

Relationship between Students' Perceptions of Teacher Effectiveness and Student Achievement at Secondary School Level

Muhammad Akram *

Abstract

Teacher effectiveness is a process of measuring teaching quality based on quality indicators. High quality teachers are required to demonstrate frequent performance on quality indicators. The purpose of this study was to measure the relationship between teacher effectiveness score and student achievement at secondary school level. Using the multistage sampling technique, 40 high schools (20 male and 20 female) were selected as strata. Later, all 2000 students of grade 9 of these 40 schools in District Okara were sampled. A School Teacher Effectiveness Questionnaire (STEQ) Developed and validated by Akram (2018) was adopted for this study to measure teacher effectiveness. The STEQ was found to be highly reliable ($\alpha=.88$). Student achievement scores in English and Mathematics of these students were also collected from respective schools. Pearson correlation was used to measure the relationship between teacher effectiveness and student achievement. The study found moderate positive significant relationship between teacher effectiveness score and student achievement. Learning environment demonstrated highest relationship with student achievement in English and Mathematics, followed by effective communication. Multiple regression analysis revealed that 32 percent of variance in student achievement in English and 12 percent of variance in student achievement in Mathematics was explained by teacher effectiveness scores. Further, male and female students did not significantly differ on their perceptions of their teachers' effectiveness. The study provides evidence of validity and reliability of STEQ leading the idea that secondary school students can validly measure teacher effectiveness scores. Limitation includes private tuition that can contribute to student achievement. The study implied that student ratings can be used as a supplement data source of measuring teacher quality.

Keywords: Teacher effectiveness, student achievement, instructional strategies, communication, and classroom assessment.

*Assistant Professor, Division of Education, University of Education, Lahore, Pakistan.
Email: makram@ue.edu.pk

Introduction

Evaluating teaching is a formal and organized process of identifying effective teachers. High quality teachers demonstrate myriad skills and consistently struggle for maximizing student performance (Akram, 2018; Akram & Zepeda, 2015). A plethora of research tells that effective teachers exhibit competence in subject matter, use varying instructional strategies, demonstrate knowledge of assessment, and contribute to student growth (Akiri, 2013; Akram, 2018; Ellett & Teddlie, 2003; Markley, 2004; Stronge & Tucker, 2000; Wright, Horn, & Sanders, 1997).

The demand for accountability in education has moved from managing finance program to increasing excellence in teaching learning process (Darling-Hammond, Wise, & Pease, 1983). The research has evidenced that effective teachers can contribute up to 50 percentile difference in student achievement as compared to less effective teachers (Sanders & Rivers, 1996). It is important, therefore, to identify effective teachers to ensure quality teaching and giving children their birthright of quality education.

Teacher effectiveness can best be judged through teacher evaluation which has gained considerable attention of the policymakers during the last decade. Teacher performance evaluation offers teachers a tool for an improvement in student learning (Akram, 2018; Akram & Zepeda, 2015; Peterson, 2000; Stronge & Tucker, 2003). Multiple data sources such as classroom walkthroughs, portfolios, self-assessment, peer appraisal, and head teachers' evaluations have historically been used to evaluate teachers (Stronge, 2006). Student surveys are one of the important measures used to evaluate teacher competence (Follman, 1996). Students, being the first stakeholders, can have significant perspectives of teacher performance as they have daily interaction with their teachers (Peterson, 2000).

Sometime, when a student does not perform well in a test, it is generally assumed that only the student is responsible for his or her poor performance. In fact one of the strongest reasons might be the poor teacher performance. In that case, the student being a primary consumer of the teacher's services (Stronge, 2006), can better inform about the teacher effectiveness. Student surveys can be effective and trustworthy sources for teacher evaluation and the best sources of teacher quality (Stronge, 2010).

Public school teachers in Punjab have historically been evaluated by their head teachers on Performance Evaluation Report (PER) which is a generalized report and, perhaps, is not a valid measure of teacher quality. This research focused on using students' ratings for measuring teacher effectiveness employing teacher evaluation standards of the Ministry of Education (2009) Pakistan give another valid and reliable perspectives of measuring teacher quality.

The National Professional Standards for Teachers in Pakistan are highly compatible with the teacher quality indicators used throughout the world. Ministry of Education (2009) recommended that these standards should be adopted so that teachers can know about their weaknesses and strengths and improve their teaching accordingly. Akram (2015) conducted research employing these professional standards in which secondary school teachers self-evaluated their performance. However, students' perceptions, perhaps, have not been used to evaluate teacher performance in Pakistan. This study has been conducted to fill this gap. The researcher used students' perceptions employing the School Teacher Effectiveness Questionnaire (STEQ) developed by Akram (2018) that includes five national professional standards to correlate with 9th graders achievement scores in English and Mathematics achieved in the Secondary Board Sahiwal annual examination 2017.

Describing relationship between students' perceptions of teaching effectiveness and students' achievement will offer teachers recommendations that will be supportive to revising their teaching strategies. It will also help the teachers to reflect on how to deliver effective teaching regarding teacher quality indicators. The results of this study might help policymakers to think about using students' perceptions about teacher evaluations for formative and summative assessment purposes.

Research Objectives

The objectives of the study were to:

1. Measure students' perceptions of teacher effectiveness in English and Mathematics.
2. Measure the relationship between students' perceptions of teacher effectiveness and their achievement in English and Mathematics.
3. Predict student achievement in English and Mathematics through teacher effectiveness scales.
4. Compare students' perceptions of teacher effectiveness based on their gender.

Research Questions

The study involves the following research questions.

1. What do students perceive of teacher effectiveness in English and Mathematics?
2. What is the relationship between students' perceptions of teacher effectiveness and their achievement in English and Mathematics?
3. Do teacher effectiveness scales (subject matter knowledge, instructional planning strategies, assessment, learning environment and effective communication), as perceived by students, combine to predict student achievement in English and Mathematics?
4. Do male and female students significantly differ in their perceptions of teacher effectiveness?

Conceptual Framework

A conceptual framework is a system of concepts, assumptions, expectations, beliefs, and theories that supports and informs research. Berman (2013), and Knight, Halkett, and Cross (2010) perceived conceptual framework as a model that explains the relationships between variables that may imply theoretical perspective. This study involved five factors based on theoretical models of Stronge (2006), Causal Teacher Evaluation Model of Marzano (2007), and Akram and Zepeda (2015) model based on National Professional Standards for Teachers in Pakistan.

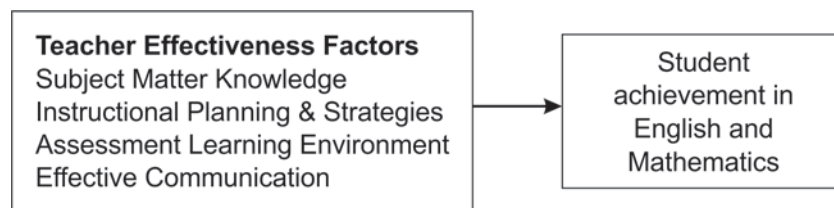


Figure 1. Conceptual Framework

The researcher perceived that five factors would significantly combine to demonstrate teacher effectiveness and predict 9thgraders' achievement in the above mentioned subjects. Student achievement in these subjects is important to research as a large number of students fail in these subjects every year and they need urgent attention of the teachers, head teachers, administrators and educational authorities, i.e. policymakers.

Teacher Evaluation and National Professional Standards in Pakistan

Teacher evaluation offers all educators with regular criticism that can help them develop as influential instructor. Through evaluation, it is possible to separate worthwhile instructing from insufficient teaching. Teacher evaluation system determines whether teachers have met educational objectives. In Pakistani public school system, Performance Evaluation Report (PER) is used to evaluate teacher performance. UNESCO (2006) argued that the PER is a primary source of assessing teachers' performance. Teachers are promoted to higher ranks if they get excellent comments of their head teachers on this report. The major portion of this report includes personality characteristics which cannot be necessarily linked with teacher performance. Giving specific importance to that point, the Ministry of Education developed national professional standards in 2009. In this proposed study, five out of ten standards have been selected on which students evaluated their teachers' performance.

Subject matter knowledge includes the items that ensure teachers have appropriate knowledge of their subjects. An effective teacher must demonstrate deeper knowledge and teaching skills while teaching (Liakopoulou, 2011). The effective teacher focuses on understanding and meaning of the content and implements curriculum effectively (McBer, 2000). For effective learning, a teacher needs to develop effective instructional planning and strategies to support students learning (Chang, 2010). Effective teachers create environment of cooperative learning where students interdepend on each other for learning (Berk, 2005).

Assessment is another integral part of learning process. An effective teacher is one who knows different types of assessment and uses them accordingly (Akiri, 2013). It is the most important activity to help students learn. Through assessment teacher helps the students to understand where they are wrong and need improvement (Brown, 2005). Through assessment, instructors improve learning process and fill gaps in information and areas of misconception (McBer, 2000). Effective teacher knows and understands how to use different types of assessments for effective teaching (Ministry of Education, 2009).

Effective learning environment in classroom enhances pupil progress (Good & Brophy, 1997). Effective teachers maximize interaction with students where students feel comfortable and relax in terms of accessibility. Effective teachers build rapport with their students, especially with those who struggle more for their success and create a respectful environment that ensures successful learning. The classroom is an enormously complex place requiring vast teacher knowledge and understanding as well as skills and abilities in coping with emerging problems.

Effective Communication is yet another central component to unlock all the doors to successful fulfilling of the learning objectives. Bibi (2005) argued that good communication starts with effective listening. Facial expression and tone of voice are important to effective communication. For effective communication, it is essential for the teacher to have comprehensive knowledge of both subject matter and their learners. Effective communication enables the teacher to make the subject matter comprehensible to the students. Poor communication interprets the simple information to difficult words. Effective communication processes supported the efficient learning.

Measuring Teacher Effectiveness through Students' Perspectives

Using students' perceptions for measuring teacher effectiveness may provide valuable insight to teachers to seek new ways to motivate learners (Chang, 2010). Peterson, Wahlquist, and Bone (2000) held the argument that student surveys can be effective and trustworthy data source for teacher evaluation. Peterson (2000) stated that students reliably answer to the variety of items with purpose and commitment when they evaluate teachers.

Keane and Labhrainn (2005) found that evaluation system results improvement. There are many sources to evaluate teacher performance. So far as concerned with the course design (objectives, content, methods and assessment or grading practices in assessment), the students are perhaps less competent to evaluate teacher performance; but in terms of the value of the transfer of instruction, it is usually decided that only students are in a position to provide effective feedback. This study concludes that students' evaluation of teaching is generally reliable and valid source of teacher evaluation.

Dilshad (2010) researched nature of teacher education from students' viewpoint through survey research. The author collected data from students through questionnaire addressing five measurements of training quality specifically, learners, learning environment, substance, courses of action, and results. These five measurements indicated sensibly great nature of learners but with low nature of understanding and learning environment.

Ferguson (2012) stated that university administrators argued that students' responses in colleges and universities improve teaching and learning and the same is true in elementary and secondary school contexts. Ferguson (2012) used a large sample of secondary school classroom students to measure effective teaching. The data from 1264 English Language Arts classrooms and 1094 math classrooms were analyzed to inspect how strongly the teachers differed on demonstrating the levels of teaching quality. This study found that students' responses were consistent, valid, and constant over time at the classroom level. This discussion demonstrated that student perceptions and opinions can prove to be the best input to improve teaching and learning in elementary, middle, and high schools.

Based on the reviewed literature, the researcher concludes that using student ratings for measuring teacher effectiveness might be a valid measure to be used in Pakistani public school context. The researcher has not been able to find any study that used students' perceptions of teacher effectiveness and correlated with students' achievement in English and Mathematics. This study aims to describe the relationship between students' perceptions using five professional standards of teaching to evaluate teacher performance and their achievement in the subjects mentioned above.

Research Methodology

It was a correlational study that employed teacher effectiveness indicators as independent variables and student achievement as dependent variable. All male and female public high schools in District Okara were taken as the population of the study. Using multistage sampling technique, the researcher randomly selected 40 high schools (20 boys and 20 girls) as strata. Later, all students of grade 9 of these schools were sampled for data collection. In this way, 2000 students were selected in total as sample.

Instrumentation

A School Teacher Effectiveness Questionnaire (STEQ) developed and validated by Akram (2018) was used as an instrument for data collection. Originally, the STEQ was developed in English; however, it was translated into Urdu language so that students of 9th grade could easily understand the language. The STEQ comprises 26 items with 5 factors. The items of the factors were scaled as Never (1), Rarely (2), Sometime (3), Often (4), and Always (5); meaning that the students' perceptions as never would indicate that their teachers never demonstrated effectiveness in that item and standard, and students' perceptions as always would indicate that their teachers always demonstrated effectiveness in that particular item and that standard.

The content validity of the STEQ was ensured through experts' and practitioners opinions (Akram, 2018). The five scales combined to demonstrate higher level of reliability ($\alpha=.88$) with factor-wise reliabilities ranged between .70 and .76. Exploratory factor analysis determined the goodness of fit as Bartlett's test of sphericity, $\chi^2= 10264.54$, $df= 325$, $p = .000$, and a Kaiser–Meyer–Olkin measure of sampling adequacy, $KMO= 0.94$. Confirmatory factor analysis revealed that the measurement model fitted the data well: Chi-square index fit with $\chi^2=899.65$, $p=0.0$, Root Mean Square Residual (SRMR) $=.02$, Goodness of Fit Index (GFI) $=.98$, Comparative Fit Index (CFI) $=.98$, and Root-Mean-Square Error of Approximation (RMSEA) $=.026$.

Data Collection

Data on STEQ were collected in 2017. The researcher and a research assistant visited 40 sampled secondary schools of district Okara and took permission of head teachers for data collection. After their permission, the researcher distributed questionnaires to the students and guided them how to complete them. The students took approximately 30 minutes to answer the questionnaires. Overall, the researcher received 4000 questionnaires (2000 for English and 2000 for Mathematics) from students across forty Schools. Student achievement scores in these subjects on Sahiwal Board Examination were also collected from the concerned schools. The data collected from respondents were analyzed in a collective manner only so as not to expose any individual response. All ethical issues such as the confidentiality and safety of data were addressed properly.

Data Analysis

A quantitative approach (correlational research) was used in the study. The data collected through STEQ were entered into Excel spreadsheet and exported into SPSS version 20 by the researcher. Frequencies were calculated to avoid errors. Five Factors were computed based on item loadings. Initially, reliabilities were calculated. (See Table 1)

Table 1*Factor-wise and overall Reliability of School Teacher Effectiveness Questionnaire (STEQ)*

Scales	Items	A
Subject Matter Knowledge	6	.76
Instructional Planning and Strategies	6	.72
Assessment	5	.70
Learning Environment	6	.71
Effective Communication	3	.72
Overall	26	.88

After reliabilities, descriptive statistics were calculated for measuring teacher effectiveness score in English and Mathematics.

Table 2*Descriptive Statistics - Teacher effectiveness in English and Mathematics (N=2000)*

Scales	English		Mathematics	
	M	SD	M	SD
Subject Matter Knowledge	20.90	3.615	20.68	3.582
Instructional Planning and Strategies	19.44	3.283	19.14	3.249
Assessment	17.88	3.515	17.49	3.533
Learning Environment	24.65	4.546	24.34	4.811
Effective Communication	16.62	3.485	16.43	3.612
Overall	19.77	3.686	19.61	3.757

Table 2 shows that the students perceived that their English teachers showed highest level of effectiveness in creating *learning environment* (M=24.65, SD=4.546), followed by *subject matter knowledge* (M=20.90, SD=3.615), *instructional planning and strategies* (M=19.44, SD=3.283), and *assessment* (M=17.88, SD=3.515). The students perceived that their teachers demonstrated the lowest level of effectiveness in *effective communication* (M=16.62, SD=3.485). The mean value describes that the students perceived their teachers *often* demonstrated effectiveness while teaching.

Table 2 also shows that the students perceived that their Mathematics' teachers demonstrated effectiveness in creating *learning environment* (M=24.34, SD=4.811), followed by demonstrating *subject matter knowledge* (M=20.68, SD=3.582), *instructional planning and strategies* (M=19.14, SD=3.249), and *assessment* (M=17.49, SD=3.533). The teachers perceived that their teachers demonstrated lowest level of effectiveness in *effective communication* (M=16.43, SD=3.612). The mean items of the teachers' effectiveness scale in table 2 shows that the students perceived their teachers *often* demonstrated effectiveness.

Table 3*Correlating Teacher Effectiveness and Student Achievement (N=2000)*

Scales	English (r)	Mathematics (r)
Subject Matter Knowledge	.43*	.45*
Instructional Planning and Strategies	.38*	.43*
Assessment	.45*	.49*
Learning Environment	.49*	.55*
Effective Communication	.46*	.49*

(2-tailed Sig>.05)

Results in table 3 showed all the five scales of teacher effectiveness showed significant relationship with student achievement in English with probability value less than .05. The Pearson r values showed that the highest relationship was found between *learning environment* scale and *students' achievement* scores in English ($r=.49$), followed by *effective communication* ($r=.46$), *assessment* ($r=.45$), and *subject matter knowledge* ($r=.43$) respectively. The least positive significant relationship was found between *instructional planning and strategies* and *student achievement* in English ($r=.38$).

For *Mathematics*, the highest relationship was found between *learning environment* scale and *students' achievement* scores in Mathematics ($r=.52$), followed by *assessment* ($r=.49$), *effective communication* ($r=.48$), and *subject matter knowledge* ($r=.44$) respectively. The least positive significant relationship was found between teacher effectiveness score on *instructional planning and strategies* and *student achievement* in Mathematics ($r=.42$).

Table 4*Multiple Regression Analysis-Teacher Effectiveness and Student Achievement in English*

Model	Sum of Square	df	Mean Square	f	Sig.
Regression	105823.065	5	21164.613	186.214	.000
Residual	227656.313	1994	113.658		
Total	333479.378	1999			

A multiple linear regression analysis was run to predict student achievement in English based on teacher effectiveness score. Table 5 showed that five factors significantly combined to predict student achievement in English, ($R^2=.32$, $F(5, 1994)=186.214$, $p=.000$). The R square value showed that almost 32 percent variance in student achievement could be explained through teacher effectiveness score measured through students' perceptions. For factor-wise, *subject matter knowledge* significantly predicted student achievement in English ($\beta=.191$, $p<.001$), as did *instructional planning and strategies* ($\beta=.112$, $p<.001$), *assessment* ($\beta=.135$, $p<.001$), *classroom environment* ($\beta=.111$, $p<.001$), and *effective communication* ($\beta=.183$, $p<.001$).

Table 5*Multiple Regression Analysis-Teacher Effectiveness and Student Achievement in Mathematics*

Model	Sum of Square	df	Mean Square	f	Sig.
Regression	40535.526	5	8107.105	42.604	.000
Residual	381154.024	1994	190.292		
Total	421689.550	1999			

The results showed that 5 factors of teacher effectiveness significantly combined to predict student achievement in Mathematics ($R^2=.12$, $F(5, 2008)=42.604$, $p=.000$). R square value showed that 12 percent variance in student achievement in Mathematics could be explained though five factors of teacher effectiveness as perceived by students. Further, three of five factors, individually, significantly combined to predict student achievement in Mathematics as *subject matter knowledge* ($\beta=.092$, $p<.001$), *classroom environment* ($\beta=.094$, $p<.001$), and *effective communication* ($\beta=.148$, $p<.001$). However, *instructional planning and strategies* ($\beta=.035$, $p=.210$), and *assessment* ($\beta=.028$, $p=.306$) did not significantly predict student achievement in Mathematics.

Table 6*Gender-Based Comparative Analysis for English and Math (N=2000)*

Scales	English						Mathematics			
	Gender	N	M	SD	t	Sig.	M	SD	T	Sig.
Subject Matter Knowledge	Male	1190	3.94	.717	2.152	.031*	3.96	.723	2.341	.021*
	Female	810	3.44	.732				3.56	.770	
Instructional Plan. & Strategies	Male	1190	3.55	.732	2.857	.004*	3.60	.731	2.967	.003*
	Female	810	3.48	.743				3.49	.851	
Assessment	Male	1190	3.67	.748	1.494	.023*	3.61	.761	1.587	.024*
	Female	810	3.63	.729				3.43	.751	
Classroom Environment	Male	1190	3.45	.632	2.183	.029*	3.56	.641	2.172	.028*
	Female	810	3.40	.641				3.38	.653	
Effective Communication	Male	1190	3.30	1.800	1.800	.042*	3.40	.761	1.890	.041*
	Female	810	3.26	.777				3.28	.775	
Overall	Male	1190	91.05	14.502	2.712	.007*	92.08	14.490	2.743	.005*
	Female	810	88.79	14.472			87.12	14.420		

Two t-tests for independent samples were conducted to compare male and female students' perceptions of their teacher effectiveness in English and Mathematics. Table 6 showed that, in overall, male students rated their teachers significantly more effective as compared to female students in English, $t(1999)=2.712$, $p=.007$ as well as in Mathematics, $t(1999)=2.743$, $p=.005$. Further, factor-wise results showed that male students perceived their teachers more *effective* than female teachers in all five factors. It is concluded, therefore, that male and female students perceive their teacher effectiveness differently. The detailed results can be seen in Table 6.

Findings

The purpose of this study was to measure and correlate teacher evaluation scores of English and Mathematics teachers with their student achievement. The study found that male and female students rated their teachers as effective, representing that they *often* demonstrated effectiveness on the teacher evaluation standards. Significant moderate positive relationships were found between teacher effectiveness scales and student achievement in English and Mathematics. Multiple regression analysis revealed that students' perceptions of teacher effectiveness significantly predicted student achievement in English as well as Mathematics. As compared to female students, male students rated their English as well as Mathematics teachers' higher and more effectiveness than female students on all five factors

Discussion

The study found significant moderate relationship between teacher effectiveness score and student achievement. The study found that students' ratings of teacher effectiveness significantly predicted student achievement. The findings of this study are compatible with the findings of various authors (Al-Issa & Sulieman, 2007; Akram, 2018; Borman & Kimball, 2005; Chen & Hoshower, 2003; Cohen, 1981; Darling-Hammond, Amrein-Beardsley, Haertel, & Rothstein, 2012; Harris & Twine, 2012).

One might argue that the relationships found in this study are moderate, not strong. Many researchers have discussed this issue in detail and described various reasons. For example, Heneman, Milanowski, Kimball, and Odden (2006) described that we should not expect to find perfect correlation between teacher evaluation scores and student achievement as various other factors influence both. Milanowski (2004) added that various extraneous variables that work as independent variable contribute to student achievement; therefore, strong correlations cannot be expected.

This study found that students' perceived that learning environment was very important factor as it was significantly correlated to their achievement in English as well as in Mathematics. This is important for teachers to focus on creating classroom environment that is conducive to learning and where students can share and communicate their ideas freely with their teachers and develop their understanding. Stronge (2006) stated that by conveying a sense of credibility and caring, effective teachers communicate to students in both verbal and nonverbal ways and cultivate a positive and productive learning environment.

Conclusion

The results of the study indicated that majority of the students perceived their teachers as effective, representing that they often demonstrated effectiveness. Based on the findings, it is concluded that students of secondary classes evaluated their teachers validly. Students' perceptions are an important data source of measuring teacher quality and plethora of research supports this finding, especially in international scenario. It is further concluded that students' perceptions of teacher effectiveness can be linked with student achievement. Since multiple data sources are used to take summative decisions, it is implied that students' perceptions can be used as a supplement data source besides other data sources such as self-assessment and head teachers' ratings.

Recommendations

The findings of the study lead to important recommendations. For example, the National Professional Standards have theoretical as well as practical underpinning to use them for teacher evaluation. These standards are aligned with international teacher quality indicators as previously modeled by Bill and Malinda Gates Foundation (2007), Marzano (2007), Stronge (2010), Akram and Zepeda (2015) and Akram (2018). For increasing teacher quality, these standards must be introduced to public school system and formally adopted by the local and district-wide authorities.

Secondly, it is need of the time to change Performance Evaluation Report (PER) which includes merely personality indicators. A new PER should be designed based on national professional standards so that teacher evaluation can take a serious place in teaching learning process. Current evaluations of teachers are not based on classroom observations (formal or informal walk-throughs) where these standards can actually be demonstrated and measured. Neither the students' input about teachers' knowledge, use of teaching methodologies, assessment, and communication have been considered for improvement purpose nor is the teacher held accountable for his or her teaching quality on some standards. The researcher recommends that policymakers should give considerable attention to using national professional standards for teacher evaluation formally. A movement of standardization is required to uplift the quality education in the country and policymakers can play a significant role in designing and implementing a standard-based teacher evaluation model that can causally be linked to teacher performance.

Lastly, the study found that male students rated their teachers higher than female students while evaluating their teachers. Mengel, Sauermann, and Zolitz (2018) and Olafsdottir (2018) found similar results that female faculty received lower evaluations than male faculty. This is important finding that shows evidence of gender inclination towards teacher evaluation. The research tells that male students get more motivation from male teachers than female students get from female teachers (Harris & Barnes, 2009). Motivation is an important factor that contributes to student achievement (Han & Yin, 2016). It might be the motivation that led male students to rate their teachers higher. Further studies should be conducted to understand why male students rated their teachers higher.

References

- Akiri, A. A. (2013). Effects of teachers' effectiveness on students' academic performance in public secondary schools; Delta State Nigeria. *Journal of Educational and Social Research*, 3(3), 105-111.
- Akram, M. (2018). Development and validation of school teacher effectiveness questionnaire. *Journal of Research and Reflection in Education*, 12(2), 154-174.
- Akram, M., & Zepeda, S. J. (2015). Development and validation of teacher self-assessment instrument. *Journal of Research and Reflections in Education*, 9(2), 134-148.
- Al-Issa, A., & Sulieman, H. (2007). Student evaluations of teaching: Perceptions and biasing factors. *Quality Assurance in Education*, 15(3), 302-317.
- Berk, A. R. (2005). Survey of 12 strategies of measure teaching effectiveness. *International Journal of Teaching and learning in Higher Education*, 17(1), 48-62.
- Berman, J. (2013). Utility of a conceptual framework within doctoral study: A researcher's reflections. *Issues in Educational Research*, 23(1), 1-18.
- Bibi, S. (2005). *Evaluation study of competencies of secondary school teachers in Punjab*. (Unpublished doctoral dissertation). University of Arid Agriculture, Rawalpindi, Pakistan.
- Bill & Melinda Gates Foundation, Measures of Effective Teaching Project. (2010). *Working with teachers to develop fair and reliable measures of effective teaching*. Retrieved from <http://www.metproject.org/downloads/met-framing-paper.pdf>
- Borman, G. D., & Kimball, S. M. (2005). Teacher quality and educational equality: Do teachers with higher standards-based evaluation ratings close student achievement gaps? *The Elementary School Journal*, 106(1), 3-20.

- Brown, S. (2005). Assessment for learning. *Learning and Teaching in Higher Education*, 1(1), 81-89.
- Chang, Y. C. (2010). *Students' perceptions of teaching styles and use of learning strategies*. (Unpublished master's thesis). University of Tennessee, USA.
- Chen, Y., & Hoshower, L. B. (2003). Student evaluation of teaching effectiveness: An assessment of student perception and motivation. *Assessment & Evaluation in Higher Education*, 28(1), 71-88.
- Cohen, P. A. (1981). Student ratings of instruction and student achievement: A meta-analysis of multi section validity studies. *Review of Educational Research*, 51(3), 281-309.
- Darling-Hammond, L., Amrein-Beardsley, A., Haertel, E., & Rothstein, J. (2012). Evaluating teacher evaluation. *Phi Delta Kappan*, 93(6), 8-15.
- Darling-Hammond, L., Wise, A. E., & Pease, S. R. (1983). Teacher evaluation in the organizational context: A Review of Literature. *Review of Educational Research*, 53(3), 285-328.
- Dilshad, R. M. (2010). Assessing quality of teacher education. *Pakistan Journal of Social Sciences*, 1(1), 85-97.
- Ellett, C. D., & Teddlie, E. (2003). Teacher evaluation, teacher effectiveness and school effectiveness perspectives from the USA. *Journal of Personal Evaluation in Education*, 17(1), 101-128.
- Ferguson, R. F. (2012). Can student surveys measure teaching quality? *Phi Delta Kappan*, 94(3), 24-28.
- Follman, J. (1996). Secondary school students' ratings of teacher effectiveness. *High School Journal*, 75, 168-179.
- Good, T. L., & Brophy, J. E. (1997). *Looking in classrooms* (7th ed.). New York, NY: Longman.
- Han, J., & Yin, H. (2016). Teacher motivation: Definition, research development and implications for teachers. *Cogent Education*, 3(1), 1-18.
- Harris, K., & S. Barnes., S. (2009). Male teacher, female teacher: Exploring children's perspectives of teachers' roles in kindergartens. *Early Child Development and Care*, 179(2), 167-181.

- Harris, T., & Twinaime, L. (2012). Student evaluations of teaching: The students' perspective. *Studies in Learning, Evaluation, Innovation & Development*, 9(1), 145-156.
- Heneman, H. G. III., Milanowski, A., Kimball, S. M., & Odden, A. (2006). *Standards-based teacher evaluation as a foundation for knowledge-and skill based pay* (RB-45). Retrieved from University of Wisconsin-Madison, Wisconsin Center for Education Research, Consortium for Policy Research in Education website: <http://cpre.wceruw.org/publications/rb45.pdf>
<https://search.proquest.com/docview/1889561321/previewPDF/4D64B631F53144F9PQ/1?accountid=135034>
- Keane, E., & Mac Labhrainn, I. (2005). *Obtaining student feedback on teaching and course quality*. Centre for Excellence in Learning & Teaching. Retrieved from <https://www.nuigalway.ie/media/celt/files/coursedesign/ReviewofTeachingEvaluationMethods.pdf>
- Knight, S., Halkett, G., & Cross, D. (2010). *The context and contextual constructs of research*. Paper presented at the 5th Conference on Qualitative Research in IT, Brisbane, Australia.
- LiaKopoulou, M. (2011). The professional competence of teachers: Which qualities, attitudes, skills and knowledge contribute to a teacher's effectiveness? *International Journal of Humanities and Social Service*, 1(21), 66-78.
- Markley, T. (2004). *Defining the effective teacher, current arguments in education*. White Mountains Regional School District New Hampshire. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.549.7407&rep=rep1&type=pdf>
- Marzano, R. J. (2007). *The art and science of teaching: A comprehensive framework for effective instruction*. Alexandria, VA: Association for Supervision and Curriculum Development.
- McBer, H. (2000). *Research into teacher effectiveness: A model of teacher effectiveness*. Research Report No.216. St Clements House, 2-16 Colegate, Norwich. Retrieved from <https://www.education.gov.uk/publications/eorderingdownload/rr216.pdf>.
- Mengel, F., Sauer mann, J., & Zölitz, U. (2018). Gender bias in teaching evaluations. *Journal of the European Economic Association*, 17(2), 535-566. Retrieved from <http://ftp.iza.org/dp11000.pdf>

- Milanowski, A. T. (2004). *Relationships among dimension scores of standards-based teacher evaluation systems, and the stability of evaluation score-student achievement relationships over time* (CPRE-UW Working Paper Series TC-04-02). Retrieved from University of Wisconsin-Madison, Wisconsin Center for Education Research, Consortium for Policy Research in Education website: <http://cpre.wceruw.org/papers/AERA04Measurement.pdf>
- Ministry of Education. (2009). *National education policy 2009*. Government of Pakistan.
- Peterson, K. D., Wahlquist, C., & Bone, K. (2000). Student surveys for school teacher evaluation. *Journal of Personnel Evaluation and Education, 14*(2), 135-153.
- Peterson, K. D. (2000). *Teacher evaluation: A comprehensive guide to new directions and practices* (2nd ed.). Thousand Oaks, CA: Corwin Press.
- Sanders, W. L., & Rivers, J. C. (1996). *Cumulative and residual effects of teachers on future student academic achievement* (Research progress report). Retrieved from http://heartland.org/sites/all/modules/custom/heartland_migration/files/pdfs/3048.pdf
- Stronge, J. H. (2006). *Evaluating teaching: A guide to current thinking and best practices*: Thousand Oaks: CA. Corwin Press.
- Stronge, J. H. (2010). *Teacher effectiveness = student achievement: What the research says*. Larchmont, NY: Eye on Education.
- Stronge, J. H., & Tucker, P. D. (2000). *Teacher evaluation and student achievement*. Washington, DC: National Education Association.
- Stronge, J. H., & Tucker, P. D. (2003). *Handbook on teacher evaluation: Assessing and improving performance*. Larchmont, NY: Eye On Education.
- United Nations Educational Scientific and Cultural Organization. (2006). *Situation analysis of teacher education: Towards a strategic framework for teacher education and professional development*. Retrieved from UNESCO Islamabad website: <http://unesco.org.pk/education/documents/step/SituationAnalysis-StrategicFrameworkforTeacherEducation.pdf>
- Wright, S. P., Horn, S. P., & Sanders, W. L. (1997). Teachers and classroom context effects on student achievement: Implications for teacher evaluation. *Journal of Personnel Evaluation in Education, 11*(1), 57-67.