

Development and Validation of Teachers' Performance Evaluation Scale (TPES)

¹M. Nadeem Shahzad, ²M. Tahir Khan, ³Javed Hassan Akhtar
drtahirfarooqi@ue.edu.pk

Abstract

The main purpose of the study was to develop and validate an instrument namely Teachers' Performance Evaluation Scale (TPES) to evaluate classroom performance of Secondary School Teachers in Punjab (Pakistan). Data were collected from 300 Secondary School Teachers from 75 public sector secondary schools (25 from each district) namely District Kasur, Chiniot and Mianwali. The major factors included in TPES were power of expression, knowledge of work, analytical ability, supervision and guidance, ability to take decisions and work output and quality. The expert opinions were sought out to make tool valid. A confirmatory factor analysis was also employed to validate TPES. Liseral was used to conduct confirmatory factor Analysis. Factor loading for each item were well above the threshold value 0.35. Correlation among latent factor was significant at 0.964.

Key words: Teacher's performance, Evaluation, Power of Expression, Analytical Ability, Work out put and Quality.

Introduction

Policy makers, practitioners and parents agree that effective teachers are the key to improve public education. (Hammond, 2010). The teachers are the real assets of the nation that is why their professional performance plays a significant role in the success of teaching learning process (Panda & Mohanty, 2003). Storange (2010) analyzed that the basic essence of a teachers is the success of students and of education system at large. Performance has always been remained prime requirement in teaching profession, as there is always room for improvement. In Pakistan, the literacy rate is very low as compared to the neighboring countries (UNESCO, 2012). Teachers play major role in increasing enrollment thus teachers' performance has postured prime importance (Awan & Riasat, 2015). The evaluation of teachers' performance is not simple task. Some teachers are capable of producing intended results than others and this effects students' learning achievement (Rivkin, Hanushek & Kain, 2005). Improving teachers' performance proves more fruitful for

quality education than any other single factor (Wright, Horn, & Sanders, 1997). There are six major factors that indicate the teachers' performance i.e; power of expression, knowledge of work, analytical ability, supervision and guidance, ability to take decisions and work output and quality (ACR, 2015).

Teachers' performance evaluation provides feedback to overcome weaknesses and difficulties. The most important task of teacher and teaching process is to perform curricular and co-curricular activities successfully (Hamid, Hasan & Ismail, 2012). Thus, teachers' performance evaluation involves the process of measuring teachers planning, readiness, self-confidence (Hammond, 2000), experience and knowledge of work (Goes, 2007), instructional skills, attitude and class management skills (Waxman *et al.*, 2003). Performance estimation provides basis for policy making and management decisions. It is also important because it enable teachers to assess themselves to improve their performance in teaching (Kadtong &

¹Government Postgraduate College, Pakpattan, Pakistan

²University of Education, Okara Campus, Pakistan

³Ghazi University, D.G. Khan, Pakistan

Usop, 2013). Khojastemehr and Takrimi (2009) analyzed the characteristics of effective teachers. The analysis gives four constructs of teachers' performance i.e., instructional strategies, communication skills, personal characteristics and knowledge.

Moreover, effective teachers exhibit certain personality attributes which improves student's learning (Polk, 2006). Kniepp, Biscoe and Richard, (2010) examined the effects of teachers characteristics on students perceptions through 'Big Five Theories (the human personality is the construct of five big dimensions i.e; extraversion, agreeableness, openness, conscientiousness and neuroticism. Strong, (2007) advocated seven standards of effective teaching, viz.; professional knowledge, instructional planning, instructional delivery, assessment for learning, learning environment, professionalism and students' progress. Harris and Rutledge (2007) stated that cognitive ability as well as personality are positive predictors of performance. An instructors' self-evaluation shows his or her perception about teaching learning process and perceived strength in classroom. The success of an education system depends on teachers' performance. Therefore, it is very useful and necessary to determine the qualities of a good and effective teacher. We have discussed some studies related to teachers' performance evaluation and also studied some major indicators of performance. In the present study, the comprehensive descriptions of the mentioned factor are as under.

Power of Expression

Human beings are bestowed with power of speech as compared to other creations of God. It was the power of expression that discovered and exhibited the mysterious association between the Creator and the creation. Power of expression (speech) not only consists of

clarity of meaning, sound of words or expression of intentions but also expresses the music of our feelings and joy of heart (Gulen, 2007). It is the individuals' ability and capacity to influence others behavior through speech (Foley, 2006). It is the physical state of words, the action of a higher order mind comprehended through various kinds of facial expressions. It is the necessary part of painting to make it perfect picture (Hartly, 2001). Making sense of a sentence is just like to understand a music theme (Sandler, Meir, Padden, & Aronoff, 2005). The role of a teacher is as a model for students. Teacher should read and interpret text as writer described it (Palmer & Corbett, 2003). Teacher should present and analyze text, and grammatical features of speech, joint construction and discussion in a competent way (Marshal, 2001).

Knowledge of Work

Teachers have to perform complex tasks during teaching learning process. Teachers' knowledge of work is based on content knowledge proficiency and training and code of conduct (Millerson, 1964). Fraut (2002) discusses the complexity of teachers' work and point out that knowledge formation of teachers is different from other professional groups. Teaching without preparation is just talking. Teachers should not only gain skills and knowledge but also update them with the latest developments (OECD, 2009). There is a positive relationship between teachers' professional training and coaching, and students' achievement (Angrist & Lavy, 2001). Effective teachers display their knowledge of work in two ways. One is the sort of teaching and assessment techniques that can be noticed in the classroom. Others are professional characteristics they demonstrate. They use a Tactical Lesson Planning Approach which identifies content objectives and method of teaching to be employed. They ask a lot of

Development and Validation of Teachers' Performance Evaluation Scale (TPES)

questions to involve students in classroom discussion (Banks & Mayes, 2001).

Decision Making

Teachers have to take many decisions for setting high learning goals, content selection, using assessment techniques, management of time, responding to emergency situation and taking instructional decisions. According to Stanovich and Stanovich (2003), teachers perform many decision making activities like setting of objectives for his teaching, plan instruction, choose strategy to deliver, select assessment technique etc. If the desired objectives are achieved, the teacher relies on his decisions and if the objectives are not achieved, new decisions are made. The use of technology in localized classroom setting is also part of teacher's decision (Stein, Smith, & Silver, 1999). The personal abilities of teachers also play significant role in deciding about technology adaptation (Sugar, Crawley, & Fine, 2004).

Supervision and Guidance

It is a phase of school education encompassing accomplishment of the appropriately selected instructional decisions of educational service. Supervision is concerned with the improvement of the teaching and teachers, the selection and organization of subject matter, training, measurement and the rating of teachers (Vashist, 1993). Students need guidance on different occasions. A good teacher is always ready to help students i.e., in subject selection, planning home assignments and during psychological problems. School counselors provide help and assistance in conflict resolution, social skills development, career exploration, healthy life choices and mental health (Gysbers & Moore, 1981). Supervision and guidance promote student success focusing on academic achievement, advocacy, personal, emotional and career

development. Supervision proves helpful for professional and personal growth (Wiles, 1967). In short, it is the responsibility of teachers to guide whole students properly and to direct students towards measuring ends.

Analytical Ability

It is the ability to apply logical and critical thinking in order to derive hidden meaning from it. It helps in solving important tasks through inductive reasoning. Analytical ability is the essential part of teachers' performance (Zottman, Fisher & Schrader, 2010). It is the ability to portray teaching situations in various ways, to become immersed in a multiple dimensions and to conceptualize knowledge to respond a situation (Schrader & Hartz, 2003). Moreover, Berliner (2004) described that more experienced and competent teacher can identify, analyze, understand and use knowledge to solve problems in the classroom situation. Case based learning methods are considered to have great potential for developing analytical and problem solving skills (Lundeberg, 1999). Interactive learning can be considered a valid instrument for assessing teacher analytical skills and improves teachers' performance (Jonsson, 2010).

Work Output and Quality

Some individuals have applied quality principles in their job. Recent researches describe quality based model for class room instruction (Jensen & Robinson, 1995; Latzgo & Stedinger, 1996). Aristotle considered it similar to character and human virtue of society. Teaching is different profession than other, people expect more ethical values from them (Cuilla, 2005). Effective teaching shows respect to their students and fairness to avoid frustration. It also displays professionalism, creates conducive learning environment have a sense of belongingness and inspire students with their potential

qualities and professional skills. Hence, quality of work can be improved by increasing the quality of teachers (Rubio, 2009).

Methodology

The study was analytical in nature and survey technique was used. The population of the study was comprised of secondary school teachers of the Punjab province. Due to time and resources constraints, convenient sampling technique was used. Three districts of the Punjab province namely, Kasur, Chiniot and Mianwali were conveniently selected. Moreover, 300 SSTs (100 SSTs from each district) were also conveniently selected from the secondary schools of these districts.

Teacher's Performance Evaluation Scale (TPES) was developed by the researchers. Expert opinions were taken from Professionals related to the field. After validation from the experts of the field, it was piloted with the help of all the 300 selected secondary school teachers. After pilot testing, factor analysis was carried out. The reliability coefficient (Cronbach Alpha) calculated was 0.964.

Factor Analysis

The confirmatory factor analysis (CFA) was used to reduce items in the data in this study. The responses to the 5-Likert items in the questionnaire generate ordinal variables. Thus, the ordinal variables in the data set are suitable for the factor analysis. LISREL 8.3 (Jöreskog & Sörbom, 1999) was used to conduct confirmatory factor analysis by using an asymptotic covariance matrix, polychoric correlation matrix, and weighed least squares estimation, as recommended by Jöreskog and Sörbom (1996) in analyzing the ordinal variables.

Fit Indices

Hu and Bentler (1999) suggested that the combination of GOF indices to find

a vigorous evaluation of data-model fit in the structural equation modeling. The recommended cut off criterion values were CFI > 0.95, TLI > 0.95, RMSEA < 0.06, and SRMR < 0.08. Moreover, they suggested some cautions about the use of GOF indices, therefore these values should be treated as "rules of thumb" in spite of the rigid standards. The existing practices have incorporated these new guidelines without paying sufficient attention to the limitations. Moreover, some researchers (Beauducel & Wittmann, 2005; Fan & Sivo, 2005; Marsh, Hau, & Wen, 2004; Yuan, 2005) believe that these cut off values are too rigid; therefore it confine generalizability only to the levels of misspecification/s; experienced in the distinctive practices. Regarding the general practices, a "good enough" or "rough guideline" approach for the absolute fit indices and incremental fit indices (for example, CFI, GFI, NFI, NNFI and TLI) was accepted. Under the relaxed criteria, the cut off values should be above 0.90 (0.90 is a benchmark), and for the fit indices based on the residuals matrix (such as RMSEA and SRMR), values below 0.05 or 0.10 were generally considered adequate. Although different people seem to use different sets of indices, it cannot possibly be escaped these choices. Therefore, the researchers in this study picked the index which is not the positive about the fit of model used in this study. It is also advocated that good fit does not ensure that model is correct, only that it is reasonable.

Development and Validation of Teachers' Performance Evaluation Scale (TPES)

Table No. 2

Fit Indices for Teacher's Performance Evaluation Scale

Fit Index	Value
PEX	0.92
KW	0.95
ANA	0.94
SG	0.94
ATD	0.06
WOQ	

Table 2 presents the appropriate statistics of the preferred tested model. Such as seen in Table 2 that PEX, KW, ANA, and SG measures well above .90, which shows an adequate model fit, ATD measures above .05 which shows to some extent inadequate fit.

Table No. 3

The factor loading of each item

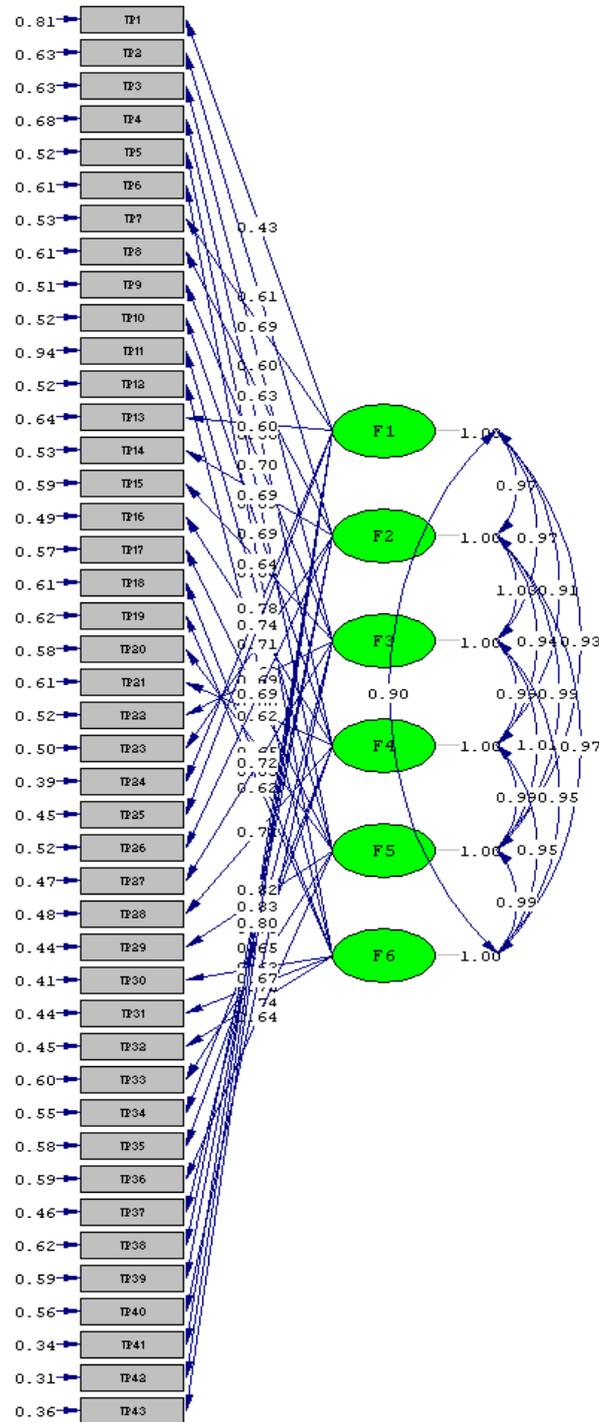
Item Numbers	F1	F2	F3	F4	F5	F6
1	0.43					
2		0.61				
3			0.60			
4				0.57		
5					0.70	
6						0.62
7	0.69					
8		0.62				
9			0.70			
10				0.69		
11					0.38	
12						0.70
13	0.60					-
14	-	0.69				
15			0.64			
16				0.71		
17					0.66	
18						0.62
19						0.62
20					0.67	
21				0.62		
22			0.69			
23		0.70				
24	0.78					
25	0.74					
26		0.70				
27			0.72			
28				0.71		
29					0.76	
30						0.77
31						0.76
32						0.74
33					0.63	
34				0.68		
35				0.66		
36					0.64	
37			0.73			
38		0.61				
39		0.64				
40			0.67			
41	0.81					
42	0.82					
43	0.80					

Figure 1 shows correlated factor analyses of the model. The values against every box reflect measurement

error. The values indicated by the arrows reveal the factor loading of each item. Here anything above 0.35 is measured good.

Figure 1:

Factor Analysis of Teacher Scale



Correlation among latent factors and all coefficient values are significant at 5% level are presented in table 4.

Development and Validation of Teachers' Performance Evaluation Scale (TPES)

Table No.4

Correlation among Factors

	F1	F2	F3	F4	F5	F6
F1	1.000					
F2	0.966	1.000				
F3	0.971	1.029	1.000			
F4	0.911	0.937	0.987	1.000		
F5	0.933	0.986	1.008	0.992	1.000	
F6	0.902	0.967	0.946	0.948	0.990	1.000

Interpreting Correlation Coefficient

The size and significance affects the practicality of correlation. The r value will be statistically significant because of r reliability variance from 0.00. (i.e., does not result from a chance occurrence) inferring that if the same variables were measured on another set of similar subjects, a similar r -value would result. If r achieves significance, we conclude that the relationship between the two variables was not due to chance. The values of r always

fall between -1 and +1 and the value does not change if all values of either variable are transformed to a different scale. A high (or low) negative correlation has the same explanation as a high (or low) positive correlation. A negative correlation shows that high scores in one variable are connected with low scores in the other variable. The size of any correlation usually evaluates as follows:

Table No. 5

Interpretation of Correlation Coefficient

Correlation Value	Interpretation
≤0.50	Very low
0.51 to 0.79	Low
0.80 to 0.89	Moderate
≥0.90	High (Good)

Results and Discussion

The present study is an attempt by the researchers to develop a scale to evaluate teacher's performance. The factors considered important in evaluating teachers performance are power of expression, knowledge of work, analytical ability, supervision and guidance, ability to take decision and work output and quality (PER, 2012). It is widely accepted fact that the success of an education system depends on teachers' performance. Therefore, it is very useful and necessary to determine the qualities of a good and effective teacher. It also provides feedback to eradicate teacher's difficulties. The most important task of teacher and teaching process is to perform curricular and co-curricular activities successfully (Hamid, Hasan & Ismail, 2012). Teachers' performance

evaluation involves the process of measuring teachers planning, readiness and self-confidence (Hammond, 2000), experience and knowledge of work (Goes, 2007), instructional skills, attitude and class management skills (Waxman *et al.*, 2003).

For the development and validation of inventory, the data were collected from secondary schools teachers. The factor analysis was also made through confirmatory factor analysis. A CFA with ordinal categorical data is appropriate for factor analysis of item responses where each item is scored polytomously. LISREL was used to conduct confirmatory factor analyses. The factor analysis shows that all values of fit indices of factors were above the cut off values 0.90. A value greater or equal to 0.9 is excellent for social

sciences (Fan & Sivo, 2005). The item analysis was also made which was above the threshold level of 0.35. The Reliability Coefficient (Cronbach Alpha) calculated

was 0.964. The factor analysis shows that the scale was developed according to the local situation and may be used by the future researchers.

References

- Awan, A. G., & Riasat, A. (2015). Comparative Analysis of Public and Private Educational Institutions: A Case Study of District Vehari-Pakistan. *Journal of Education and Practice*, 6(16), pp. 122-130. Retrieved from, <http://files.eric.ed.gov/fulltext/EJ1079988.pdf>
- Berliner, D. C., (2004). Describing the behavior and documenting the accomplishments of expert teachers. *Bulletin of Science, Technology and Society*, 24(3), 200-213. Retrieved from [http://www.academia.edu/7821168/Describing the Behavior and Documenting the Accomplishments of Expert Teachers](http://www.academia.edu/7821168/Describing_the_Behavior_and_Documenting_the_Accomplishments_of_Expert_Teachers)
- Cuilla, J. B. (2005). *Ethics: The Heart of Leadership* Chennai: Rain Tree, Publishers Ltd, classrooms: some food for thought. *The Teacher Educator*, 37(3), 173-185. Retrieved from, <http://e-bookrights.com/2015/04/ethics-the-heart-of-leadership-by-joanne-b-ciulla/>
- Darling-Hammond, L., (2000). Teacher Quality and Student Achievement: A Review of State Policy Evidence; Education Policy Analysis Archive, 8(1), 144. Retrieved from, <https://bdgrdemocracy.files.wordpress.com/2011/08/teachereducation1.pdf>
- Foley, M. K. (2006). Dialogue and power in parent-child communication. In *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research* (Vol. 7, No. 2). Retrieved from, <http://www.qualitative-research.net/index.php/fqs/article/view/97>
- Geo, L. (2007). *The Link Between Teacher Quality And Student Outcomes: A Research Synthesis*, National Comprehensive Center on Teacher Quality. 1-4. Retrieved from, <http://eric.ed.gov/?id=ED521219>
- Gysbers, N. C., & Moore, E. J. (1981). *Improving guidance programs*. Prentice Hall. Retrieved from <http://www.worldcat.org/title/improving-guidance-programs/oclc/6649558>
- Hamid, R. A., Hassan, S.S. S. & Ismail, N. A.H. (2012). Teaching Quality and Performance Among Experienced Teachers in Malaysia. *Australian Journal of Teacher Education*, 37(11), 5. Retrieved from <https://www.learntechlib.org/p/113412>
- Harris, D. N., & Rutledge, S. A. (2007). *Models and predictors of teacher effectiveness: A review of the literature with lessons from (and for) other occupations*. Madison, WI: Teacher Quality Research. Retrieved from, <http://eric.ed.gov/?id=EJ888467>
- Jensen, P.A., & Robinson, J.K. (1995). Deming's quality principles applied to a large lecture course. *J. Engr. Education*, 84(1), 45-50. (<http://onlinelibrary.wiley.com/doi/10.1111/j.1540-6261.1995.tb00111.x>)

- 0.1002/j.2168-9830.1995.tb00145.x/abstract
- Jonsson, A. (2010). The use of transparency in the “Interactive examination” for student teachers. *Assessment in Education: Principles, Policy & Practice*, 17(2), 185-199. Retrieved from, <http://www.tandfonline.com/doi/abs/10.1080/09695941003694441?journalCode=caie20>
- Jonsson, A., Baartman, L.K.J. & Lennung, S.A., (2009). Estimating the quality of performance assessments: The case of an “Interactive examination” for teacher competency. *Learning Environments Research*, 12(3), 225-241. Retrieved from,
- Leu, E., (2005). The role of Teachers, Schools and Communities in Quality Education: A Review of the Literature. *Academy for Educational Development Global Education Center vol. 5*. Retrieved from, <http://eric.ed.gov/?id=ED490174>
- Lundeberg, M. A., Levin, B. B., & Harrington, H. L., (Eds.). (1999). *Who learns what from cases and how? The research base for teaching and learning with cases*. (pp. 3-23). Mahwah, NJ: Erlbaum. NJ: Prentice-Hall. Retrieved from, <https://www.amazon.com/Who-Learns-What-Cases-How/dp/0805827781>
- OECD (2009). *Creating Effective Teaching and Learning Environments: First Results from TALIS*. Paris: OECD.
- Palmer, S., & Corbett, P., (2003). *Literacy what works?* Cheltenham: Nelson Thornes. Retrieved from, <http://www.oecd-ilibrary.org/education/creating-effective->
- <http://link.springer.com/article/10.1007%2Fs10984-009-9061-z>
- Khojastehmehr, R., & Takrimi, A., (2009). Characteristics of effective teachers: Perceptions of the English teachers. *Journal of Education & Psychology*, 3(2), 53-66. Retrieved from, http://www.sid.ir/en/VEWSSID/J_pdf/1012520080205.pdf.
- Latzko, W.J. (1997). Modeling the method: The Deming classroom. *Quality Management Journal*, 5(1), 46-55. Retrieved from, <http://asq.org/qic/display-item/index.pl?item=12130>
- teaching-and-learning-environments_9789264068780-en
- Panda, B. N., & Mohanty, R. C. (2003). *How to Become a Competent/Successful Teacher*. Discovery Publishing House. Retrieved from, <http://www.worldcat.org/title/how-to-become-a-competent-successful-teacher/oclc/588486682>
- Performance Evaluation Report, (2012). Ministry of Education, Govt. of Pakistan. Retrieved from, www.moe.gov.pk
- Polk, J.A., (2006). Traits of effective teachers. *Arts Education Policy Review*, 107(4), 23-29. Retrieved from, <http://eric.ed.gov/?id=EJ744411>
- Rivkin, S.G., Hanushek, E.A., & Kain, J.F., (2005). Teachers, Schools, and Academic Achievement. *Econometrica*, 73(2), 417-458. Retrieved from, <http://hdl.handle.net/10.1111/j.1468-0262.2005.00584.x>
- Rubio, M. C., (2009). Effective teachers – Professional and personal skills, en *Ensayos, Revistade la Facultad de*

Development and Validation of Teachers' Performance Evaluation Scale (TPES)

- Educación de Albacete*, 24 (1), 35-46. Retrieved from, http://www.uclm.es/ab/educacion/en_sayos
- Sandler, W., Meir, I., Padden, C., & Aronoff, M. (2005). The emergence of grammar: Systematic structure in a new language. *Proceedings of the National Academy of Sciences of the United States of America*, 102(7), 2661-2665. (http://www.ehu.es/HEB/KEPA/Advanced_2012/Sandler_2005.pdf).
- Schrader, J., & Hartz, S. (2003). Professionalisierung—Erwachsenenbildung—allarbeit. *Ermöglichungsdidaktik in der Erwachsenenbildung*, 142-155. Retrieved from, <https://bibliographie.uni-tuebingen.de/xmlui/handle/10900/69762>
- Stanovich, P. J., & Stanovich, K. E., (2003). *Using research and reason in education: How teachers can use scientifically based research to make curricular & instructional decisions*. Washington, DC: US Department of Education. Retrieved from, https://lincs.ed.gov/publications/pdf/Stanovich_Color.pdf
- Stanovich, P., & Jordan, A., (2002). Preparing general educators to teach in inclusive classrooms: some food for thought. *The Teacher Educator*, 37(3), 173–185. Retrieved from,
- Sugar, W., Crawley, F., & Fine, B., (2004). Examining teachers' decisions to adopt new technology. *Educational Technology and Society*, 7(4), 201-213. Retrieved from, http://www.ifets.info/journals/7_4/19.pdf
- <http://www.tandfonline.com/doi/abs/10.1080/08878730209555292?journalCode=utte20>
- Stedinger, J.R., (1996). Lessons from using TQM in the classroom. *J. Engr. Education*, 85(2),151-156. Retrieved from, <http://onlinelibrary.wiley.com/doi/10.1002/j.2168-9830.1996.tb00224.x/pdf>
- Stein, M. K., Smith, M. S., & Silver, E. A., (1999). The development of professional developers: Learning to assist teachers in new settings in new ways. *Harvard Educational Review*, 69 (3), 237-269. Retrieved from, <http://hub.mspnet.org/index.cfm/9237>
- Stewart, J. (Ed.), (1973). *Bridges not walls: A book about interpersonal communication*. Reading, MA: AddisonWesley. Retrieved from, <https://www.amazon.com/Bridges-Not-Walls-Interpersonal-Communication/ndp/0073534315>
- Stronge, J., (2007). *Qualities of Effective Teachers*. VA: Association for Supervision and Curriculum Development, Alexandria. Retrieved from, <http://www.ascd.org/Publications/Books/Overview/Qualities-of-Effective-Teachers-2nd-Edition.aspx>
- UNESCO,2012 WHY PAKISTAN NEEDS A LITERACY MOVEMENT? Retrieved from, http://unesco.org.pk/education/documents/publications/Why_Pakistan_Needs_Literacy_Movement.pdf
- Usop, A.M., Askandar, D. K., Kadtong, M. L., & Usop, D. A. S.,(2013). Work

- Performance and Job Satisfaction among Teachers. *International Journal of Humanities and Social Science*. 3(5), 245-252. Retrieved from, http://www.ijhssnet.com/journals/Vol_3_No_5_March_2013/25.pdf
- Vashist S.R., (1993). *Perspectives in Educational Supervision*. J.L. Kumar Anmol Publications, Pvt, Ltd. New Delhi. Retrieved from, https://books.google.com.pk/books/about/Perspectives_in_Educational_Supervision.html?id=1H_EHwAACAAJ&redir_esc=y
- Waxman, C.H., Lin, M. F., & Michko, G.M., (2003). *A meta-analysis of the effectiveness of teaching and learning with technology on student outcomes*. Naperville, Illinois: Learning Point Associates. Retrieved from, <http://mediendidaktik.uni-due.de/sites/default/files/waxman.pdf>
- Wiles, K. & Lovell, J., (1975). *Supervision for better schools*, 4th Ed. Englewood Cliffs, New, Jersey: Prentice-Hall, Inc. Retrieved from, <http://eric.ed.gov/?id=ED099983>
- Wright, P., Horn, S., & Sanders, W. (1997). Teacher and Classroom Context Effects on Student Achievement: Implications for Teachers Evaluation. *Journal of Personnel Evaluation in Education*, 11(1), 57-67. Retrieved from, https://www.sas.com/govedu/edu/teacher_eval.pdf
- Zottmann, J., Goeze, A., Fischer, F. & Schrader, J. (2010). Facilitating the Analytical Competency of Pre-Service Teachers with Digital Video Cases: Effects of Hyperlinks to Conceptual Knowledge and Multiple Perspectives. Paper presented at the *EARLI SIG 6&7 Conference 2010*. Ulm, Germany. Retrieved from, http://www.psy.lmu.de/ffp/download/publikation_zottmann.pdf