with the ability to utilize rational and systematic approach in the classroom. That is why Sim (2011) argues that TTPs have the following benefits:

- Enhance teacher ' expertise.
- Develop optimistic values.
- Improve methods & skills.

Sim (2011) stated that primary goal of TTPs is to foster conditions conducive to the development of competent classroom practitioners. Teachers gain competence, knowledge, ability, and self-assurance owing to training programs, as investigated by Essel, Badu, Owusu-Boateng, and Saah, 2009. But this is not all

about the TTPs and their impact on the educators. So, in this study we propose the effect of TTPs on teacher's motivation, professional development and self-efficacy.

Teacher Training and Teacher Motivation

Most individuals think of motivation as something that drives them to act in certain ways (Weiner, 2012). According to the researchers Taylor and Cranton (2012) the real definition of teacher motivation is something that motivates someone to teach, remain in the teaching profession, and come up with inventive teaching methods. Motivation serves the primary element in learning and teaching activities (McDonald, 2011), and the most important factor that should be thoroughly examined (Dörnyei & Ushioda, 2013). Anyone's success is driven by motivation, which serves as a success catalyst (Vasantham & Swarnalatha, 2016); however, extensive research has been done on motivation in schooling (e.g., Butler, 2007; Ryan, 2019). But, teacher's motivation requires more investigation.

Han & Yin (2016) often divide teacher motivation in two categories; preservice and in-service motivation for teachers, and we will discuss here the latter category. It has been noted that the elements that affect in-service teachers' motivation are acquiring precise and reliable educational contents, creative instruction techniques, management strategies and disciplinary approaches within class (Renata et al, 2018). Furthermore, Packard & Dereshiwsky (1990) argues that the factors that have been identified as influential variables for teacher motivation include the establishment of suitable professional relations, the provision of professional guidance and direction, as well as teacher assessment. Motivational phenomena may also be explored by analyzing the factors that contribute to demotivation. Dörnyei and Ushioda (2013) have divided demotivational forces into five distinct categories that may involve limits on teachers' autonomy, stress, a poor career plan, a lack of self- efficacy, content repetition and restricted opportunities for professional growth. Although Addison and Brundrett (2008) also noted the importance of teacher motivation in the educational process is frequently disregarded. In all theoretical viewpoints, such as expectation theory, equity theory, job enrichment theory, etc., teacher motivation can be observed (Bluestone, 2013). Wlodkowski and Ginsberg (2017) have discussed a strategy for the motivation of teachers for academic environments, with emphasis on the conditions that provide meaning, enthusiastic perspective, professionalism, and performance-based focus.

In their investigation into the moral preparation of teachers in Pakistan, Sahar et al. (2019) argue that moral education of teachers has a significant impact on teacher motivation. In support of the same notion, Gorozidis and Papaioannou (2014) draw our attention to the fact that teachers find motivation as they're eager to learn new teaching techniques and they want to educate using creative methods. Nonetheless, a comprehensive approach is needed to examine teacher motivation through TTPs.

Teacher Training and Professional Development

According to the literature (Avalos, 2011; McDonald, 2009, 2010, 2011), professional development is the systematic approach of enhancing teacher's beliefs and practices, knowledge, and motivation to improve teacher personality development for learning outcomes of students. Desimone and Garet (2015) propose five characteristics of professional development that are widely agreed upon as essential to its success: (a) content focus: tasks that focus on the acquisition of subject-related information and methods used to teach it; (b) active learning: possible methods for educators to engage all students especially inactive participants during classes (c) coherence: consistency with syllabus and objectives, teachers' expertise, students' requirements and federal strategies; (d) long-term: professional development programs that run continuously for at least 20 contact hours throughout the academic year; (e) collective involvement: when instructors collaborate to work together in professional development tasks to form a collaborative group (Desimone & Garet, 2015).

Professional development has a significant effect on attitudes and behaviors of educators, pedagogical shifts, and student achievement (Villegas-Reimers, 2003). Guskey (1986) observed that the quality of teacher training significantly impacts the results of professional development. Like Guskey, Kirkpatrick (1994) places considerable importance on the teachers' actions, process of learning, and the transfer of knowledge. Additionally, the author acknowledges the inclusion of other elements, such as the learning outcomes of the pupils, transformation, and organizational aid. According to research done by Frase (1992), teachers are inspired to do their jobs successfully by their desire of their students' success, stability of a predictable work environment (including rules and procedures), and the improved teaching materials, better teaching methods and their personality development through professional development and hard assignments. Research (Taylor & Cranton, 2012) shows that achieving professional development through teacher training is more effective when teachers have a strong desire to grow personally and professionally. Nzariirwehi and Atuhumuze's (2019) study in the context of Uganda demonstrates that teacher training improves their competence, efficiency, enthusiasm, and professionalism. In a similar vein, research of

teachers' perceptions on TTPs for professional development Bhutto (2018) states that collaborative methods of teacher training utilizing interactive tools, have assisted instructors in improving the professional, career and personality development that bring positive change in institution, student outcome and management effectiveness. That is, rather than viewing teachers' training as a series of isolated and unrelated tasks, it is argued that teacher training should include all the knowledge and experience they have obtained during their careers. Teachers at every level of their careers benefit from professional development because it helps them acquire and hone the knowledge, skills, and interpersonal dispositions they need to do their jobs well with students of all ages and with their fellow educators. To ensure that all students have access to a quality education and are provided with fair and equitable learning opportunities and outcomes, professional development studies have recently concentrated on expanding our understanding of how to improve teacher quality and classroom effectiveness in a setting where student diversity is on the rise (Knight e, 2015). However, further investigation is required to gain a comprehensive understanding of the professional development phenomenon, for instance, teacher training has been strongly associated with both teacher motivation and professional development (McDonald, 2011); nonetheless, such framework is frequently disregarded (Addison & Brundrett, 2008).

Teacher Training and Self-Efficacy

Armitage and Conner (2001) define self-efficacy as the belief that one can control one's own conduct through the manipulation of internal emotional states like optimism and dread. Existing classroom tactics for fostering students' critical thinking abilities appear ineffective (Ramirez & Ganaden, 2008) because of low self-efficacy of the teachers (Thijs et al., 2014). The ability to believe in one's own abilities to teach is correlated with success in the classroom (Armitage & Conner, 2001; Bandura, as cited in Nordlöf et al., 2017). One area of study in educational psychology over the past two decades has been assessing the efficacy of teachers' professional development, enhancing teachers' self-efficacy, intellectual and subject-related expertise, and methodology of instruction and in contributing to teachers' interpersonal, societal, and cognitive wellness.

Methodolog

Research Questions

This investigation will address the following questions:

1. Effect of TTPs on teacher's motivation.
2. Impact of TTPs on professional development of the teachers?
3. Influence of TTPs on teacher's self-efficacy?
4. Is there any gender-based difference regarding motivation and professional development because of TTPs?
5. Is there a distinction between teacher motivation and professional development owing to TTPs in public and private schools?

Research Design

This is causal comparative research to investigate the effect of TTPs on teacher's motivation, professional development and self-efficacy. Quantitative research method was used in the study. Moreover, it was a survey designed research study. As, the use of a questionnaire allows researchers to efficiently gather data from a diverse and extensive sample population (Leedy & Ormrod, 2001); so, a questionnaire was employed to gather data for this study.

Population and Sampling

Participants in the research were teachers from various schools in the Sheikhpura, Punjab, Pakistan. These teachers were employees of different public and private schools and received professional TTPs. Likewise, the study population included individuals of both genders from both private and public schools. The population was divided into two distinct categories. These categories were established according to educational systems, namely public-school and private-school teachers, both systems exhibit distinct kinds of TTPs. Furthermore, data was collected from both male and female teachers. In all, there were 340 teachers, with 175 working in private schools and 165 were employees of public schools. Moreover, the research involved a total of 197 male teachers and 143 female teachers from each respective group. All these teachers exhibit varying levels of teaching experience, spanning from 1-23 years, with ages ranging from 23-50 years.

Instrument

In this study, a questionnaire, consisting of many queries, is utilized aimed at investigating the aspects that influence teachers' motivation, their professional development and self-efficacy via TTPs. The questionnaire had a Likert-type scale with five levels that allowed participants a wider range of response alternatives beyond a simple binary choice of "yes" or "no". A portion of the queries were devoted

specifically to teacher motivation, whereas other questions focused on teachers' professional development and self-efficacy. A five-point rating system was utilized requiring participants to select their preferred option, such as; very low, low, moderate, high and very high. It was a paper-and-pencil questionnaire as well also online; so, the respondents were required to complete the questionnaire using a physical written format as well as online.

Validity of the Instrument

The researchers discussed the instrument's content validity with other researchers and subject-matter experts. After the debate, some revisions to the questionnaire were made. Nearly all the teachers expressed satisfaction with the questionnaire's language and general understanding of the questions.

Results And Findings

Descriptive Analysis

"Descriptive analysis" is related to the calculation of data via evaluation of its frequency distribution. It is calculation of the frequency, means, proportion, or percentage of data from several perspectives. Stone et Al, (2008) states that using this method, researchers may examine deeper into the characteristics and details of the demographic data of their study. From a specific perspective, *Table 1* provide a descriptive analysis of the participants involved in the present study.

Table 1: Descriptive Analysis

Gender of Teachers		
Gender	Frequency	Percent
Male	197	57.9
Female	143	42.1
Institute		
Public	165	48.5
Private	175	51.5
Experience of Teachers		
Less than 1 year	81	23.8
2 to 4 years	70	20.6
5 to 9 years	86	25.3
10 to 15 years	96	28.2
Above 20 years	7	2.1
Total	340	100.0

Table 1 presents the overall count of participants (teachers) i.e. 340; 197 were male (58 %), 143 were female (42 %), it also demonstrates the types of institutes (public/private) of teachers were counted for this study. From this perspective, 165 (49 %) were public school teachers and 175 (51 %) were private school teachers. Moreover, experiences of these participants may be categorized into five different categories; 1=less than 1 year are 81 (28.8 %) teachers, 2=2 to 4 years are 70 (20.6 %) teachers, 3=5 to 9 years are 86 (25.3 %) teachers, 4=10 to 15 years are 96 (28.8 %) teachers and 5= above 20 years are 7(2.1 %) teachers. Nevertheless, the largest number of participants (28.2%) belonged to the fourth category, indicating 10-15 years of experience. Conversely, the fifth category, teachers with more than 20 years of experience, had the smallest percentage (2.1% only). It is reasonable to say that significant amount of teachers had at least 15 years of teaching experience.

Reliability Analysis

Table 2: Reliability of the factors of the Questionnaire

Sr. No.	Name of Factors	Number of Items	Cronbach Alpha Value
1	Teacher Motivation	10	0.796
2	Professional Development	9	0.793
3	Self-Efficacy	10	0.790

In this study, reliability of data is checked using Cronbach's Alpha, a feature of SPSS. The reliability evaluation examines the validity and accuracy of the provided input provided by the participants. If the findings are more consistently presented a better level of accuracy will be identified. The finding is considered to have adequate consistency when Cronbach's Alpha is in the range of 0.7 and If the value of Cronbach's Alpha exceeds 0.7, it indicates that the accuracy of the is greater than the acceptable threshold. Cronbach's Alpha value has been determined $\cong 0.7$ which is in the acceptable range. The factors-wise

reliability revealed that 1st component has $r=0.79$ and 3rd component exhibits $r=0.7$ while 2nd component has $r=0.693$ which is near to 0.7 (Table 2).

Analysis Of Teacher Motivation

Table 3: Dimension of Teacher Motivation

Sr. No.	Statement	Mean	SD	Level
1	Teachers can cope with challenges after training	3.68	0.444	High
2	Teachers are effective on their students and institution because of TTPs.	3.41	0.350	High
3	Teachers enjoy the educational practices	3.57	0.341	High
4	Lack of teachers' experience is a major issue	3.13	0.398	Moderate
5	TTPs helps to infuse/refresh motivation	3.50	0.373	High
6	Teachers try to enhance their further knowledge after TTPs	3.71	0.392	High
7	Teachers are preparing their students for practical life	3.60	0.312	High
8	Through TTPs, our teachers are globalized	2.92	0.511	Moderate
9	Teachers use informal sources for their knowledge	3.37	0.380	Moderate
10	Faculty can use modern tools	3.39	0.403	Moderate

Table 3 displays questions regarding effect of TTPs on teachers' motivation. The overall mean value ($M=3.42$) determined that the teacher's training program recognizes the teacher motivation to a high. Further deep study on the items shows that with TTPs, teachers can cope with challenges after training ($M=3.68$), teachers are effective on their students and institution ($M=3.41$) and teachers who enjoy the educational practices ($M=3.57$) have been found to be high. However, the lack of teachers' experience is a major issue ($M= 3.13$) is scored as moderate. Moreover, helps to infuse/refresh motivation ($M=3.50$), teachers try to enhance their further knowledge after TTPs ($M= 3.71$) and teachers are preparing their students for practical life ($M=3.60$) is rated as high. While, by teacher training, our teachers are globalized ($M=2.92$), teachers use informal sources for their knowledge ($M=3.37$) and faculty can use modern tools ($M=3.39$) exhibit a moderate mean score. The overall mean score of teacher motivation shows that TTPs are effective in improving teachers' motivation, but there is a need for more modern tools and approaches.

Analysis of Professional Development

Table 4: Dimension of Professional Development

Sr. No	Statement	Mean	SD	Level
1	Teachers come to class with the preparation and content of the lesson	3.46	0.333	High
2	Teachers return students' homework and tests after they check	3.53	0.337	High
3	Teachers are provided with proper time for training	3.48	0.275	High
4	Teachers are helpful in students' educational and personality-building	3.45	0.222	High
5	Teachers are provided with proper time for training	3.62	0.229	High
6	Training centers help to make teachers effective	3.49	0.277	High
7	Training is necessary for all types of teachers	3.53	0.366	High
8	By teacher training, we can overcome our deficiencies	3.47	0.244	High
9	Through teacher training, we can make our teachers an effective teacher	3.56	0.383	High

Table 4 shows questions are being ask regarding to know the impact of professional development due to TTPs. Mean value ($M=3.51$) revealed that through teachers' training, the professional development of the teachers is found high. Further deep study on the items shows that with TTPs, all scores is rated as high for all the questions for professional development. For example, teachers come to class with prepared lesson content (3.46), return the homework/tests to the student after checking (3.53) and for all other questions the

mean score was found to be high. The overall mean score shows that TTPs is effective in improving teacher's professional development.

Analysis Of Self-Efficacy

Table 5: Dimension of Self-Efficacy

Sr.no	Statement	Mean	SD	Level
1	Mentoring, peer observation and coaching as a part of formal school arrangements.	3.54	0.435	High
2	Skills to handle students of higher intelligence	3.55	0.350	High
3	Effective leadership	3.56	0.338	High
4	Team building	3.18	0.398	Moderate
5	Courses for recovery strategies and learning difficulties	3.39	0.366	Moderate
6	TTPs influence the grade of students also	4.11	0.392	High
7	Group work is emphasized in the institution	3.39	0.318	Moderate
8	TTPs enhance clarity of the goal and purpose	3.92	0.511	High
9	Does the principal has the ability to bring necessary change	3.88	0.374	High
10	Teachers are loyal to their job and responsibility	3.69	0.403	High

Table 5 shows the questions regarding TTPs and their effect on teachers' self-efficacy. Mean value (M=3.62) determined that influence of teachers' training programs on teachers' self-efficacy was found to be high. Further deep study on the items are also presented here. Researchers have discovered that through teacher training, Mentoring, peer observation and coaching as a part of formal school arrangements (M=3.54), skills to handle students of multiple intelligences (M=3.55) and effective leadership (3.56) have been found high. While, for items, team building (M=3.18) and courses for recovery strategies and learning difficulties (M=3.39) is rated as moderate. Furthermore, TTPs influence the grade of students also (M=4.11) are scored as high. For the items, group work is emphasized in the institution (M=3.39) has been observed moderate. Furthermore, TTPs enhance clarity of the goal and purpose (M=3.92), ability of the school principal to bring necessary change (M=3.88) and teachers loyal to their job and responsibility (M=3.69) have been rated as high. The overall mean score of self-efficacy shows that TTPs are effective in improving teachers' self-efficacy.

Relationship between Gender and Teaching Training Programs

Table 6: Gender-Wise Variation Factors of TTPs

	Gender	N	Mean	SD	df	t	p
Teacher Motivation	Male	197	3.22	0.201	338	-0.638	0.014
	Female	143	3.62	0.189			
Professional Development	Male	197	3.57	0.187	338	-1.019	0.034
	Female	143	3.45	0.109			
Self-Efficacy	Male	197	3.51	0.109	338	-0.661	0.019
	Female	143	3.73	0.254			
				0.134			

Note: N= No. of respondents, t= t-value, p= probability

Table 6 demonstrates that there are differences in teacher training opinions on teacher motivation based on their gender. For teacher motivation, females (M=3.62) have a mean core that is more than males

(M=3.22). Moreover, there is no significant gender-based changes observed in the TTPs and professional development, as determined by a significance level of 0.05, i.e., $df(338)$, $p = 0.014$. Additionally, the study reveals differences in teacher training perspectives toward professional development, which are influenced by gender. For professional development, males (M=3.57) have a mean score that is more than females (M=3.45). Moreover, there is no big difference between the gender of teacher training and professional development at the 0.05 level of significance, i.e., $df(338)$, $p = 0.034$. It also demonstrates that there are several diverse perspectives on teacher training and self-efficacy based on their gender. Female (M=3.73) has been rated higher mean score than male (M=3.51). Moreover, there is a little difference between the gender of teacher training and self-efficacy at the 0.05 level of significance, i.e., $df(338)$, $p = 0.019$.

Relationship Between Institute And Teaching Training Programs

Table 7: Institute–Wise Variation Factors of TTPs

	Institute	N	Mean	SD	<i>df</i>	<i>t</i>	<i>p</i>
Teacher Motivation	Public	165	3.35	0.216	338	0.222	0.750
	Private	175	3.49	0.174			
Professional Development	Public	165	3.61	0.145	338	1.672	0.482
	Private	175	3.41	0.151			
Self-Efficacy	Public	165	3.58	0.102	338	0.421	0.615
	Private	175	3.66	0.133			

Note: N= No. of respondents, *t*= t-value, *p*= probability

Table 7 shows the variances by the institute for TTPs. It can be observed that there is a significant institutional-based changes observed in the TTPs and teacher motivation, as determined by a significance level of 0.05 with $df(338)$, $p = 0.750$. Teacher motivation for public (M= 3.35) institutes was less than for private (M = 3.49) institutes. Additionally, the study also reveals considerable difference in teacher training perspectives toward professional development, which were influenced by type of the institute. The mean value of professional development for the public (M=3.61) institutes was higher than that for the private (M = 3.41) institutes. A significant gap was observed between public/private institutions on the teacher motivation at 0.05 level of non-significance with $df(338)$, $p = 0.482$. However, variances by the institute for TTPs and Self-efficacy factor is also discussed. The mean value of self-efficacy for public (M= 3.58) institutes was less than private (M = 3.66) institutes. There is a no notable institutional-based difference that can be observed in the TTPs and self-efficacy at the 0.05 level of non-significance with $df(338)$, $p = 0.615$.

Relationship between Groups and Teaching Training Programs

Table: 8 Group Wise Variations Factors of TTPs

	Groups	Sum of square	<i>df</i>	Mean square	<i>f</i>	<i>p</i>
Teacher Motivation	Between Groups	3.609	4	0.902	0.705	0.589
	Within Groups	428.594	335	1.279		
Professional Development	Between Groups	2.870	4	0.717	0.827	0.509
	Within Groups	290.644	335	0.868		
Self-Efficacy	Between Groups	3.135	4	0.784	0.625	0.645
	Within Groups	420.010	335	1.254		

The variations between and within groups for the three factors (Teacher Motivation, Professional Development, and Self-Efficacy) in *Table 8*. The variability within each factor's different groups is represented by the "Within Groups" section, but the variability between those categories is shown in the "Between Groups" part. The findings show that the *p*-values (higher than 0.05) are high, and the *f*-statistics (for each factor) are relatively low. This implies that the study does not reveal any significant differences between the groups within each factor.

Discussion

Both, the reviewed literature and analyzed results, highlight the significance of TTPs and these programs are designed to advance educational excellence. Boudersa (2016) states that TTPs are crucial for keeping up with the latest developments in education, particularly in the areas of classroom instruction and evaluation. In this study, data is collected from male/female schools as well as private/public schools where TTPs are carried out often and findings reveal a statistically significant difference for teacher motivation, professional development and self- efficacy for school teachers due to these TTPs. The study confirms that the TTPs motivate teachers or motivate them to teach students effectively. But there are some questions to which teacher responded moderately such as through teacher training our teachers are globalized, teachers use informal sources for their knowledge and faculty can use modern tools. It means that informal teaching techniques and modern tools not taught in TTPs. As in Pakistan, the primary emphasis of the majority of TTPs often focuses on the development of interpersonal capabilities, rather than the training for modern skills; hence, it seems that educators may lack to effectively use cutting-edge and sophisticated teaching strategies and traits. So, these shortcomings in the teacher training need to be improved.

According to literature and data analysis for professional development, TTPs have a substantial role in enhancing teachers' professional development. According to Solheim et al (2018), even student success is greatly influenced by teacher training. The acquisition of topic knowledge poses challenges, particularly for inexperienced teachers (Kussainov, 2021). However, the authors suggest that this inadequacy may be addressed by TTPs. In this study, all the teachers responded that teacher training has a positive effect on their professional development. The finding indicates that a majority of these TTPs emphasize on the enhancement of communication skills that's why teachers have a positive influence on their professional development.

In a comparable manner, findings demonstrate that TTPs have a positive impact on teacher self-efficacy and contribute to the growth of their confidence. Even though participants have claimed that through TTPs they have better skills to handle students and they have better awareness and vision. It means that teacher training improves their self-efficacy.

Furthermore, gender-wise difference is significant and institute and experience-wise difference is statistically nonsignificant.

Conclusion

In summary, based on the data and comprehensive discussion, it can be inferred that the goal of this research is to investigate the effect of TTPs on teachers' motivation, professional development and self-efficacy and the findings revealed that these TTPs were highly beneficial in motivating teachers, helping them grow professionally and improving their self-efficacy. Moreover, in relation to the TTPs with institutional- and gender-based differences, it is evident that a significant proportion of participants have divergent perspectives on TTPs. So, based on all results, we can say that teacher training is highly important for high-quality teacher education. Therefore, the study suggests that TTPs should be improved with more cutting-edge techniques that can better meet the needs of today's teachers.

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