Using an Exploratory Factor Approach to Determine Strategies for Effective Implementation of Teaching Practicum in Schools

Aqeela Samuel[1], Farah Deeba[2] and Iqbal Ahmad[3]

Abstract

Teaching practicum is a vital component of pre-service teaching courses. However, researchers have shown concern about the quality of implementation of these courses. Resultantly, students show low-profile abilities in teaching and learning when they join professional service as teachers. The primary purpose of this study was to develop a scale for exploring strategies for effective practicum implementation and, secondly, to ascertain teachers' perceptions about the effect of these strategies on the effective implementation of teaching practicum in schools. A survey questionnaire was developed and used for data collection. The questionnaire was developed based on a review of the literature and expert judgment. A total of 77 students participated in the study from a private college of teacher education in Peshawar. The students were selected based on a convenient sampling technique. The dimensionality of the scale was checked through exploratory factor analysis. The principal component analysis revealed a 4-factor structure as an essential strategy for the effective implementation of teaching practicum for pre-service teachers. These strategies were clear communication, showing respect, professional behavior and motivation. It is concluded that the scale can be used for measuring the effectiveness of teaching practicum in other contexts. The results of this study may be used for improving the curriculum implementation of teaching practicum in teacher training institutes. This study is significant as it provides firsthand knowledge to the management and administration of teacher education institutions about the essential strategies that can be used to enrich further teaching practicum, a pivotal element of teacher education.

Keywords: Teaching Practicum, Practical Implementation, Pre-service Teacher.

Introduction

Teacher education is undergoing fast changes at the current time due to the multidimensional role of the expanding competitive work industry (Flores, 2023). Parents and communities are increasing their demands for quality teaching and learning in schools. This has increased the pressures on teacher education institutions to focus on the quality of teacher education against the increasing expectations of society for quality teachers (Ryan et al., 2022). Studies have indicated that the quality of teacher education and training is being questioned around the world, including Pakistan, for losing standards over the years. It has been noticed that a gigantic transformation has taken place in the domain of teacher education courses, policies and plans to cater to the needs of

[1]*Assistant Professor, Department of Education, Govt. Graduate College for Women Gulberg, Lahore.*
Email: aqeela_phd@yahoo.com
[2]*Assistant Professor, Department of Education, Bahauddin Zakariya University, Multan.*
Corresponding Author Email: farahgillani@bzu.edu.pk
[3]*Assistant Professor, Department of Education, University of Malakand. Email: dr.iqbal.shah@uom.edu.pk*

the time with little success. This has been reflected in the increasing joblessness among teacher education students after graduation. One of the reasons is continuously low academic standards (Ali et al., 2022). The key to success in teacher education to improve the quality of service and professional dealing with the students is effective teaching and deep learning. However, these goals seem to be a remote realty under the current circumstances where teacher education has been neglected. However, on the other hand, the community satisfaction level with the quality of teachers' teaching and learning is also decreasing (Khushi, 2023; Khushik & Diemer, 2018).

Quality teacher education is directly related to teacher preparation and teaching practicum, which is a critical phase and element of teacher education courses (Aslam et al., 2021). During teaching practicum teacher educators and students work closely together. A professional bond of teaching and learning connects them. In such relationships, teachers give guidance and knowledge to students. They do the job of supervision and management based on their professional growth and know-how (Shoukat & Chaudhury, 2020).

On the other hand, the students are seen shouldering the responsibilities of taking care of the assignments they receive and trying to complete them in time as part of the teaching practicum. However, sometimes, the practicum process is affected by uncertain situations or uncertain factors, which may affect the coordination between the teacher educator and students. These factors need to be identified for good planning and effective implementation of teaching practicum. The effectiveness of the relationship between teacher educators and teacher students largely depends on the degree of relationship and trust among them (Siddiqui et al., 2021).

Literature Review

For effective conduction and operations of teaching practicum in educational colleges, it is essential to develop the teaching skills of educators who could guide and prepare students for teaching practicum (Sain et al., 2024). Teacher education graduates need to develop not only practical communication competencies but also counseling techniques for better interpersonal communication with students. Teacher educators may be trained to use their learned teaching expertise to convince students to better utilize the teaching and learning techniques to ensure more merits for the education industry and society at large (Zafar et al., 2021). Teacher educators can play their role in simplifying the teaching-learning process among prospective teachers. However, teacher educators may embrace modernized concepts of teaching and transform them into actual practices, thus facilitating the learning process among prospective teachers (Khan et al.,2021).

Researchers have argued that these goals can be achieved through more apparent communicational channels; teacher educators may take the responsibility to improve students' commitment and motivation for teaching practicum. There is an urgent call to make teacher educators aware of the new techniques and practices of practical talk with their students during teaching practice (Bano et al., 2022). There is further motivation for students of teacher education to learn the ways of positive correspondence with parents and students largely. The perceptions of parents and teachers are essential for the enhanced professional role of teacher educators and the improvement of communication skills of teacher education students (Iqbal et al., 2020).

The students of teacher education must attempt to create a conducive communication between schools and parents. This will help in resolving students' related issues (Jamshaid, 2022). This can be done by adopting effective strategies such as good communication, maintaining a positive attitude and closer cooperation with parents (Singh et al., 2021). Due to the important role of effective interpersonal communication in the teacher education industry, it is essential to train future teachers to develop their communication skills. It is one of the essential components of

teaching practice in the education generally and teacher education field mainly. Hence, it is vital to promote the interpersonal skills of students of teacher education so that they may successfully interact with students, parents and community people (Abdullah & Mirza, 2020).

There are numerous opportunities for graduates of teacher education to improve their communication and interpersonal skills during teaching practicum (Sharar & Nawab, 2020). They may use this opportunity for better interaction with parents and community members as well as with their teachers (Saleem et al., 2021). It is the responsibility of the management of teacher education institutions and educationists to create a supportive environment where the basic abilities of future teachers can be improved and enhanced (Shah et al., 2021). Researchers have stated that parents consistently complain about the behaviors and interactions of teachers and education professionals with students in schools. They complain that school teachers treat their children harshly, due to which the children become allergic to going to school. Parents find it challenging to motivate them for school (Parveen et al., 2020).

Problem Statement
Although numerous studies have been conducted on the issues and challenges of teaching practicum (Nawab, 2024; Kanwal et al., 2023; Masood et al., 2022; Din & Jehan, 2021), however, there is a shortage of research on how teaching practicum could be effectively implemented and how it can be helpful for the students of teacher education in their better preparation for their professional roles as teachers in the future. This study examines the perceptions of students of teacher education centers or colleges in district Peshawar about strategies for effective implementation of teaching practicum in schools.

Research Objectives
1.   To explore strategies for effective implementation of teaching practicum in schools.
2.   To examine the perceptions of teachers about the use of these strategies for effective implementation of teaching practicum

Methodology
A quantitative survey approach was used to collect data from teachers teaching in teacher education colleges or institutes. Exploratory factor analysis was applied to determine the strategies for effective implementation of the teaching practicum in schools.

Population and Sample
All students (BS Education 4 years) of teacher education institutes who were enrolled in the session for 2021-2024 in Peshawar constitute the population of this study. However, 77 students participated in the study. These were conveniently selected from two private teacher education colleges in Peshawar. The students willingly participated in the study survey.

Instrumentation
An 18-item scale was developed based on a review of the literature. The newly collected scale was drafted and shown to three experts for content validation. Based on their feedback, the scale was improved in terms of language clarity. The scale was translated into Urdu language for the understanding of the respondents. Three language experts were consulted to review the language of the scale. After receiving their feedback, the scale was finalized and administered to the respondents. Before item selection, it was ensured that items greater than .40 were selected as item

retaining threshold based on the item-total correlation coefficient formula by Hinkin (1995). Afterward, the scale was pilot-tested on 30 students. After the plot test, the scale was further improved. The pilot study sample was not included in the central data collection part of the study. A Likert scale-type questionnaire with a response format was designed. The response rate ranged from strongly agree (5) to disagree (1) strongly. The questionnaire consisted of two parts. Part 1 consisted of the demographic features of the respondents. Part 2 consisted of scale variables.

Data Collection

The researchers collected the data through personal visits to the colleges. The questionnaires were distributed and collected on the spot based on availability and willingness to participate. Before data collection, permission was obtained from the management of the colleges for data collection. Furthermore the verbal consent of the respondents was also essential to be obtained (Gay & Airasian, 2003). For this purpose, before giving them the questionnaire, they were asked to show their agreement and their consent was obtained to participate or not in the study.

Data Analysis

Before the analysis of the data, the data normality was checked. The Skewness and Kurtosis calculations were used to ascertain the normality of the data. The obtained values confirmed that the data was average for further treatment (Norman, 2010).

Results

Table 1: Mean, Standard Deviation, Skewness and Kurtosis of the scale

Sr. No	N Statistic	Minimum Statistic	Maximum Statistic	Skewness Statistic	Std. Error	Kurtosis Statistic	Std. Error
1	77	1	5	-.943	.198	1.156	.394
2	77	1	5	-.746	.198	.032	.394
3	77	1	5	-.421	.198	-.108	.394
4	77	1	5	-.528	.198	-1.204	.394
5	77	1	5	-.448	.198	-1.065	.394
6	77	1	5	-.385	.198	-1.246	.394
7	77	1	5	-.321	.198	-1.224	.394
8	77	1	5	-.165	.198	-1.399	.394
9	77	1	5	-.351	.198	-.519	.394
10	77	1	5	-.525	.198	-1.033	.394
11	77	1	5	-.145	.198	-1.275	.394
12	77	1	5	-.438	.198	-.954	.394
13	77	1	5	-.019	.198	-1.342	.394
14	77	1	5	-.390	.198	-1.291	.394
15	77	1	5	-.377	.198	-.964	.394
16	77	1	5	-.343	.198	-1.036	.394
17	77	1	5	-.026	.198	-1.270	.394
18	77	1	5	.679	.198	-.401	.394

Table 1 show that all the values of skewness and kurtosis values are within the acceptable ranges.

Exploratory Factor Analysis

To check the sample suitability, the KMO and Bartlett's test of Sphercity was checked. The values of both the test provided evidence about the sample adequacy to conduct factor analysis (Williams et al., 2010).

Table 2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.872
Bartlett's Test of Sphericity	Approx. Chi-Square	1629.546
	df	153
	Sig.	.000

Table 2 indicated that the values of KMO and Bartlett's Test of Sphericity was sufficient for conducting the factor analysis based on the collected data as values of both the test were within the acceptable ranges.

Table 3: Communalities for Extraction

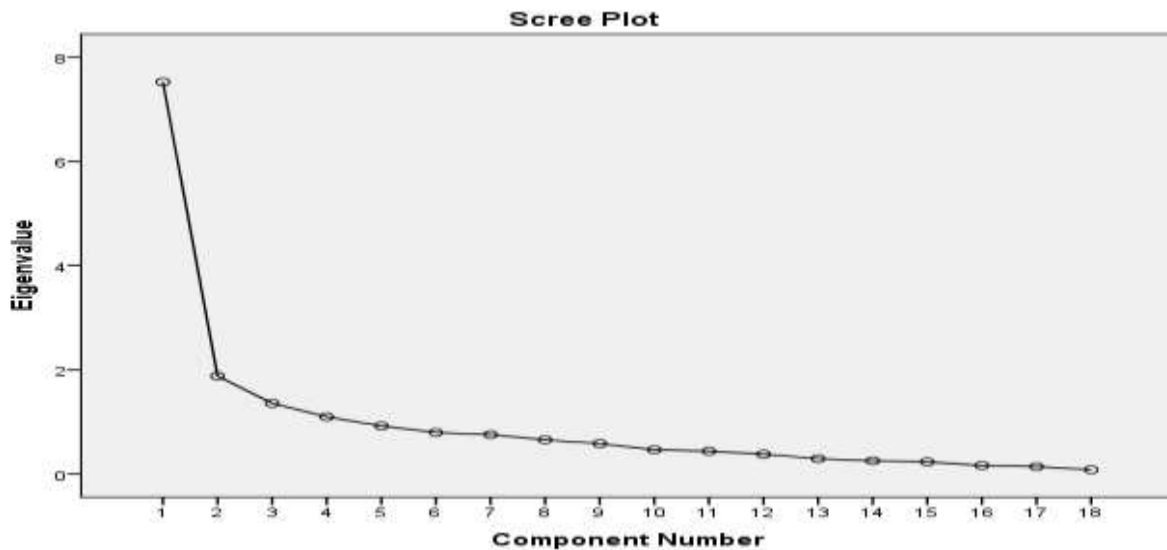| Statements	Initial	Extraction
Teacher educators need to have updated knowledge of education	1.000	.792
The problems of students must be evaluated thoroughly during teaching	1.000	.775
Teacher educators need to have subject specific skills	1.000	.783
Speaking skills of prospective teachers need to be polished	1.000	.643
Writing skills are seldom helpful during teaching practicum	1.000	.623
Teacher educators need to communicate clearly and completely	1.000	.897
There should be environment of trust between teacher and students	1.000	.634
Teacher educator may encourage students during class teaching	1.000	.707
There should be proper planning and preparation before teaching	1.000	.793
Demonstration of professionalism is essential by teacher educator	1.000	.718
Mutual respect is the core of successful classroom instruction	1.000	.333
Teacher educators should show utmost professional behavior	1.000	.590
The major focus should be on creating supportive learning atmosphere	1.000	.451
Teacher educators needs to be approachable for students	1.000	.566
Teachers must be ready to enthusiastically conduct their responsibilities	1.000	.696
There should be willingness and desire to guide students	1.000	.648
Teaching is an enjoyable job	1.000	.711
I am happy in my teaching profession	1.000	.495
Extraction Method: Principal Component Analysis		

Table 3 showed the values of the communalities were within the required ranges for all variables in the scale.

Table 4: Total Variance of the scale

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.524	41.803	41.803	6.638	36.879	36.879
2	1.879	10.438	52.240	2.188	12.157	49.036
3	1.355	7.528	59.769	1.595	8.860	57.896
4	1.096	6.089	65.857	1.433	7.961	65.857
5	.922	5.120	70.977			
6	.796	4.422	75.399			
7	.755	4.196	79.595			
8	.654	3.633	83.228			
9	.582	3.234	86.462			
10	.464	2.577	89.039			
11	.437	2.426	91.465			
12	.378	2.102	93.567			
13	.292	1.625	95.192			
14	.253	1.403	96.595			
15	.230	1.281	97.875			
16	.161	.895	98.770			
17	.141	.786	99.556			
18	.080	.444	100.000			

Extraction Method: Principal Component Analysis

Table 4 indicates the main components which were extracted using principal component analysis. The section 'rotation sums of squared loadings' shows the factors which met the cut off criterion showing Eigen value greater than 1 resulted in extraction of four factors. The total variance of all the four components together is 65.85. Among these, the first component '*communication skills*' explains 41.80 of the total variance which is the strongest factor. The second component '*show respect*' explains 10.43 of the total variance which is the second strongest factor in the scale. The third component '*professional behavior*' explains 7.52 percent of the total variance. Similarly, the fourth component '*motivation*' explains 6.80 of the total variance.

Figure 1: ScreePlot

Shows the four factors extractable from the 18 items in the scale.

Table 5: Component Matrix of the scale

Statements	Component			
	1	2	3	4
Teacher educators need to have updated knowledge of education	.859			
The problems of students must be evaluated thoroughly during teaching	.750			
Teacher educators need to have subject specific skills	.863			
Speaking skills of prospective teachers need to be polished	.614			
Writing skills are seldom helpful during teaching practicum	.718			
Teacher educators need to communicate clearly and completely	.909			
There should be environment of trust between teacher and students		.756		
Teacher educator may encourage students during class teaching		.434		
There should be proper planning and preparation before teaching		.864		
Demonstration of professionalism is essential by teacher educator		.845		
Mutual respect is the core of successful classroom instruction			.699	
Teacher educators should show utmost professional behavior		.	.502	
The major focus should be on creating supportive learning atmosphere			.428	
Teacher educators needs to be approachable for students			.579	
Teachers must be ready to enthusiastically conduct their responsibilities				.777
There should be willingness and desire to guide students				.829
Teaching is an enjoyable job				.525
I am happy in my teaching profession				.482

Table 5 indicates the inter item consistency ranges .727 to .780. It shows a high reliability for all factors in the scale.

Table 6: Factor analysis and reliability of the 18 items in the scale

Factors	Items	Factor loadings	Corrected item total correlation	Cronbach's alpha if item deleted
Clear communication	1	.859	.637	.720
	2	.750	.417	.723
	3	.863	.628	.724
	4	.615	.508	.771
	5	.718	.586	.709
	6	.909	.691	.705
Show respect	7	.756	.613	.731
	8	.434	.436	.780
	9	.864	.634	.727
	10	.845	.551	.738
Professional behavior	11	.699	.476	.749
	12	.502	.589	.759
	13	.428	.434	.760
	14	.579	.438	.755
Motivation	15	.777	.508	.789
	16	.829	.501	.783
	17	.525	.636	.727
	18	.482	.499	.797

Table 6 shows that the factors were named according to the order of extraction and nature of items given against each extracted factors. These factors were clear communication, show respect, professional behavior and good reputation.

Discussion

This study aimed to explore strategies for effective implementation of teaching practice in Pakistani teacher education setting and to assess students' perceptions about the effectiveness of the teaching practicum. A scale was developed and validated using EFA (Hinkin, 1995). The scale was used to evaluate the perspectives of students of teacher education about effective implementation of teaching practicum provided by teacher education colleges. The loadings for all items in the first strategy such as communication skills scale ranged from .750 to .909 are significantly high. This finding is in line with the results of previous studies which have highlighted the importance of communication skills for teachers. For example, Celik and Alpan (2023) highlighted that professionally sound teachers demonstrate active and clear communication skills. They are proactive in interacting between the community and the schools. They provide the best feedback to the learners during the course of learning. Furthermore, Cetin (2023) has highlighted the importance of communication skills for teachers. In this regard, the researcher has further emphasized that the communication process of a child which he or she has started at home gets its best shape under the guidance of professionally sound teachers who have better skills of communication to convey the knowledge and skills to the learners in the best possible way.

The perceptions of the respondents on the other three strategies such as show respect, professional behavior and good reputation, the loadings ranged from .434 to .829 which provided considerable evidence for the usefulness of the scale for assessing the effectiveness of teaching practicum implementation in teacher education colleges. These findings are unique as there is no evidence of such strategies mentioned related to teaching practicum. However, few studies have generally mentioned that students may get wider opportunities of professional development if the teaching

practicum activities can be conducted with proper planning, coordination and teamwork. These are also essential components of any program of activity (Petre et al., 2022).

The strong reliability and validity of the scale indicates that respondents strongly agreed that these were important strategies for effective implementation of teaching practicum in teacher education colleges which are characterized by clear communication, showing respect to the parents and students, demonstrating professional behavior by the teaching practitioners and professionals and having clear motivation for teaching profession. These results are in line with the findings of previous research studies that good teachers demonstrate positive behavior and professional attitude as well as motivation while performing their duties (Prasla & Ashiq, 2023).

The results of this study provided evidence that the higher mean scores for all the items in the scale proved the higher degree of agreement among the respondents about these strategies such as communication skills, show respect, professional behavior and motivation. The findings of this study further support the results of earlier studies. For example, researches have already established that parents feel more safe and satisfied when they find quality teachers and professionals in schools who have good communication skills they show respect to parents and community members take care of students, demonstrate positive and welcoming professional attitude and show enthusiasm. This also provides encouragement to the teacher education professionals to provide better educational services to the community in return (Saleem et al., 2023).

Conclusion

This study aimed to explore strategies for effective implementation of teaching practicum in teacher education colleges. The study concludes that there are four essential strategies for effective implementation of teaching practicum. These are positive communication skills showing respect, demonstrating professional behavior and motivation for teaching job. These factors were validated through factor analysis approach. Based on the results of this study it can be concluded that better management of teaching practicum in schools can go a long way in positively shaping the behaviour and professional development of the teacher education students. This study concludes that teacher educators need to have quality communication skills. It can be argued that professionally trained teachers have the advantage to transfer knowledge   at their disposal to the learners in a more effective manner as they possess good communication skills. Such teachers can provide clear feedback to the students and also help them to understand the more complicated or difficult concepts in the course.

In nutshell, teacher should demonstrate high respect for each other and towards the students and parents. Sharing of respect will create better and positive relationship not only among the students and teachers but also between the parents and school which is the first essential step towards quality education. Showing respect as strategy may help the teachers to achieve the goal of collective ownership of the school by the community and develop sense of respect among the students for the institution. Quality teaching is possible however, based on planning and prudent implementation of the teaching protocols. The results of this study further strengthened this premise that professionally sound teacher have high degree of motivation for their job. They show commitment towards their job and perform their teaching duties with utmost zeal and fervor. Such teacher not only become a symbol of trust and model for their students abut also create a positive image of the schools in the communities.

The study confirmed through the lens of the respondents about the essentiality of some of the important strategies for teaching practicum implementation such as communication skills,

showing respect, professional behaviour and motivation. It is further concluded that teacher education colleges may improve their services and professional behavior of future teachers through better training during teaching practicum about interacting with parents and community members. The results of this study may also help the management and administration of teacher education colleges to think about the ultimate improvement of the teacher education curriculum and its effective implementation. Above all, teacher education researchers may carry out further test results of this study in other contexts.

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