

## **Subject Matter Knowledge Competence: An Empirical Evidence of Elementary School Teachers**

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### **Abstract**

Knowledge, skills, abilities and attitudes are the features of teachers' competence. The study was aimed to examine the competence of public sector Elementary School Teachers (ESTs) with respect to their Subject Matter Knowledge (SMK). The study objective was to assess the SMK competence of ESTs working in public sector elementary schools of Lahore district. Survey method was used through observational checklist to conduct the Study. The population of the study consisted on all the ESTs of public sector elementary schools of district Lahore. The sample comprised 71 male and 80 female ESTs selected through proportional cluster stratified random sampling technique. Observational checklist developed by the researchers which consisted of three sub-scales (Knowledge & understanding, disposition and performance & skills) prescribed in National Professional Standards for Teachers (NPSTs) in Pakistan. Statistical techniques was applied to calculate the percentage, mean score, standard deviation and difference between male and female ESTs competence level. The observed findings show that the majority of ESTs have moderate competence level in SMK. It is concluded that there was no significant difference between male and female ESTs competence level regarding SMK. It is to be suggested that the concerned Educational Authorities should step forward to enhance competence level of ESTs by indulging them in different training programs.

**Keywords:** Competence, teachers' competence, subject matter knowledge

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## Background of the Study

Development of a country is completely based on quality of education. Quality of education can be achieved through competent teachers. Certain things are considered critical like teachers' capability, experience and number of training programs to sustain the competence level of teachers (Haider, Qasim, & Ameen, 2015). Singh (2007) stated that nature of teaching relies on the nature of a teacher. Without possessing knowledge, capacities and teaching abilities, nature of instructors appear to be inconvincible. Teachers are recognized as insightful and competent persons in the learning pyramid. The finest education organism could fall flat without talented teachers while a normal education organism who has qualified and expert teachers could substantiate itself the finest. It is the teaching practice, which helps the teacher to execute the instructive arrangement smoothly. A teacher is considered as the change agent, who assumes teaching an essential part to enhance his abilities. Nature of teaching primarily relies on different methodologies occurring in classroom which demonstrate the teacher's competency.

Competence is the capacity to do work. According to Van den Brule (2008), teacher's competence is the solid knowledge of educational modules of his subject and to incorporate innovation into the educational programs. Saeed and Khalid (2002) believed that competence is considered as knowledge, aptitudes, capacities and dispositions of teachers. Competences of teachers in 21st century are subject matter knowledge, teaching abilities, dispositions, abilities and skills. Competences are the subject matter knowledge, skills and attitude of the teachers' which consequences for understanding learning. Teacher is recognized by subject matter knowledge, teaching capacities and his own ability of imparting thoughts to students. Competence is a typical sort of knowledge, aptitudes and states of mind required for professional execution while capability in teaching is viable abilities and capable capacities that teacher needs to get to a position to fulfill its abilities completely (Haider, Qasim, & Ameen, 2015; Kumari & Srivastava, 2005). Teachers' capabilities incorporate SMK, pedagogical knowledge and teaching abilities which engage teachers to work with students, associates and distinctive specialists who are dependable of kids teaching and learning (Haider et al., 2015).

Shakir and Adeeb (2014) made a study to examine the secondary school teachers' competencies. Observational survey was conducted to examine the competence of the teachers. Results showed that majority of the teachers were somewhat aware, moderately aware and slightly aware at the time of observation. Yamtim and Wongwanich (2014) examined primary school teachers' competence of assessment. Finding showed that most of the teachers were slightly competent.

Haider et al (2015) assessed ESTs competence described in NPST in Pakistan. To examine the competencies of ESTs of district Lodhran, an observational checklist was made. Results explained that majority of ESTs were slightly competent. Sali-Ot (2011) made a study on Competencies of teachers. Researchers administrated a questionnaire on college students in Philippines. Finding of the study showed that the teachers were much competent in subject matter knowledge.

### **Objective of the study**

The study was conducted to achieve the following objectives:

- To assess the competence level of Elementary School Teachers regarding Subject Matter Knowledge.

### **Research Questions**

The study was conducted to answer the following questions:

- What is the competence level of Elementary School Teachers regarding Subject Matter Knowledge?
- Is there any significant difference between the competence level of male and female ESTs' regarding SMK?

### **Research Methodology**

The present study was descriptive in nature. An observational checklist was used through survey method to assess the ESTs competence level with regard to SMK. The population consisted of all the ESTs serving in public sector elementary schools of district Lahore. The sample comprised 151 ESTs (71 male & 80 female) selected through proportional cluster stratified random sampling technique. A purposeful instrument observational checklist was developed by the researchers based on prescribed levels of teacher accreditation by Policy and Planning wing of Ministry of Education in National Professional Standards for Teachers (NPST) in Pakistan. The observational checklist was divided into its already defined sub-scales (Knowledge & Understanding, disposition and performance & skills) in NPST in Pakistan. The validity of observational checklist was made sure from six educational specialists. The reliability was calculated 0.965 at Cronbach's Alpha level through Statistical Package for Social Sciences (SPSS) version 21.

## Data Analysis and Results

Researchers personally collected data from public sector elementary schools of district Lahore by using participant observational technique. The data were analyzed through SPSS version 21 by statistical formulas of percentage, mean score, standard deviation and independent sample *t*-test.

**Table 1**

*Level of ESTs' competence with regard to SMK*

	No	Low	Moderate	High	<i>M</i>	<i>SD</i>
Male	0.7%	12.6%	25.2%	8.6%	49.22	13.398
Female	1.3%	19.9%	23.8%	7.9%	46.80	15.171
Total	2.0%	32.5%	49.0%	16.5%	48.09	14.321

Table 1 indicates the level of ESTs' competence with respect to SMK. Analysis of various levels showed that 2.0% teachers (0.7% male and 1.3% female) did not demonstrate SMK competence while 32.5% teachers (12.6% male and 19.9% female) presented low competence related to SMK. However, 49.0% teachers (25.2% male and 23.8% female) were moderately competent likewise, 16.6% teachers (8.6% male and 7.9% female) exhibited high level competence regarding SMK at the time of observation. Male ESTs mean score (Mean=49.22, *SD*= 13.398) was larger than female ESTs mean score (Mean=46.80, *SD*=15.171) while overall mean score of ESTs was 48.09 with *SD*=14.321.

**Table 2**

*Independent samples t-test in male and female ESTs*

	Male(71)		Female(80)		<i>df</i>	<i>t</i>	<i>P</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Knowledge & Understanding	16.68	4.573	16.59	5.374	149	0.108	0.914
Dispositions	16.58	5.187	15.68	4.970	149	1.091	0.277
Performance & skills	16.96	4.063	15.69	5.725	149	1.455	0.148
Whole Subject Matter Knowledge	50.21	13.408	47.95	15.161	149	0.966	0.336

Independent sample *t*-test was applied to compare the results of observation of male and female ESTs' competence in SMK. The *t*-test findings showed that there was no significant difference between male and female ESTs' competence in sub-scales and overall SMK.

## Conclusions

The importance of education depends on teachers' competence level. Nowadays knowledge, skills, abilities and attitude of teachers examined in whole world so some efforts also made in Pakistan. The study intended to assess the ESTs' competence with regard to SMK. It is concluded that most of the ESTs were moderately competent. The observed data showed that there was insignificant difference between male and female ESTs competence in sub-scales of SMK and overall SMK.

## Discussion & Recommendations

The present study aimed to assess the SMK competence level of ESTs and to find difference in male and female ESTs competence level. The results indicated that majority of ESTs' have done good job of demonstrating SMK competence at the time of observation. The research supports these results as Haider, Qasim and Ameen (2015) observation reflects that teachers who have shown satisfactory job for demonstrating SMK competence. There was no significant difference between male and female ESTs of Lahore district in SMK competence while the study findings shown the dissimilar findings, literature described that there was significant difference in male and female in SMK competence of teachers (Haider, Qasim & Ameen, 2015; Shakir & Adeeb, 2014).

- It is to be suggested that the concerned Educational Authorities should take step forward to enhance ESTs competence level through different training programs (Seminars, Workshops, Refresher courses etc.) of teachers.
- The Government may recruit teachers on merit, their selection must exist on competence instead of marks and degrees. Unfortunately, our teaching system entirely focused on marks and having no notions of competence in teachers' recruitment.
- This study was carried out on ESTs of Lahore, so it is recommended for future study will conduct to be on the ESTs of others district of Punjab as well as others Provinces of Pakistan to identify the position of teachers' competence.
- The study is conducted through participant observation of ESTs. Similarly, future researchers should include the learners' achievement to examine the impact of teachers' competence on learners' success.

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