

Impact of In-Service Training on Performance of Teachers A Case of STEVTA Karachi Region

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Abstract

Learning which takes place in a classroom is significantly associated with teachers and their actions taken in the classroom. Therefore, quality of education can be improved by putting more focus on teaching methodologies and the way teachers spend time in classrooms. This study aimed at examining the impact of in-service training on the performance of the teachers. It is generally believed that with the implementation of certain in-service training programmes the performance of teachers regarding their professional skills, knowledge and experience can be significantly improved. The target population of the present study included the in-service teachers offering their services at Sindh Technical Education & Vocational Training Authority (STEVTA), Government of Sindh, Karachi Region. Using close-ended questions, perception and experience of teachers (n=150, m=100, f=50), who availed the opportunity to get in-service training, were gained. Findings of the study revealed the positive impact of in-service training programmes on the performance of teachers. The study also revealed the positive perception of teachers regarding their professional growth. It recommended the in-service training programmes to be introduced in line with the subject rather than general.

Keywords: *In-Service Training Programmes, Job Performance, Staff Training Institutes, STEVTA, Teacher Competency*

INTRODUCTION

Sindh Technical Education and Vocational Training Authority (STEVTA) under the Technical and Vocational Education and Training (TVET) Reform Support Program, funded by the European Union and collaborated by GIZ (German Society for International Cooperation), launched In-Service Training (pedagogy) for STEVTA teachers in all over the Sindh to enhance their teaching skills and quality. Maclean and Wilson (2009) define TVET as “aspects of the educational process involving, in addition to general education, the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupants in various sectors of economic and social life” (p. 28).

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From this perspective, one of the core objectives of TVET is “to improve governance and private sector participation in the technical vocational education and training sector (TVET), with a view to raise the quality of skills development in line with labour market demands” (Bruns, 2017, p.n.d). Furthermore, under the domain “Human Resources Development/ Teacher Training” of TVET, STEVTA is struggling for the provision of vocational course that is particularly demand-driven. It also makes sure the incorporation of pre-service and in-service training programmes for TVET teachers. It is particularly because it is generally accepted that promoting the competencies of teachers is a key to improve not only the primary, secondary and higher secondary education but also the technical vocational education (UNESCO IICBA, 2011).

In early decades, Pakistan experienced considerable updates in technical education in terms of general educational process and educational environment available in schools, colleges and other educational institutes. Nevertheless, the educational environment faced a drastic change in the last few decades, which increased the demand for qualified and experienced technical teachers (Vazir & Retallick, 2007). Consequently, it became a big question mark for the government of Pakistan to provide well-trained teachers for the access of quality education to the students facing the challenges of 21st century. Considering this factor, STEVTA introduced its plan to establish not only the Career Counselling Centres but also the Staff Training Initiatives. The objective for such establishment was based on the consideration regarding the importance of training and re-training of technical teachers to improve the quality of training and education in TEVT Institutions (STEVTA, 2010).

Problem Statement

Through the initiative of the reform process, introduced by TVET Sector Support Programme, In-Service Teacher Training for TVET staff can be stated as one of the innovative schemes. Nevertheless, the impact of in-service training on the performance of teachers is yet to be examined. This is particularly because this initiative is, opposite to the usual classroom training with teacher-centered lessons, based on supported Information Technology (IT) learning. In these training sessions, participants are required to prepare lesson plans using the internet. Although the session training is supplemented by the facility of practical tools and educational theories for the prepared lesson delivery, this approach might be difficult for the participants, as they usually do not have the internet exposure.

The present study aimed at considering the following parameters concerning with the teacher training:

- Teacher’s perception before and after attending the training sessions
- Performance of teachers in classroom before and after attending the training sessions
- Student’s achievement before and after attending the training sessions

Hypothesis

There is no significant prediction of job performance by in-service training programmes including method of training, content of the training, and experience of teachers.

LITERATURE REVIEW

In-Service Training and Teacher's Performance

Samupwa (2008), analysing the impact of teacher training on the performance of teacher's in the classroom, declares that through teacher's training behaviour and performance of teachers can be changed positively. On the other hand, Schunk, Meece, and Pintrich (2002) suggest that in-service training programmes contribute significantly to improve the education system. According to Zimmerman, Boekarts, Pintrich, and Zeidner (2000), a trained teacher is more effective and thus able to plan better strategies to assist students in various aspects. This is because different training programmes, particularly the in-service training programmes make teachers able to be aware of a specified function, enhanced vision, and thus become inclusive practitioners. Kazmi, Pervez, and Mumtaz (2011) argue that in-service training programmes make teachers equipped with logical and systematic approaches to apply in classes.

Sim (2011) suggests the following outcomes of in-service teacher training programmes:

- Increase teachers' knowledge
- Build positive attitudes and beliefs
- Enhance the teaching practices

According to Sim (2011), the fundamental purpose of in-service teacher training programmes is to create an environment that enables the effective practice of teaching within a classroom. Essel, Badu, Owusu-Boateng, and Saah, (2009) explore the positive impact of in-service teacher training and thus figure out that such programmes provide the teachers with skill, knowledge, ability and confidence. Furthermore, Essel, Badu, Owusu-Boateng, and Saah, (2009) discuss, "Teachers must be provided with growth opportunities if they are to be encouraged to meet learning needs effectively. If teachers are to develop, attention must be paid to their thinking, moral purposes and skills as change agents as well as their pedagogical and management skills and the leadership and cultural contexts in which they work" (p. 61).

Teacher Education Policy in Pakistan

According to Timperley, Wilson, Barrar, and Fung (2008), the term "teacher education" (also known as teacher training) is used to define the provision, policies, and procedures designed to prepare teachers, whether prospective or in-service teachers, with the attitudes, behaviours, knowledge, and skills they require to perform their tasks effectively within the wider community, school, and particularly the classroom. From this perspective, the mechanism teachers must be equipped with is a key topic of political debate in both developed and in developing countries (Goel & Vijay, 2017). This is particularly because, Timperley (2008) argues, it reflects the importance of cultures and societies to develop new generation, an important financial asset of future. Timperley (2008) further points out, "the influence of factors such as socio-economic status, home, and community, student learning is strongly influenced by what and how teachers teach" (p.n.d).

Chang (2014) states that government of Pakistan brought noteworthy higher education liberalization as well as expansion reforms in 2000. This liberalization and reforms were based on market approaches encouraged by the self-financed programmes. As a result, this approach

of the government of Pakistan played a significant role in the teacher education, training programmes, and development. According to Chang (2014), “Although most teacher education was initially based on the British model of post-academic degree training, teacher education developed in a variety of ways, including a recent rapid growth of market-model programs and private sector in-service programs” (p. 56). From this perspective, four different periods can be stated as four distinct developmental stages in the field of teacher education. Katz (1995) describes such stages as Survival, Consolidation, Renewal, and Maturity.

Teacher Training and Student Achievement

Harris and Sass (2011) determining the relationship between student achievement and teacher training find a positive and significant correlation between the two variables. On the other hand, Jacob and Lefgren (2004) find, “marginal increases in in-service training have no statistically or academically significant effect on either reading or math achievement, suggesting that modest investments in staff development may not be sufficient to increase the achievement of elementary school children in high-poverty schools” (p. 50). Nevertheless, Naoreen, Aslam, Arshad, and Nausheen (2011) find a significant difference between the performance of trained and untrained teachers. They conclude that, regardless of their gender, trained teachers display better performance than that of the untrained teachers and thus trained teachers play an effective role in the achievement of students. In the same way, Gibbs and Coffey (2004) conclude that teacher training increases the analytical level by which teachers can assume the focus of students. However, with the lack of training support, teachers cannot progress in the right and progressive way and result in the losing to the extent that they assume or adopt the focus of student (Ahmed, 2011).

STEVTA

Sindh Technical Education and Vocational Training Authority (STEVTA) was established in 2009 under the supervision of Government of Sindh, Pakistan. It was comprised of well-known officials from various public sectors, the legislative body of private sectors, foremost industries including Engro Corporation limited and Siemens, and with the efforts of the Chamber of Commerce & Industries. Currently, 251 TEVT institutes are functioning under STEVTA having more than 2000 faculty members. These institutes offer various technical programmes including Bachelor of Technology programme, Bachelor of Science in Industrial Technology, Diploma of Associate of Engineering, Diploma in Commerce, Certificate in Commerce, Technical School Certificate (equivalent to Metric), Diploma, Certificates, and Short courses in Information Technology, and Vocational Diploma, Certificate, and other certificate courses (Stevta, 2017).

In-Service Training (IST) Programmes

Under the TVET Reform Support Program, STEVTA initiated an innovative scheme for in-service teacher training programmes for TVET teaching staff. Opposite to the usual classroom training with teacher-centred lessons, this innovative training was based on assisted IT blended learning, where the trainees had to use the internet and prepare their lesson plans (Uwaifo and Uwaifo, 2009). This was accomplished by the provision of educational theories and practical tools and skills for lesson delivery. The duration of such training was four weeks including two weeks of self-learning, where the participants needed to accomplish specific tasks (TVET, 2017).

E-Learning Centres

Launched in 2011, In-Service Training Programme was implemented through 19 e-Learning Centres set up across the country. Initially, more than a hundred e-tutors were trained to train more teachers. These e-Learning Centres are still functioning in close cooperation with the provincial Technical Education and Vocational Training Authorities (TEVTAs) and Punjab Vocational Training Council (PVTC) under the umbrella of National Vocational & Technical Training Commission (NAVTTTC). Currently, STEVTA is functioning four Staff Training Institutes (STIs), under the TVET Reform Support Project (TRSP), funded by the European Union. These four STIs are located in Karachi, Hyderabad, Sukkur and Larkana. Under TEVET Reform Support Program (TRSP), the In-Service Trainings (Pedagogy) through Blended Learning methodology was launched in 2014 to train the 2400 teachers/instructors in the Province Sindh. To accomplish the task, GIZ (a German Society of International Cooperation) established e-learning rooms (including IT equipment and furniture) at all the four STIs in Province Sindh and to disseminate the training, 32 Lead Trainers from Sindh TEVTA were trained by German Expert (GFA).

RESEARCH METHOD

The present study aimed at determining the perception of TVET teaching staff regarding the In-Service Training Programme. From this perspective, it applied a quantitative research methodology to test the hypotheses. According to Creswell (2009), a study based on quantitative research method deals with a systematic and empirical method of observing phenomenon with the help of statistical techniques to analyse the gathered data.

Sample and Sampling Technique

The target population of the present study included the teachers currently serving at the institutions of STEVTA in Karachi. From such teachers never enrolled for the in-service training conducted under the supervision of Sindh TEVTA were excluded. From this perspective, the sample of the population was 150 teachers currently serving at different colleges and institutes in Karachi including Government College of technology, Government Polytechnic institutes, Government Monotechnic Institutes, Government Vocational Training Institutes and so on. The participants for the present study were selected randomly by employing the random sampling techniques making sure that each participant of the population of interest, having both of the genders as well as other characteristics, was given the equal chance of participation.

Data Analysis

The gathered data was analysed through SPSS, the Statistical Package for the Social Sciences, to explain the findings of the study. It is noteworthy to understand that the gathered data was analysed based on various techniques and purposes such as data reliability, descriptive of the gathered data, the correlation between the items, and so on.

RESULTS AND FINDINGS

Descriptive Analysis

In statistics, the term “Descriptive Analysis” refers to the frequency distribution of data, which is used to calculate the frequency, ratio or percentage of data from various perspectives. According to Stone et al, (2008), this technique is generally used to analyse the details and characteristics of demographic information of the respondents of a study. From this perspective, the following tables show the descriptive analysis of the respondents of the present study.

Table 1: Descriptive Analysis

Gender of Teachers		
Gender	Frequency	Percentage
<i>Male</i>	100	66.7
<i>Female</i>	50	33.3
Marital Status of Teachers		
<i>Single</i>	40	26.7
<i>Married</i>	110	73.3
Age of Teachers		
<i>18-30</i>	34	22.7
<i>30-40</i>	59	39.3
<i>40-50</i>	50	33.3
<i>50-60</i>	7	4.7
Qualification of Teachers		
<i>HSC/DAE</i>	17	11.3
<i>Graduation</i>	78	52
<i>Post-graduation</i>	55	36.7
Designation of Teachers		
<i>Shop instructor</i>	28	18.7
<i>Instructor/lecturer</i>	40	26.7
<i>Assistant professor</i>	40	26.7
<i>Associate professor</i>	23	15.3
<i>Any other</i>	19	12.7
Experience of Teachers		
<i>1-5 years</i>	1	0.7
<i>5-10 years</i>	18	12
<i>10-15 years</i>	33	22
<i>15-20 years</i>	54	36
<i>More than 20 years</i>	44	29.3
Total	150	100

Table 1 shows the total number of participants (teachers) i.e. 150 among them 100 were male (66.7 %) and 50 were female (33.3 %). It also demonstrates the marital status of teachers participated in the present study. From this perspective, 110 teachers (73.3 %) were married

and 40 teachers (26.7 %) were unmarried. In the light of this table, the ages of the participated teachers can be distributed into four groups including 1=18-30, 2= 30-40, 3= 40-50, and 4= 50-60. However, the highest number of teachers (39.3 %) was from the second group i.e. having their ages between 30 and 40. On the other hand, the lowest number of teachers (4.7 %) was from the fourth group i.e. having their ages between 50 and 60. It would be right to state that the significant number of teachers were below 50 of their ages.

Table 1 states that most of the teachers (52 %) had graduation, which means that they were under the heading of “Literature Population.” Nevertheless, some of the teachers (11.3 %) had only Higher Secondary Certificate (HSC) or Diploma of Associate Engineering (DAE), which was even below the line of literacy. On the other hand, a large number of teachers (55 = 36.7 %) were postgraduates as well. However, recruiting teachers with HSC/DAE shows the negative quality of teaching. It reveals the highest designation of the teachers at teachers currently serving at the institutions of STEVTA in Karachi. From this perspective, most of the teachers were posted on the designations including Instructor and/or Lecturer and Assistant Professor. Nevertheless, the percentage of shop instructor and associate professor is also noteworthy. It can be concluded, in the light of table 5 that teachers at STEVTA hold satisfactory designations and thus can afford the in-service training programmes in terms of both monetary and intellectual. It explores the experience of teachers at STEVTA and figures out that almost all of the teachers are well-experienced and thus can be assumed as well-skilled as well. Only 0.7 percent teachers (having the frequency of 1) have less than 5-year experience, which is highly insignificant.

Reliability Analysis

In the present study, Cronbach’s Alpha by applying SPSS package was employed to test the reliability of gathered data. Reliability analysis test explores the regularity and uniformity of the given feedback of respondents. The more consistency among the result will be, the high reliability will be observed. It is assumed that if Cronbach’s Alpha is equalled to 0.7, the internal consistency of the result is acceptable and if Cronbach’s Alpha is > 0.7, it means the reliability is high than that of the acceptable range. From this perspective, the value of Cronbach’s Alpha was found as .70 which was in the acceptable range.

Regression Analysis

In order to test the hypotheses of the present study, regression was conducted through SPSS package. Table 2 shows the correlation between the dependent variable (performance of teacher) and independent variables (In-Service Training Programmes, having three divisions including method of training, content of the training, and experience). From this perspective, the overall correlation between the dependent and the independent variables is 47.8% with 22.9% of the variation.

Table 2: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.478 ^a	0.229	0.213	0.879

a. Predictors: (Constant), method of training, experience of teachers, and content of the training

Table 3 represents how well the regression equation is fit in the light of gathered data. From this perspective, the F-ratio tests if the overall model of regression is a good fit for the gathered data. Therefore, the table shows the independent variables as predicting the dependent variable significantly i.e. $F(3, 146) = 14.45$, $p < .0005$. Based on the figured found in this table, it can be concluded that the regression model is a good fit of the data.

Table 3: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
<i>Regression</i>	33.469	3	11.156	14.45	.000 ^b
<i>Residual</i>	112.724	146	0.772		
<i>Total</i>	146.193	149			

a. *Dependent Variable: Performance of teachers*

b. *Predictors: (Constant), Method of Training, Experience of Teachers, And Content of the Training Programmes*

Coefficient Analysis

Table 4 reveals that all of the independent variables have a significant relation with the dependent variable i-e performance of teachers. This can be stated in other words, for example, as with the help of in-service training programmes, the overall performance of teachers can be improved. Putting this in easier way, with the increase effect of Content of Training Programmes, there is an increase of 0.209 in the performance of teachers. In the same way, with the increase effect of Experience of Teachers, there is an increase of 0.251 in the performance of teachers, while with the increase effect of Method of Training, there is an increase of 0.354 in the performance of teachers. It is also noteworthy to note that the coefficients of all independent variables are statistically significantly different from 0, as found in the sig column. Therefore, it can be concluded that all of the three variables added the prediction statistically significantly and thus the null hypothesis is failed to retain. There is significant prediction of job performance by in-service training programmes including method of training, content of the training, and experience of teachers.

Table 4: Coefficients

	Standardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
	3.65	0.489		7.47	0
<i>Content of Training Programmes</i>	0.209	0.09	0.183	2.321	0.022
<i>Experience of Teachers</i>	0.251	0.07	0.28	3.585	0
<i>Method of Training</i>	0.354	0.09	0.292	3.917	0

a. *Dependent Variable: Performance of teachers*

DISCUSSION

Both, the reviewed literature and the perception of in-service teachers, put more emphasis

on the importance of in-service teacher training programmes. Such programmes are meant to promote the quality education, as Bruns (2017) argues that promoting the competencies of teachers is a key to improve not only the primary, secondary and higher secondary education but also the technical vocational education. From this perspective, it is worth noting to understand that in-service teacher training programmes are essential for the teaching's profession. This is for the reason that such training programmes are designed to improve the performance of teacher as well as organizational structure, facilities, policies and classroom activities. For example, Kazmi, Pervez, and Mumtaz (2011) argue that in-service training programmes make teachers equipped with logical and systematic approaches to apply in classes. In the same way, the increased perception of in-service teachers brings attention towards demand for constantly modernising and updating the professional skills and knowledge of teachers because of the introduction of upgraded and new curricula, need-based learning of students, research of teaching with learning and performance of the teacher.

Teacher development is important for any organization as well as for any country that holds the target of improvement in their capacity building. Since the in-service training must be incorporated in the academic calendar to teacher awareness as they have to prepare themselves to attend the in-service training that must in actual seek to come joy to the mind and hearts of teachers as such in-service training would certainly assist and motivate them to be more passionate and more committed to their services. As per survey response collected from teachers, most of the teachers recommended for in-service training in a particular subject to improvise the knowledge, skill and method of teaching in their relevant fields. Most recommended for purely practical based training as the technical education covers most of the part on practical based.

CONCLUSION

In conclusion, it could be stated that in-service training is a long-term investment to develop skills and professionalism of teachers. From this perspective, TVET reform support and other stakeholders introduced in-service training in technical education, which seems to be very effective for the growth of in-service teachers. Nevertheless, along with the in-service teaching training programmes, new teaching-learning concepts should be introduced to make such programmes more effective. For example, learning method and desirable teaching can make the teaching sounder. Therefore, it is recommended that in-service teacher training providers should continue to introduce a variety of training activities with different teaching perspectives in their mind. It will assist the teachers, particularly vocational teachers, to attain new techniques and skills and thus improve the quality of vocational education in Pakistan

REFERENCES

- Ahmed, H. (2011). *Building capacity of teachers and trainers in technical and vocational education and training (TVET) in Sudan: Case of Khartoum State* (Doctoral dissertation, Dresden, Technische Universität Dresden, Diss., 2011).
- Bruns, H. (2017). *Supporting Technical and Vocational Education and Training (TVET) Reform in Pakistan*. *Giz.de*. Retrieved 30 October 2017, from <https://www.giz.de/en/worldwide/26783.html>.

- Chang, F. H. (2014). *Teacher education policies and programs in Pakistan: The growth of market approaches and their impact on the implementation and the effectiveness of traditional teacher education programs*. Michigan State University.
- Creswell, J. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches*. SAGE Publications, Incorporated.
- Essel, R., Badu, E., Owusu-Boateng, W., & Saah, A. A. (2009). In-service training: An essential element in the professional development of teachers. *Malaysian Journal of Distance Education*, 11(2), 55-64.
- Gibbs, G., & Coffey, M. (2004). The impact of training of university teachers on their teaching skills, their approach to teaching and the approach to learning of their students. *Active learning in higher education*, 5(1), 87-100.
- Goel, D., & Vijay, P. (2017). Technical and vocational education and training (tvete) system in india for sustainable development. *Deputy Director General, Department of Higher Education. Ministry of Human Resource Development, Government of India*.
- Harris, D. N., & Sass, T. R. (2011). Teacher training, teacher quality and student achievement. *Journal of public economics*, 95(7), 798-812.
- Jacob, B. A., & Lefgren, L. (2004). The impact of teacher training on student achievement quasi-experimental evidence from school reform efforts in Chicago. *Journal of Human Resources*, 39(1), 50-79.
- Katz, L. (1995). The developmental stages of teachers. *Talks with teachers: A collection*, 203-210.
- Kazmi, S. F., Pervez, T., & Mumtaz, S. (2011). In-service teacher training in Pakistani schools and total quality management (TQM). *Interdisciplinary Journal Of Contemporary Research In Business, March Edition*, 2, 238-248.
- Maclean, R., & Wilson, D. (Eds.). (2009). *International handbook of education for the changing world of work: Bridging academic and vocational learning* (Vol. 1). Springer Science & Business Media.
- Naoreen, B., Aslam, S., Arshad, M., & Nausheen, R. (2011). Impact of in-service teacher training on students' learning achievement in mathematics. *In International Conference on Social Science and Humanity, IPEDR* (Vol. 5, pp. 168-174).
- Samupwa, M. (2008). Teacher training and work behavior. *International Journal of Human Resources*, 65, 88-98.
- Schunk, D. H., Meece, J. R., & Pintrich, P. R. (2012). *Motivation in education: Theory, research, and applications*. Pearson Higher Ed.
- Sim, J. Y. (2011). *The impact of in-service teacher training: a case study of teachers' classroom practice and perception change* (Doctoral dissertation, University of Warwick).

- Stevta (2017). *Sindh Technical Education & Vocational Training Authority Government of Sindh*. [online] Stevta.gos.pk. Available at: <http://www.stevta.gos.pk/> [Accessed 31 Oct. 2017].
- STEVTA. (2010). *Sindh Technical Education & Vocational Training Authority (STEVTA) Working Paper 5th Meeting of STEVTA Board*. Retrieved 30 October 2017, from <http://www.stevta.gos.pk/bog/bog5m-wp.pdf>
- Stone, H., Sidel, J., Oliver, S., Woolsey, A., & Singleton, R. C. (2008). Sensory evaluation by quantitative descriptive analysis. *Descriptive Sensory Analysis in Practice*, 23-34.
- Timperley, H. (2008). Teacher Professional Learning and Development. Educational Practices Series-18. *UNESCO International Bureau of Education*.
- Timperley, H., Wilson, A., Barrar, H., & Fung, I. (2008). *Teacher professional learning and development*. New Zealand Ministry of Education.
- TVET (2017). *In-Service Training*. [online] Pakistan TVET REFORM Support Programme. Available at: <http://tvetreform.org.pk/in-service-training/> [Accessed 31 Oct. 2017].
- UNESCO IICBA. (2011). *The Role of Teacher Training in Technical and Vocational Education and Training (TVET) in Africa*. *Unesdoc.unesco.org*. Retrieved 13 January 2018, from <http://unesdoc.unesco.org/images/0023/002313/231309e.pdf>
- Uwaifo, V. O., & Uwaifo, I. U. (2009). Training technology and vocational education teachers for the new 9-3-4 education system in Nigeria: Its problems and prospects. *International NGO Journal*, 4(4), 160-166.
- Vazir, N., & Retallick, J. (2007). Perspectives on teacher status: Issues and challenges. *Teacher Status: A symposium*, 3-41.
- Zimmerman, B. J., Boekarts, M., Pintrich, P., & Zeidner, M. (2000). *A social cognitive perspective*. *Handbook of self-regulation*, 13(1), 695-716.