

Scale Development for Teaching Appraisal



Shahida Naz

Lecturer, Department of English,
 Government College University
 Faisalabad, Punjab, Pakistan.
 Email: naz_shahida@ymail.com

Memona Rasheed

Department of Economics, Bhauddin
 Zakariya University, Multan, Punjab,
 Pakistan

Tahir Rasheed

BS (Student), Department of English,
 National University of Modern
 Languages (NUML), Islamabad,
 Pakistan.

- **p-ISSN:** 2663-3299
- **e-ISSN:** 2663-3841
- **L-ISSN:** 2663-3299
- **Page:** 55 – 66

Key Words:

Teaching Skills, Evaluation,
 Classroom, Management, Reliability

Abstract *The study finds if teachers' success in classroom is determined by the efficacy of teaching skills. Successful and effective teaching depend on several factors including level of knowledge, classroom management skills and students assessment. Evaluating the effectiveness of teachers is a challenging task due to the absence of a standardized scale for assessing teachers' classroom disposition. The present study develops and validate a scale for the evaluation of teachers' teaching skills. Keeping in consideration the previous scales, literature and teaching skills, a scale comprising of 27 items is developed. It is then validated in pilot testing. The developed scale is used for the appraisal of 60 teachers for their teaching skills. The coefficient of reliability for the scale was 0.822 which is acceptable for the scales to be used in social sciences.*

Introduction

Teachers promote the standard of education. Improving the efficacy and quality of education depends on well-resourced and motivated teachers. Similarly to ensure that their performance is up to the specified standard and they are fulfilling the requirements of the students and intuition, there is need for the assessment of their teaching skills (OECD, 2005).

Effective teacher assessment needs correct appraisal of their teaching skills indicating their weak or strong points, improvement margin in teaching skills, effective feedback, continuous training of teachers, their positive attitude and professional development. Teachers must be given constructive feedback to

appreciate their hard work. Results of different studies show that constructive feedback is helpful in developing their teaching skills (OECD, 2009b).

Evaluation is an essential part of teacher training programs. It plays a vital role in improving the teachers' capabilities including classroom skills. NEA (2011) stated that the purpose of teacher evaluation is to test and strengthen teachers' knowledge, teaching skills and pedagogies. It will enable them to work with more responsibility and care. If a teacher is well aware of the evaluation of his performance in the classroom, he/she will certainly try to meet the minimum requirements. It will not only improve the performance of the teachers but also the repute of the profession and consequently the students will be well taught and properly handled.

The disposition of teachers teaching skills depends upon their knowledge and professional experience so teachers' disposition for providing quality education should be evaluated well for successfully achieving their educational goals. Rike (2008) has pointed out the purpose for teaching skills assessment. He stated that assessment is essential to communicate stakeholders' requirements to teachers as well as to pinpoint teachers' classroom dispositions in a pre-service program teacher training program like B.Ed. It is also important as it provides pre-service teachers awareness about their responsibilities as a teacher.

Usually the teachers are evaluated on the basis of

1. Subject knowledge
2. Professional commitment
3. Teaching attitude
4. Teaching skills and evaluation skills
5. Management and administration skills
6. Awareness of student support services
7. Professional development activities, and
8. Contribution for the society

The study at hand only targets the skills needed for smooth teaching and learning process including;

- a. Teachers' disposition of knowledge
- b. Classroom management skills
- c. Skills required for the students' assessment

Need for the Scale

It is assumed that effective teachers keep learning and continuously keep updating their knowledge, by taking part in professional up gradation activities and by listening to their students as well as by sharing their ideas with other teachers (Uppsala Universitet, 2012). Therefore, the teachers need feedback regarding the

accuracy of their learning skills. They should be informed about their deficiencies, inabilities and weaknesses. For the provision of all this information there is need of a measuring scale which can be used to assess the teachers' classroom disposition.

In general the scale is a device to measure certain variables. Commonly it consists of various aspects to measure teachers' teaching skills. Different scales for the assessment of teachers' teaching skills is developed to measure teachers' effective teaching in the classroom. But none of these scales suits the multilingual and multicultural Pakistani situation. Therefore, there is a need for the development of scale which can suit well the teaching situations in Pakistan. Hence the researchers took an initiative to develop the scale for assessing teachers' teaching dispositions.

Significance of the Study

The success of teachers in the classroom is determined by the effective use of teaching skills. A successful exhibiter of the teaching skills in the class will be regarded as an effective teacher. It further depends upon several factors including their level of knowledge, classroom management skills and students' assessment. The evaluation of teaching skills has always been a problem for the administrators and the policy makers. The main hurdle in such evaluations has always been the absence of a standardized scale for assessing teachers' classroom disposition.

The Government of Pakistan (2009) has proposed standards for teacher education in the country. These standards paved the way for the development of scale for assessing the requisite skills for teachers. Typical standards of teachers for the their education include instructional planning, teaching strategies, students' assessment and evaluation, class environment and communication as well as skilled use of technology, teamwork, and constant professional improvement for teaching English as a second language (Govt. of Pakistan, 2009).

For the present study it was difficult to include all the said standards in the proposed scale. Therefore, the following three standards can be assessed through the developed scale. These standards are;

1. Instructional planning and strategies
2. Learning environment
3. Assessment

Hence, through this study the researchers intended to develop and validate a scale for the evaluation of teachers' teaching skills including;

- d. Teachers' disposition of knowledge
- e. Classroom management skills
- f. Skills required for the students' assessment

The detailed description of the scale development procedure is given below.

Methodology

The study at hand is of quantitative research in which data was collected through the scale. The population of this study consisted of all pre-service teachers enrolled in Bachelor of Education (B.Ed.) program at different public sector universities and Government Colleges for Elementary Teachers (GCETs). Bachelor of Education (B.Ed.) is a one year duration pre-service teacher training program being offered in Pakistan.

The development of scale comprised of four stages. Firstly, the selected three aspects of the teachers' dispositions viz. teaching and learning skills, classroom management skills and assessment skills, were reviewed extensively from the previous studies. For each factor 12 items were developed. Secondly, the initial developed scale was validated by foreign as well as local experts from the field of teacher education. As a result of the experts' opinion, the number of items in the questionnaires was reduced to 27 from the initial numbers of 36, i.e. 9 items each for the three aspects of teachers' teaching skills were taken out.

The third phase of the scale development was to try out the scale at a limited sample size. Therefore, the scale was tried out at two GCTs and a public sector university. For this purpose 33 prospective teachers and 3 cooperative teachers (observers) were selected. The cooperative teachers were engaged in the study to assist the researchers during data collection. The results of the trial are as below.

Table 1: Try out Scale Statistics

Mean	Variance	Std. Deviation	No. of Items
83.41	65.653	7.897	27
Reliability Analysis			
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Total Items	
.790	.799	27	

N = 33

The coefficient of reliability i.e. Cronbach's Alpha for scale was $\alpha = .790$ and the mean score of the responses was $\bar{x} = 83.34$. The reliability coefficient of the scale was acceptable as it was more than .60 the level prescribed in different research studies (Creswell, 2012; Fraenkel, & Wallen, 2009)

As a result of the trial, 3 items were slightly rephrased. The final number of items for the three factors of scale viz. Teaching and learning, Classroom management and Assessment are given in the following table.

Table 2. Detail of Factors and Items of the scale

Selected National Professional Standards	Aspects of Professional Standards	No. of Items	Item Labels
Instructional planning and strategies	Teaching and learning	9	A1, a2, a3,.....a9
Learning environment	Classroom management	9	B1, b2, b3,.....b9
Assessment	Assessment	9	C1, c2, c3.....c9

For the fourth and final phase of the scale development a randomly drawn sample comprising of 236 prospective teachers and 54 cooperative teachers from a public sector university and 6 randomly selected GCETs was used.

Findings and Results

For determining the reliability of the questionnaire factor analysis, inter-item correlation and Cronbach Alpha for each factors of the scale as well as for the whole scale were calculated.

For each sub scale (Factor) the inter-item correlation was calculated to analyze the strength of each sub scale. The detail of the inter item correlation for three factor of the scale is given below

Table 3. Inter-item Correlation for the Sub-scale: Teaching and Learning

	A1	A2	A3	A4	A5	A6	A7	A8	A9
A1	1	.717**	.721**	.489**	.023	.123	-.019	.194	.192
A2		1	.738**	.681**	.381**	.467*	.113	.247**	.899**
A3			1	.421**	.129	.321**	-.011	.129	.265
A4				1	.601**	.335**	.022	.208**	.217
A5					1	.514**	.021	.156	.224**
A6						1	.531**	.416**	.787
A7							1	.710**	.270*
A8								1	.419**
A9									1

** . Correlation is significant at 0.01 level (2-tailed).

* . Correlation is significant at 0.05 level (2-tailed).

Inter-item correlation analysis shows relatively stronger inter-item correlation ranging from $r = .899$ to $r = .270$. Moreover, all the items have significant and positive relationship with majority of the other items in the factor which reveals that these items can contribute to the factor formulation. The inter-item for correlation for certain items is insignificant but there relationship with the majority of the items is significant. Therefore, the items can be retained for the final scale.

Table 4: Inter-item Correlation for the Sub-scale: Classroom Management

	B1	B2	B3	B4	B5	B6	B7	B8	B9
B1	1	.716**	.545**	.122	-.178	.267*	.265*	.078	-.237
B2		1	.715**	.240**	-.148	-.210	-.189	-.165	.057
B3			1	.435**	.349	.199**	.179**	-.232	-.084
B4				1	.379**	.214**	.167	.164	.245**
B5					1	.418**	.399**	.190	.078
B6						1	.506**	.378**	.156**
B7							1	.698**	.145
B8								1	.150
B9									1

***. Correlation is significant at 0.01 level (2-tailed).*

**. Correlation is significant at 0.05 level (2-tailed).*

Analysis of inter-item correlation reflects that inter-item correlation ranges from $r = .156$ to $r = .716$. The analysis shows that there exists relatively moderate correlation between different items of the sub Scales. Moreover, all the items have a significant and positive relationship with a majority of the other items in the factor which reveals that these items can contribute to the factor formulation. The inter-item for correlation for certain items is insignificant but their relationship with the majority of the items is significant. Therefore, the items can be retained for the final scale.

Table 5. Inter-item Correlation for the Sub-scale: Assessment

	C1	C2	C3	C4	C4	C6	C7	C8	C9
C1	1	.793**	.785**	.689**	.354**	.134	.024	.042	.037
C2		1	.787**	.738**	.439**	.313*	.109	.152	.032
C3			1	.688**	.535**	.353**	.173**	.249**	.222**
C4				1	.625**	.395**	.176	.044	.083
C5					1	.545**	.136	.542**	.034
C6						1	.687**	.635**	.345**
C7							1	.654**	.365**
C8								1	.565**
C9									1

***. Correlation is significant at 0.01 level (2-tailed).*

**. Correlation is significant at 0.05 level (2-tailed).*

Analysis of inter-item correlation reflects that inter-item correlation ranges from $r = .122$ to $r = .793$. The analysis shows that there exists a relatively stronger correlation between most of the items. Moreover, all the items have a significant and positive relationship with the majority of the other items in the factor which reveals that these items can contribute to the factor formulation. The inter-item for correlation for certain items is insignificant but their relationship with the majority of the items is significant. Therefore, all the items were retained for the final scale.

Table 6. Inter-Factor Correlations

	Teaching and Learning	Classroom Management	Assessment
Teaching and learning	1	.649*	.601**
Classroom management		1	.574**
Assessment			1

The inter-factor correlation for the sub scales reflects a strong relationship between teaching and learning and classroom management ($r=.649$). Similarly, Teaching and learning and Assessment ($r = .601$) are also strongly correlated. Moreover, a

strong relationship was again observed between classroom management and assessment ($r = .574$).

To determine the strength of each factor with its different items Confirmatory Factor Analysis was also calculated. The results of the Confirmatory Factor Analysis are shown in the table below

Table 7. Factor Analysis

Item ID	Teaching and Learning	Classroom Management	Assessment
A1	.769		
A2	.879		
A3	.787		
A4	.769		
A5	.495		
A6	.596		
A7	.407		
A8	.386		
A9	.380		
B1		.771	
B2		.726	
B3		.688	
B4		.325	
B5		.336	
B6		.591	
B7		.681	
B8		.563	
B9		.318	
C1			.763
C2			.809
C3			.852
C4			.843
C5			.723
C6			.667
C7			.434
C8			.390
C9			.330
Eigen value	3.290	2.901	3.941
%age of Variance	37.012	3.910	43.769

The above table describes factor loadings obtained through factor analysis. Nelson (2005) stated that those items are included in an instrument which has at least 0.30 factor loading on its scale and is less than 0.30 on other scales. Hence all the items of the scale administered are retainable.

Moreover, the above table indicates percentages of the variance for teaching and learning (36.522) classroom management (31.547) and assessment (43.772). Eigen values for the sub-scales are 3.287, 2.889 and 3.939 respectively. The percentages of variance and Eigen values also indicate a strong structure of 27 items with their respective sub-scales.

Table 8. Final Scale Statistics

Mean	Variance	Std. Deviation	N of Items
95.29	43.243	5.979	27

N= 236

Reliability Calculations		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Total Items
.821	.831	27

N= 236

The reliability coefficient for the final scale was calculated as .822 which is quite acceptable for the social sciences (Creswell, 2012). The final questionnaire thus developed is given as an appendix.

Table 9. Reliability of Sub-scales

Name of Sub-Scale	Total items	Reliability Coefficient
Teaching and learning	9	.789
Classroom management	9	.585
Assessment	8	.877

Reliability coefficients for the sub scales of the questionnaires revealed that all the sub scales had significant reliability ($\alpha = .789, .585 \& .877$). Therefore, the scale is worth using for assessing the teachers' teaching skills employed by them during classroom instruction. It possesses strong inter-item as well as inter-factor

correlation and has an acceptable level of reliability coefficient. The final scale thus developed is given as Appendix.

Conclusion, Implications and Limitations

The present study focused upon the development of a scale for the assessment of teachers' teaching skills. The scale comprises of three sub-scales viz. teaching and learning, classroom management and assessment of students, having 9 items each. The scale is highly reliable having coefficient of reliability = .821. The coefficients of reliability for the sub-scales are also high reflecting their reliability.

Although the scale is developed for teachers, it can also be used to assess the teaching skills of the regular teachers working in different schools. A limitation of the study is that the focus of the study was on the teachers trained in the one year degree program of teacher education. The study may be replicated selecting other degree programs and also for re-establishing its reliability and validity.

References

- Creswell, J. W. (2012). *Educational research : planning, conducting, and evaluating quantitative and qualitative research*. Boston: Pearson.
- Fraenkel, J. R., & Wallen, N. E. (2009). *How to design and evaluate research in education*. New York: McGraw-Hill.
- Govt. of Pakistan (2009). *National professional standards for teachers in Pakistan*. Policy and Planning Wing, Islamabad: Ministry of Education.
- Hammond, L. D. (2010). *Evaluating teacher effectiveness: how teacher performance assessments can measure and improve teaching*. New York: The Center for American Progress.
- NEA (2011). *Teacher assessment and evaluation*, Washington: National Education Association.
- Nelson, L. R. (2005). Some observations on the Screen test, and on coefficient alpha. *Thai Journal of Educational Research and Measurement*: 3 (1), 1-17.
- OECD (2005). *Teachers Matter: Attracting, Developing and Retaining Effective Teachers*, OECD, Paris.
- OECD (2009a), *Teacher Evaluation A Conceptual Framework and examples of Country Practices*, OECD, Paris.
- OECD (2009b), *Creating Effective Teaching and Learning Environments: First Results from TALIS*, OECD, Paris.
- Rike, C.J. & Sharp, L.K. (2008). *Assessing preservice teachers' dispositions: A critical dimension of professional preparation*. *Childhood Education*, 84, 150-155. Schulte
- Uppsala Universitet (2012) *Assessing Teaching Skills in Higher Education*, Office for Development of Teaching and Interactive Learning, (UPI).
Uppsala University

Appendix

Factor	Item ID	Statements of items
By the end of their teacher preparation course the Prospective Teachers are Committed		
Teaching and learning	A1	To seek enabling their students in attainment of the curriculum objectives
	A2	To the development of student critical thinking skills
	A3	In developing problem solving capabilities with learners
	A4	To the high standards of student performance
	A5	To the use of group work in learning
	A6	To show their interest in wider student welfare
	A7	To seek the development of maximum student interest in learning
	A8	To develop and enrich their own teaching skills further
	A9	To develop and enrich the learning skills of all their students
Classroom management	B1	To appreciate the key role of the students in the learning process
	B2	To recognize the importance of peer relationships in learning
	B3	To take responsibility for establishing a constructive climate in the classroom
	B4	To respect democratic values in the classroom
	B5	To have a positive attitude towards classroom participation of the students
	B6	To provide a conducive climate of the classroom for learning
	B7	To establish good classroom social behavior
	B8	To generate and employ the best resources possible
	B9	To develop group work classroom activities
Assessment	C1	Committed to the encouragement of high attainment standards
	C2	Willing to use a wide variety of assessment techniques
	C3	Committed to objectivity and integrity in all assessment
	C4	Willing to evaluate student learning against agreed objectives
	C5	Committed to assess skills beyond recall of memorized materials
	C6	Willing to spend time and energy in offering constructive assessment feedback
	C7	Aware that assessment data is only an approximate estimate of performance
	C8	Committed to employing assessment to enhance learning
	C9	To develop the skills in using a wide variety of assessment techniques