



The Influence of In-Service Teachers Training Programs on the Professional Development of School Teachers

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ABSTRACT

This study was conducted to find out the impact of in-service teacher training on teachers' professional development. The survey approach was chosen because it was the most practical and cost-effective way to collect data from such a large population. Questionnaire for this study was self-developed by the researcher and based on a literature review. Data collected from 1200 participants was analyzed using descriptive and inferential statistics. There were insignificant differences between male and female teachers in training goals, observation, assessment, and evaluation. There were also statistically insignificant differences between districts in how teachers felt about in-service teacher training. School leaders, organizations that train teachers and teacher trainers should put teachers at the center of training programs to get teachers more involved and meet current needs. Financial or other kinds of incentives should be used, and teachers may need to get certification for in-service teacher training to improve their skills.

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1. Introduction

Education is vital to the educational system and should promote learning. Teachers must keep up with technology W. Khan (2015) and assist students in building academic and professional skills, attitudes, and behaviors. Schools, colleges, training centers, universities, and other educational and training programs offer teacher training worldwide. Teachers build nations. They help students become responsible adults who can change the world. In Islam, teaching is a prophetic profession, and the Holy Prophet (SAWW) affirmed its sanctity. An excellent teacher "inspires", a good one "tells", an excellent one "explains", and a superior one "demonstrates" (Akhtar, Javed, & Javed, 2020). It's important to invest in teachers who can help students succeed because inexperienced teachers are more expensive. Sahito and Vaisanen (2017) agreed that teaching is a good job with many unexpected challenges. Teachers, like opera singers, must solve artistic problems. Excellent education requires both art and science.

Teachers need professional training to help students learn. Teaching—the noblest profession—is essential to making this job fair and reasonable. A nation can only progress by providing the public with legitimate and effective learning methods. Education in powerful nations shapes society. Education boosts growth and stability (Akhtar et al., 2020). In-service teacher training is crucial to maintaining high standards in teacher preparation programs. It involves doing and experiencing things that help professionals perform their duties, better. Fatima (2015) suggests focusing on the following qualities and skills: figuring out natural and learned skills; selecting, arranging, organizing, and using learning; organizing course content while keeping student needs in mind; using various media and the latest audiovisual technology; catering to needs; providing counseling; participating in research-oriented activities; organizing events; transferring value; Induction and in-service training help teachers apply theory to

practice. Professional development includes mentoring, colleagues in action, and deep, ongoing processes (Miquel & Duran, 2017).

Teacher training emphasizes methods, skills, and practices. Teaching and learning can evaluate in-service training. Professional Development (PD) programs allow teachers of all grades to compete in contests that can help their students succeed (Capello, 2020). Professional development equips teachers with the knowledge, skills, and emotional intelligence to think, plan, and work with children, youth, and other teachers. But Pakistan's professional growth is hampered by a lack of financial support and resources, instructor enthusiasm and interest in continuing education programs, time to evaluate how well new skills and knowledge are being used on the job and curriculum and assessment approaches that aren't aligned with professional development programs (Nasim, Ali, Javed, & Bahoo, 2022). The Pakistani government has reorganized the Quaid-e-Azam Academy for Educational Development (QAED) and created the National Professional Standards for Teachers (NPST) to make teachers more aware of their responsibilities and measure their professional development. The best program for training teachers puts a lot of emphasis on mastering the subject and gives teachers real-world practice with an experienced mentor. Pakistan's education system suffers from insufficient teacher training. In-service training helps teachers learn the latest teaching methods, classroom management techniques, and subject matter (A. H. Khan & Aleem, 2014).

Teacher education systems that can't offer programs usually lack qualified or experienced teachers. To improve teacher training, other countries and institutions should ensure that education is at the right level and that teachers have licenses from good, professional instructors. In-service teacher training can improve education, solve the teacher shortage, adapt to changing educational needs, help professionals grow, and help the country reach its development goals. It can also help teachers improve their performance and lead the education system.

1.1. Statement of the Problem

This study looks at how in-service training programs for teachers in Punjab affect the growth of their careers. Even though teachers get ongoing training, their performance falls short of the goals and targets that were set. There is a major difference between the taught modules of training and the real practices of the classroom and school environment, culture, and context. A deep insight into in-service teacher training programs in Punjab reveals that they have to face lots of problems and challenges in terms of planning, execution, and assessment. The goal of the study is to look into the gaps between what teachers learn in their training programs and what they actually do in their classrooms.

1.2. Objective of the study

This study aims to evaluate the effectiveness of education sector training programs and identify the impact of in-service teacher trainings on the professional development of teachers at the school level.

- 1) To analyze internal and external standards that is required for an effective teachers training program.
- 2) To analyze factors involved in the structure of professional development of school teachers.
- 3) To identify the techniques used for training process and assessment of in-service training program.

2. Literature Review

Education is a powerful force that affects every part of a person's life and is highly valued in Islam (Anees, 2005). There are two major types of schooling: formal and non-formal. The formal system has its pros and cons, such as overcrowded classrooms, rapid population growth, a lack of basic educational and physical facilities, a high dropout rate, and a low quality of education. Learning is a two-way street, and education is used to acquire new skills, information, and routines. Curriculum creation, formal sanctioning, and funding for educational study and training are all supported by the federal government, but education in Pakistan is handled at the provincial level. Children between the ages of five and sixteen are entitled to free and compulsory schooling under Article 25-A of the law.

Schools need HRM, but it's hard to plan and motivate teachers. Top-performing schools use strategic planning to focus on students' education and give teachers a stimulating workplace with a highly motivated staff and many opportunities to learn from each other. According to Pamela et al. (2019), Human Resource Management (HRM) recognizes that teachers are a school's most valuable resource and make learning fun and interesting for students. HRM encourages employees to care more about the company's success than their own (Ozkeser, 2019). HRM has seven functions: talent acquisition, performance management, education and training, pay and benefits, an HR information system, analysis and reporting, and more (Bennett, 2021).

Students need teacher education to learn better teaching methods. Good books and curriculum-aligned training help students succeed in school. Teaching requires good communication and delivery. Incompatibility and irrelevant content result from neglecting emotional education. Technology use in the classroom is not taught responsibly (Klassen & Tze, 2014). Modern research is still lacking in schools. Future and current teachers should have equal access to the latest resources to close this digital divide. New teaching methods, tools, and cultural flexibility have been researched, and it is important to find and theorize a model that combines new scientific discoveries with old teaching methods (Gudmundsdottir & Hatlevik, 2018).

Pasalari, Azizi, and Gholami (2022) say that in-service teacher education helps teachers get better by giving them planned, organized, and systematic coaching in a school setting. New hires and promoted employees can receive internal, exterior, pre-service, and in-service training. Teachers must improve to serve their students. Each summer, an in-service program should refresh their professional education and help them better perform their job duties (W. Khan, 2015). People, especially children, need in-service training to fully participate in society. Teachers' skill, sensitivity, and inspiration determine a nation's citizens' quality. Roca-Campos, Renta-Davids, Marhuenda-Fluixá, and Flecha (2021) say that in-service teacher training should focus on continuing education, setting an example, raising teaching standards in the classroom, and helping members gain confidence, independence, and skills. Administrators should encourage teachers to get better at their jobs and keep them up-to-date on new research and ways to teach. A successful in-service program starts with teamwork.

Aldahmash, Alshamrani, Alshaya, and Alsarrani (2019) said that conferences, workshops, seminars, correspondence courses, and exhibitions are all types of in-service training. Teachers study full-time in semester-long regular courses. Effective communication requires conferences, one-on-ones, and teacher-supervisor relationships. Workshops improve job performance through hands-on training. Academic seminars focus on problem-solving. Exhibitions exist. Lecture-based, hands-on, and group-based training methods are traditional. Quality is how good a product or process is (Mohammed, Mohammed, & Gana, 2022). Professional Development (PD) programs help teachers of all grades participate in competitions that improve students' academic performance. PD programs teach teachers new or improved skills to change their methods. Institutions must carefully plan and implement professional development programs to maintain and grow the higher education system. Professional development considers outcomes, content, delivery, and teachers. An effective accountability policy must address accountability's challenges and strengthen teachers' ability to change (Hochberg & Desimone, 2010). (

In 2009, the Pakistani government made the National Professional Standards for Teachers (NPST) to help teachers know what they are supposed to do and see how they are improving as professionals. Knowledge and understanding, attitudes, and performance and skills comprise these standards. Skills, growth, and progress are covered. These guidelines are for educators and schools. A. H. Khan and Aleem (2014) suggest that teacher workshops emphasize the importance of teaching these values.

Formal education helps people learn, improve, and use work-related skills, knowledge, and attitudes through CPD. It begins with training and continues throughout a professional's career (Qayyum & Rizwan, 2019). Pakistani teachers must improve. In-service training, mentoring, assessment, evaluations, and monitoring achieve this. Portfolios evaluate student work, teacher performance, parent-teacher communication, and flaws in the education system (De Vries, van de Grift, & Jansen, 2014). Teachers must carefully plan lessons and use effective teaching methods to engage students and ensure they understand. Teachers need ongoing

training to improve. The Punjab government has changed teacher courses to attract qualified students, but academics disagree on how teacher traits affect efficacy. Continuing education is essential. Effective and modern teachers must constantly expand their knowledge, teaching approach, and skill set. Collaboration with colleagues can transform professional knowledge (Cleary et al., 2022; Naqvi, Iqbal, & Akhtar, 2016). Teachers should motivate students with goals and strategies. In-services to teachers' cluster training and support centers have driven public school reform at the Quaid-e-Azam Academy for Educational Development (QAED).

Through the Staff Development Directorate (Punjab), Pakistan's government is improving science and arts teachers (QAED). Punjab schools' CPD program has four pillars: district training and support center (DTSC), cluster training and support center (CTSC), and provincial directorate of staff development (DSD). The DTSC analyzed training needs, organized action plans, harmonized activities, systematized training courses, provided professional support, and ensured course quality. The CSD studied classroom teaching, planned and managed monthly professional meetings, and collaborated with stakeholders. Due to a lack of follow-up, feedback, and help, the DSD's in-service teacher program's activities outside the classroom didn't work. The DSD prioritized primary school educators' needs and provided district teacher educators with guidance and support in 2006. (DTEs). This CPD framework works, but it needs communication and human resources. Elementary school results and participation show this (Gore et al., 2017). The Punjab government's 2010 promotion policy requires teachers to prepare for grade advancement for professional growth. New teachers are mentored in person through mentorship programs, coaching from peers, observing other teachers in the classroom, getting advice from the principal, and observing highly effective teachers to evaluate their effectiveness. The Quaid-e-Azam Academy for Educational Development (QAED) trains teachers to implement Punjab's best educational practices in public schools (Maynes, Hatt, & Wideman, 2013).

Professional development involves teachers thinking about the moral purpose of education and making plans to make a bigger difference as agents of change. Dilshad, Kanwal, and Nausheen (2019) Educators learn and develop the knowledge, skills, and emotional intelligence they need to think, plan, and work professionally with children, youth, and colleagues. Professional development that emphasizes these traits has few real-world examples. Borko, Jacobs, and Koellner (2010) proposed a three-stage research agenda to develop, launch, and study replicable expert training and development models. Single-site studies in Phase 1 of a research study show that a professional development program can improve teacher learning. Pakistan provides workshops, seminars, and training for in-service teachers. However, Pakistan's professional growth is hindered by a lack of financial support and resources for training and education, a lack of instructor enthusiasm and interest in continuing education programs, a lack of time to assess how well new skills and knowledge are being used on the job, and curriculum and assessment approaches that aren't aligned with professional development programs. In order to improve professional development across Pakistan, it is necessary to address the challenges and constraints. Professional development helps students' academic progress, allows teachers to network and share ideas, and lets them learn from their peers and improve their teaching skills (Nasim et al., 2022).

Analysis, setup, use, and evaluation are the four steps of training and development. Training needs analysis is a planned way to determine if performance is subpar. Ideas, surveys, discussions, focus groups, and records that guide training need analysis. In-service education programs face capital-intensive costs, time constraints, course content and methods, planning and organization, impersonal activities, and not being big enough for the number of students who want to go, according to Noe and Kodwani (2018). Imogie (1992) listed the problems of a teacher education program for in-service teachers, including the enrollment being too large for meaningful instruction, the lack of time for classes and tests, and the need to enroll as many students as possible due to budgetary concerns. Most universities cannot maintain sandwich teacher education programs' long vacations due to the unpredictable academic year. Teacher education programs believe teachers are made, not born, and can develop teachers (Mitchell, Howard, Meetze-Hall, Hendrick, & Sandlin, 2017). Research suggests school administrators should mentor teachers to retain them. About three-quarters of new teachers have participated in the enrollment program and been assigned a mentor, and most states offer professional development or peer support. Lifelong learning is essential for teachers, and the TNA can identify

pedagogical and content gaps. Nassazi (2013) found that demographic roles affected the effectiveness of public sector cadre training programs. This study discusses employee skills and training goals. It evaluates training program change and its cause. Thiessen (2000) proposed a three-phase pedagogical framework for teacher education, and the training budget is an independent variable to assess program effectiveness. A supportive organizational setting ensures that coworkers, supervisors, employers, and subordinates have positive attitudes about training knowledge and skills. The New Teacher Induction Program supports teacher education. Follow-up training provides accurate information on potential or trainee teachers' behavior; timely, appropriate feedback to administrators and relevant authorities; and additional procedures and processes not required in research (Hayes & Rockwood, 2017).

3. Research Methodology

The main purpose of the study was to identify impact of in-service teachers training programs on the professional development of school teachers in Punjab. The research was purely descriptive. The survey approach was chosen because it was the most practical and cost-effective way to collect data from such a large population.

Teachers in the Punjab province's school education department from the four districts of Multan, Sahiwal, Sargodha, and Muzarfargarh make up the study's population. Gall and Breeze (2007) defined sampling as selecting people from a well-defined group to represent the population. The researcher uses random sampling for this research. 381 primary school teachers, 378 elementary school teachers and 371 secondary school teachers were sampled. By assessing population reach, this was done. The researcher used a Google survey form to collect data from more teachers than the predicted sample size. This study's questionnaire was self developed by the researcher which was based on a literature review and interactions with peers and supervisors. The purpose of this survey was to find out how well the in-service teacher training program helped teachers do their jobs. A five-point scale teacher questionnaire was created from the literature review domains. "Strongly agree" to "strongly disagree." The researcher visited many of the selected schools to get the principals' permission to collect data. However, clerks or teachers at rural or far-flung schools helped gather information. The researcher surveyed respondents at the sampled schools. SPSS used descriptive statistics after tabulating the raw data. Descriptive statistics means, and standard deviations were calculated. Independent samples t-test and one-way ANOVA were used.

4. Results and Discussion

4.1. Descriptive Analysis of In-Service Teachers Training Programs on the Professional Development

The descriptive analysis was done by using descriptive statistical techniques i.e., percentage, the mean, and standard deviation of every statement of the questionnaire. The results were presented in Table 1.

Table:1 Scores of teachers on subscales

Factors	Mean	SD
Training Objectives	4.11	0.73
Training Need-Analysis	3.86	0.77
Training Structure	3.84	0.84
Training Process	3.98	0.72
Training Observation, Assessment and Evaluation	3.96	0.69

According to Table 1, the range of the mean scores for each of the five subscales measuring a teacher's impact on in-service training on their professional development is 3.84 to 4.11. Based on the average scores of teachers for each subscale, it can be concluded that teachers view all five of the fundamental in-service training domains as useful and effective tools for improving their professional development. A higher degree of teacher consensus is also indicated by the total standard deviation number.

4.2. Differences in Participants' Views regarding In-Service Teachers Training Programs on the Professional Development

A sample of 592 male teachers and 608 female teachers at different school levels were included in this study. Table 2 shows how the professional development training programs for teachers already in the field differ for men and women.

Table 2 Differences of In-Service Teachers Training Programs on the Professional Development by Gender

Variable	Category	N	Mean	SD	df	t-value	Sig. value
Training Objectives	Male	592	45.84	5.99	1198	4.036	.000
	Female	608	44.49	5.68			
Training Need-Analysis	Male	592	35.19	4.63	1198	3.381	.001
	Female	608	34.35	4.02			
Training Structure	Male	592	38.61	5.80	1198	1.132	.258
	Female	608	38.26	5.10			
Training Process	Male	592	91.93	11.55	1198	1.227	.220
	Female	608	91.20	9.08			
Training Observation, Assessment and Evaluation	Male	592	39.89	5.11	1198	2.123	.034
	Female	608	39.32	4.23			

The t-value for the independent sample t-test in the case of male and female teachers at different school levels included in this study is shown in Table 2. It was concluded that there was a statistically significant difference between the means of men and women when it came to training objectives and training observation, assessment, and evaluation. In terms of training need analysis, training structure, and training process, it was decided that the difference between the means of men and women was statistically insignificant.

4.3. Differences of In-Service Teacher Training Programs on the Professional Development by School Location

A sample of 763 urban teachers and 437 rural teachers at different school levels were included in this study. Table 3 shows a comparison of programs for training teachers who are already working based on where the schools are.

Table: 3 Differences of In-Service Teachers Training Programs on the Professional Development by School location

Variable	Category	N	Mean	SD	df	t-value	Sig. value
Training Objectives	Urban	763	45.11	5.88	1198	-.387	.699
	Rural	437	45.24	5.85			
Training Need-Analysis	Urban	763	34.62	4.57	1198	-1.495	.135
	Rural	437	35.01	3.94			
Training Structure	Urban	763	38.32	5.55	1198	-.927	.354
	Rural	437	38.63	5.29			
Training Process	Urban	763	91.64	10.68	1198	.344	.731
	Rural	437	91.43	9.83			
Training Observation, Assessment and Evaluation	Urban	763	39.59	4.82	1198	-.069	.945
	Rural	437	39.61	4.48			

The t-value for the independent sample t-test for the case of 763 urban teachers and 437 rural teachers at different school levels included in this study is shown in Table 3. It was concluded that there was a statistically insignificant difference between the means of urban and rural when it came to training objectives, training observation, assessment, and evaluation, training need analysis, training structure, and training process.

4.4. Differences of In-Service Teachers Training Programs on the Professional Development by District

A one-way ANOVA is commonly used to investigate whether variations or different levels of a single independent variable, or factor, have a measurable effect on a dependent variable. A sample of 305 Multan teachers and 301 teachers belongs to Khanewal; from Muzafargarh, 300 teachers and 294 teachers from Sargodha were included in this study.

Table: 4 Differences of In-Service Teachers Training Programs on the Professional Development by District

Variable		Sum of Squares	df	Mean Square F	Sig.
Training Objectives	Between groups	296.082	3	98.694	2.877 .035

	Within Groups	41025.777	1196	34.302		
	Total	41321.859	1199			
	Between groups	69.349	3	23.116		
Training Need-Analysis	Within Groups	22621.850	1196	18.915	1.222	.300
	Total	22691.199	1199			
	Between groups	80.615	3	26.872		
Training Structure	Within Groups	35596.184	1196	29.763	.903	.439
	Total	35676.799	1199			
	Between groups	273.807	3	91.269		
Training Process	Within Groups	128811.630	1196	107.702	.847	.468
	Total	129085.437	1199			
Training Observation,	Between groups	26.386	3	8.795		
Assessment and	Within Groups	26389.413	1196	22.065	.399	.754
Evaluation	Total	26415.799	1199			

*P > .05 Level of Significance

The ANOVA on teachers' perceptions about in-service teachers' training across districts is shown in the table, indicating that there was a significant difference. Similarly, training needs analysis, training structure, training process, training observation, assessment, and evaluation across districts indicated that there was no significant difference.

4.5. Differences of In-Service Teachers Training Programs on the Professional Development by Teaching Experience

In terms of teaching experience, this study included 775 teachers with 0–10 years of experience, 231 teachers with 11–20 years of experience, and 194 teachers with 21 years or more of experience. The comparison of in-service teacher training programs on professional development by teaching experience is presented in Table 5.

Table: 5 Differences of In-Service Teachers Training Programs on the Professional Development by Teaching Experience

Variable		Sum of Squares	df	Mean Square	F	Sig.
	Between groups	1.782	2	.891		
Training Objectives	Within Groups	41320.077	1197	34.520	.026	.975
	Total	41321.859	1199			
	Between groups	6.197	2	3.098		
Training Need-Analysis	Within Groups	22685.002	1197	18.952	.163	.849
	Total	22691.199	1199			
	Between groups	20.478	2	10.239		
Training Structure	Within Groups	35656.321	1197	29.788	.344	.709
	Total	35676.799	1199			
	Between groups	76.161	2	38.080		
Training Process	Within Groups	129009.276	1197	107.777	.353	.702
	Total	129085.437	1199			
Training Observation,	Between groups	13.021	2	6.510		
Assessment and	Within Groups	26402.779	1197	22.057	.295	.744
Evaluation	Total	26415.799	1199			

*P > .05 Level of Significance

The ANOVA on teachers' perceptions of in-service teacher training across teaching experience is shown in the table above, indicating that there was no significant difference regarding training objectives, training need analysis, training structure, training process, training observation, assessment, and evaluation.

5. Conclusion and Discussion

Findings of this study demonstrate that training objectives, observation, assessment, and evaluation differed by gender. In training need analysis, training structure, and training process, the difference between men's and women's means was statistically insignificant.

The means based on school location for the training objectives, observation, assessment, and evaluation needed analysis, structure, and process, but they weren't statistically significant. Teachers' perceptions of in-service teacher training across districts were significant. Training needs analysis, structure, process, observation, assessment, and evaluation across districts were not significant. Teachers' perceptions of in-service teacher training across teaching experiences Training objectives, needed analysis, structure, process, observation, assessment,

and evaluation, did not differ. Dilshad et al. (2019) looked into teachers' participation in CPD, how they saw the value of different CPD activities, their future training skills, and the challenges they faced in their professional development. Gender was used to compare teacher opinions. This study expanded Pakistan's little empirical understanding of university professors' continual professional development. In-service training improves teachers' "skill, knowledge, ability, and confidence"(Essel, Badu, Owusu-Boateng, & Saah, 2009). Other research has found that in-service training improves teachers' effectiveness (Samupwa, 2008).

As a result of training, teachers go through big changes that make them rethink their roles, gain new perspectives, and improve their skills. Jahangir, Saheen, and Kazmi (2012) note that during teacher training, teachers go through big changes that make them rethink their roles, gain new perspectives, and improve their skills. Teachers who get in-service training are better able to teach effectively and with more consistency.

Jan and Hameed (2016) said that in-service training benefits both male and female teachers' professional development, skills, and knowledge. In-service training enhances teachers' professional development, skills, and knowledge. This helps teachers teach better. Teachers need training to learn new skills and ideas. Pakistani teacher education is vital. This holds true for both male and female educators. In addition to this, Malik and Urooj (2012) make the following observation: "In-service teacher training programs are not properly evaluated and lack adequate resources and delivery aids." Master trainers and training experts are frequently not qualified, competent, or stimulated adequately to make much of a difference in the improvement of the learners' knowledge and capacities.

The study suggests school management, teacher training organizations, and teacher trainers focus on motivating teachers in training programs. To increase teacher engagement, they can switch from trainer-centered to teacher-centered training. Teacher training should also reflect current needs. Teachers who attend training and use what they learn should be rewarded by school management. Incentives can be financial, promotional, or other. Teachers may also need in-service teacher training certification to improve their skills. The study also suggests a qualitative investigation of teacher in-service training and professional development.

References

- Akhtar, M., Javed, M., & Javed, M. L. (2020). Quality Assurance of Teacher Education Programs: Teacher's Perspective. In: DOI.
- Aldahmash, A. H., Alshamrani, S. M., Alshaya, F. S., & Alsarrani, N. A. (2019). Research Trends in In-Service Science Teacher Professional Development from 2012 to 2016. *International Journal of Instruction*, 12(2), 163-178.
- Anees, M. (2005). Comparison of formal and non-formal systems of teacher education in Pakistan. *Unpublished Ph. D. thesis*. Rawalpindi: University Institute of Education and Research, University of Arid Agriculture, Pakistan. Retrieved from <http://eprints.hec.gov.pk/363/1/381.htm>.
- Bennett, A. M. (2021). The impact of the COVID-19 crisis on the future of human resource management. *Journal of Human Resource Management*, 9(3), 58-63. doi:<https://doi.org/10.11648/j.jhrm.20210903.11>
- Borko, H., Jacobs, J., & Koellner, K. (2010). Contemporary approaches to teacher professional development. *International encyclopedia of education*, 7(2), 548-556.
- Capello, S. (2020). Reexamining faculty roles in the supervision of pre-service teachers: Responding to the call for clinically-rich teacher education. *Journal of Educational Supervision*, 3(3), 18. doi:<https://doi.org/10.31045/jes.3.3.3>
- Cleary, T. J., Kitsantas, A., Peters-Burton, E., Lui, A., McLeod, K., Slemple, J., & Zhang, X. (2022). Professional development in self-regulated learning: Shifts and variations in teacher outcomes and approaches to implementation. *Teaching and Teacher Education*, 111, 103619. doi:<https://doi.org/10.1016/j.tate.2021.103619>
- De Vries, S., van de Grift, W. J., & Jansen, E. P. (2014). How teachers' beliefs about learning and teaching relate to their continuing professional development. *Teachers and Teaching*, 20(3), 338-357. doi:<https://doi.org/10.1080/13540602.2013.848521>
- Dilshad, M., Kanwal, S., & Nausheen, M. (2019). Impact of in-service training on management skills of school teachers. *Pakistan Journal of Social Sciences*, 39(4), 1431-1439.

- Essel, R., Badu, E., Owusu-Boateng, W., & Saah, A. A. (2009). In-service training: An essential element in the professional development of teachers.
- Fatima, S. (2015). Effect of teacher interaction on self-regulatory engagement: Pakistani trainee-teachers' perspective. *Educational Research International*, 4(1), 87-108.
- Gall, M., & Breeze, N. (2007). The sub-culture of music and ICT in the classroom. *Technology, Pedagogy and Education*, 16(1), 41-56. doi:<https://doi.org/10.1080/14759390601168015>
- Gore, J., Holmes, K., Smith, M., Fray, L., McElduff, P., Weaver, N., & Wallington, C. (2017). Unpacking the career aspirations of Australian school students: Towards an evidence base for university equity initiatives in schools. *Higher Education Research & Development*, 36(7), 1383-1400. doi:<https://doi.org/10.1080/07294360.2017.1325847>
- Gudmundsdottir, G. B., & Hatlevik, O. E. (2018). Newly qualified teachers' professional digital competence: implications for teacher education. *European Journal of Teacher Education*, 41(2), 214-231. doi:<https://doi.org/10.1080/02619768.2017.1416085>
- Hayes, A. F., & Rockwood, N. J. (2017). Regression-based statistical mediation and moderation analysis in clinical research: Observations, recommendations, and implementation. *Behaviour research and therapy*, 98, 39-57. doi:<https://doi.org/10.1016/j.brat.2016.11.001>
- Hochberg, E. D., & Desimone, L. M. (2010). Professional development in the accountability context: Building capacity to achieve standards. *Educational psychologist*, 45(2), 89-106. doi:<https://doi.org/10.1080/00461521003703052>
- Imogie, I. (1992). Mediated instruction and in-service education of teachers in Nigeria. *In-service education of teachers, the Nigerian Experience*. Asaba: JID Printers (Nig.) Ltd.
- Jahangir, S. F., Saheen, N., & Kazmi, S. F. (2012). In-service training: A contributory factor influencing teachers' performance. *International Journal of Academic Research in Progressive Education and Development*, 1(1), 31-38.
- Jan, T. U., & Hameed, I. (2016). Comparison of in-service teacher training programme at University of Peshawar (UOP) and Gomal University (GU) DI KHAN. *Gomal University Journal of Research*, 32(2), 58-64.
- Khan, A. H., & Aleem, M. (2014). Impact of job satisfaction on employee turnover: An empirical study of Autonomous Medical Institutions of Pakistan. *Journal of International Studies*, 7(1). doi:<https://doi.org/10.14254/2071-8330.2014/7-1/11>
- Khan, W. (2015). Quality of teacher education in Pakistan. *The Dialogue*, 10(2), 212-219.
- Klassen, R. M., & Tze, V. M. (2014). Teachers' self-efficacy, personality, and teaching effectiveness: A meta-analysis. *Educational research review*, 12, 59-76. doi:<https://doi.org/10.1016/j.edurev.2014.06.001>
- Malik, S. K., & Urooj, T. (2012). Status of teacher education in Pakistan-A problem centered approach. *Leadership Management*, 46, 8581-8586.
- Maynes, N., Hatt, B., & Wideman, R. (2013). Service learning as a practicum experience in a pre-service education program. *Canadian Journal of Higher Education*, 43(1), 80-99.
- Miquel, E., & Duran, D. (2017). Peer learning network: Implementing and sustaining cooperative learning by teacher collaboration. *Journal of education for teaching*, 43(3), 349-360. doi:<https://doi.org/10.1080/02607476.2017.1319509>
- Mitchell, D. E., Howard, B., Meetze-Hall, M., Hendrick, L. S., & Sandlin, R. (2017). The new teacher induction experience: Tension between curricular and programmatic demands and the need for immediate help. *Teacher Education Quarterly*, 44(2), 79-104.
- Mohammed, N. A., Mohammed, D., & Gana, J. (2022). The impact of training and development on employee productivity in the 21st century. *African Journal of Management and Business Research*, 3(1), 41-58.
- Naqvi, I. H., Iqbal, M., & Akhtar, S. N. (2016). The relationship between emotional intelligence and performance of secondary school teachers. *Bulletin of Education and Research*, 38(1), 209-224.
- Nasim, F., Ali, H., Javed, M. L., & Bahoo, R. (2022). A Comparative Study of the Perceived Teaching Competencies at Different School Levels. *Pakistan Journal of Humanities and Social Sciences*, 10(2), 702-710-702-710. doi:<https://doi.org/10.52131/pjhss.2022.1002.0235>
- Nassazi, A. (2013). Effects of training on employee performance.: Evidence from Uganda.
- Noe, R. A., & Kodwani, A. D. (2018). *Employee training and development*, 7e: McGraw-Hill Education.

- Ozkeser, B. (2019). Impact of training on employee motivation in human resources management. *Procedia Computer Science*, 158, 802-810. doi:<https://doi.org/10.1016/j.procs.2019.09.117>
- Pamela, I. S., Chan, F., Fauzia, V., Susanti, E. P., Frimals, A., & Rahmat, O. (2019). Keterampilan guru dalam mengelola kelas. *Edustream: Jurnal Pendidikan Dasar*, 3(2), 23-30. doi:<https://doi.org/10.26740/eds.v3n2.p23-30>
- Pasalari, H., Azizi, N., & Gholami, K. (2022). Comparative analysis of educational approaches and future training (in-service education) in teacher education in Iran and Finland, England, Japan. *Research in Teacher Education (RTE)*, 5(1).
- Qayyum, A., & Rizwan, S. (2019). Exploring the Problems of Elementary School Teachers after Taking on English as Medium of Instruction in District Sialkot. *Journal of Educational Leadership and Management*, 1(1), 1-16.
- Roca-Campos, E., Renta-Davids, A. I., Marhuenda-Fluixá, F., & Flecha, R. (2021). Educational impact evaluation of professional development of in-service teachers: The case of the dialogic Pedagogical Gatherings at Valencia "on giants' Shoulders". *Sustainability*, 13(8), 4275. doi:<https://doi.org/10.3390/su13084275>
- Sahito, Z., & Vaisanen, P. (2017). Factors affecting job satisfaction of teacher educators: Empirical evidence from the Universities of Sindh Province of Pakistan. *Journal of Teacher Education and Educators*, 6(1), 5-30.
- Samupwa, M. (2008). Teacher training and work behavior. *International Journal of Human Resources*, 65, 88-98.
- Thiessen, D. (2000). A skillful start to a teaching career: A matter of developing impactful behaviors, reflective practices, or professional knowledge? *International Journal of Educational Research*, 33(5), 515-537. doi:[https://doi.org/10.1016/S0883-0355\(00\)00032-X](https://doi.org/10.1016/S0883-0355(00)00032-X)