

Gender Based Subject Matter Knowledge of Diverse Modes of Selected Teachers in the Light of Competency Based Teacher Education

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Abstract

The current research work was conducted to compare the male and female subject matter knowledge of secondary school teachers selected through Conventional, National testing Service and online process regarding competency based teacher education. The main objective of the present research was to judge the gender based subject matter competency of secondary school teachers selected through different modes in the light of competency based teachers' education. This research study was descriptive in nature. Systematic random sampling technique was used. A self-developed subject matter competency scale on five points Likert scale was used in this study. The expert team comprising different subject specialists as a respondent, who made observation and rating the questionnaire to the respective secondary school teachers. Data was collected through these subject specialists, from respective secondary school teachers while they were teaching. The descriptive statistic and t-distribution was used for data analysis by using SPSS-17. Finding indicates that mean score of the male secondary school teachers (conventional, online and NTS) was better than female. The standard deviation and coefficient of variation of male SSTs was less than female, so the subject matter competency of male secondary school teachers was consistent than female secondary school teachers. The result of t-statistic shows that there is no overall considerable difference in subject matter knowledge between the male and female secondary school teachers regarding competency based teachers' education.

Keywords: Gender, Competency based Teacher education (CBTE), Diverse Modes (Conventional, Online and National Testing Service).

Introduction

The teacher is an individual who impart knowledge to his students. A similar word like tutors, mentor or an educator can be used for the word teacher. A teacher helps the students to acquire knowledge, competencies or values (Storonge, 2018).

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Teacher is an architect of our future generations. It is the demand of every society that most competent and intelligentsia should join to this respectful career. These things come in our knowledge that most poor academic background and incompetent people of the society find their career in this occupation in Pakistan. Anyone who is unable to get his job from any other profession, he then joins the teaching profession and plays with future of the nation. The reasons behind this thinking are poor salaries and low social status in the society towards school teachers. The role of a teacher is valuable and important. Educator puts profound and extensive influence on the people who spent more time with him. Teacher's loves and affection, competence, character and moral commitment greatly affect the students. Teacher is a role model for his students. Students try to follow the etiquette, style of conversation, manners and costumes of his teacher. The impressing behavior of teachers always attracts the attention of the students (Gupta, 2007).

Teacher education is a profession that train competent and skillful individuals for the teaching profession, who play valuable role in the national development. The teacher is considered as nation's building role in the society. Therefore, it is necessary for a teacher that he should be skillful and competent. The importance of teacher is considered at every grade level. Teacher tries to establish a solid base of their students in academic as well as professional side. This is the reason that the teacher is considered backbone of the whole education system. So, the future life of the students mainly depends on the performance, competencies and teacher's effectiveness in teaching at every grade level (Iqbal, 2013).

The national and international standards of teacher's education compel teachers' must have deep knowledge of subject matter for the students' teaching. Teachers can guide their students for the construction of useful mental model. Teachers connect different ideas and clear misconceptions of the students. Teachers require how some concepts are interrelated across disciplines and can relate to everyday life. The pedagogical content knowledge in the part of competent teacher facilitates him to impart knowledge to others. Academic understanding for professional, competent and skilled teacher is necessary because it flourishes his methodology. Knowledge of curriculum development and subject related knowledge is necessary for teachers. Subject related knowledge means, facts about the principles, theories and concepts of particular subject. Curriculum development includes the most useful information about the behavioral and instructional strategies. It deals with how students can better learn some specific concepts of subject (Shulman, 1987).

The teachers who are professionally competent must possess the quality of instructive reasoning. Teacher follows some steps to make his teaching more attractive.

1. **Comprehension:** teacher must understand the purpose, composition and deep information about the subject matter. He should have knowledge about what to teach, how to teach and when to teach?
2. **Transformation:** It is the ability of the teacher to combine the subject matter contents with suitable methodology and also keep mental level, background and abilities of the students. The subsequent steps are included in the transformation.
 - a. **Preparation:** Skilled instructor is well prepare about the given content material before educating.
 - b. **Presentation:** Competent teacher present his subject matter before his students in a very easy way.
 - c. **Instructional selection:** Teacher selects suitable instructional material among collection of various methods and models.
 - d. **Adaptation:** Instructor gives a chance to understudies to the adaptation of different teaching resources and exercises to demonstrate the students learning styles and qualities.
3. **Instruction:** Direction comprises of instructing, managing, overseeing, introducing, connecting and addressing and so forth.
4. **Evaluation:** Evaluation means to judge the teaching effectiveness, teacher checks his own performance and wants to know how much his teaching effective or not if not, teacher re-planned his own teaching strategy.
5. **Reflection:** Reflection is the vital part of the professional development. Teacher acquires the knowledge to examine the results and decide the reasons of his failure and success. Teachers put his attention on the content area, understand his teaching style and improve himself as a teacher.
6. **New Comprehension:** Teacher learns from the multiple types of daily routine activities. This is called informal learning. These types of education cannot be found in school and colleges. The union of theory and practice occurs effectively when questions arise among the students in the work place, where research and discipline activities are conducted regularly (Shulman, 1986, 1987).

There are three types of teachers, which are working at the secondary level at District Dera Ismail Khan. These were inducted by three different modes of selections. These teachers are called conventional, online and last teachers category come through national testing service (NTS).

The two kinds of teachers at secondary level are generally known as SSTs (General) and SSTs (Science). These are those SSTs who are promoted from the posts like primary school teacher (PST), certified teacher (CT), drawing master (DM), Arabic teacher (AT), theological teacher (TT), physical education teacher (PET), Qari and Arabic teacher (AT). The existing service structure of Government of Khyber

Pakhtunkhwa is that 50% from lower cadres like (CT, PST, DM, PET, Qari and AT) and remaining 50% are directly recruited through Khyber Pakhtunkhwa public service commission (PSC). Both categories of SSTs are departmental promoted SSTs and PSC SSTs are called conventional secondary school teachers (Iqbal 2013).

In 2006, former Government of Khyber Pakhtunkhwa through its Schools & Literacy Department invited an online applications through internet from all interested candidates having BA/ B.Sc degree with B.Ed/ B.S.Ed: for appointment as SST. As a result of this advertisement, 1300 plus secondary school teachers were selected for the periods of six months on fixed basis. These secondary school teachers were recruited without any caudal formality (Iqbal, 2013).

In 2014, Government of Khyber Pakhtunkhwa decided to appoint secondary school teachers and others lower and higher category of teacher through National testing service (NTS). All those candidates who have the qualification, BA/ BSc with B.Ed degree, but they must lie in specified category i.e. i) Biology and Chemistry ii) Physics and Mathematics iii) General (Humanitarian group) can apply for the post of secondary school teachers. These categories of teachers are called National Testing Service Teachers (NTS SSTs) (Iqbal, 2013).

Much researcher focus on gender difference in the professional interest. Gender remain have an important factors in the selection of different profession. The Realistic, Investigative, Artistic, Social, Enterprising, Conventional model of Holland theory of professional selection stated that female are more motivated in social and artistic profession like societal worker, Artist, teacher and writer than male who are more encouraged towards the career such as engineering, carpenter and machine work. Researches revealed that women are extra involved in people-oriented and men tend to be motivated and involved in thing- oriented profession (Moses, Admiraal, & Berry, 2016).

Teacher impart knowledge, skill, and attitude to their students. The subject matter knowledge of teachers has many dimensions. The educator should be able to communicate key ideas of the subject material to the learners and can illuminates and simplifies misconception of the content material. When learners keenly involved in the teaching learning procedure, it means that teachers has the command over the subject matter (Mustafa , 2014).

Researchers introduce three components of the subject content knowledge:

1. Subject material content information
2. Pedagogical content information, and
3. Curricular content information.

Furthermore, researchers explained there are three aspects of subjects.

1. Content of the subject,

2. Organization of the content, and
3. Methods of inquiry used in the subject.

Teacher's understanding about the matter contents provides larger opportunities for students to learn. The subject matter knowledge of the teacher plays very important role in the teaching learning process. The researcher tried to explore, whether gender effects the subject matter competency of the teachers who are selected through three modes (Conventional, National testing service and online) regarding competency based teachers education (CBTE) (Akhtar, Shaheen, & Bibi, 2016).

Objectives of the Study

The objective of the present research work were following:

1. To find out the competency of secondary school teachers in the light of competency based teachers' education.
2. To compare the male and female subject matter competency of secondary school teachers in the light of competency based teachers' education.
3. To compare the gender wise consistency in the subject matter scores of Secondary school teachers in the light of competency based teachers' education.

Hypotheses of the Study

Following was hypothesis of the study:

1. There is no significant difference between male and female subject matter Competency scores Secondary School teachers in the light of competency based teachers' education.

Research Questions

1. Does the subject matter competency scores of male and female secondary school teachers is same?
2. Does the subject matter competency scores of male secondary school teachers is better than female?
3. Does the subject matter competency scores of male secondary school teachers than female?
4. Which groups of male and female secondary school teachers was better consistency.

Significance of the Study

The given research work obviously showed as one of the main chains of progress in the field of teachers training and recruitment. The present research absolutely be turning point in the area of teacher's education and training. Ideal teachers of the nation are pictures of the astonishing and gifted eventual fate of the youths. The research may help to the policy makers and educators selector to choose some suitable selection principles for every level of educators. This study may also guide the school

heads, educational administrators and educational policy makers to understand the subject matter knowledge of each category of teachers. Policy maker might better judge that which one teachers having better knowledge in the subject matter in comparative perspective. The study in hand may also provide guidelines for further researchers and recruitment personals that which one criteria of teacher's selection is the best one.

Limitation

There was not any standardized Instrument available to find the subject matter competency. The researcher developed self-made questionnaire to find out the subject matter knowledge of the teachers selected through regarding competency based teachers' education at the secondary school level.

Delimitations of the Study

1. The research work was restricted to merely public secondary and higher secondary schools of Dera Ismail Khan only.
2. Those Secondary School teachers who were selected through conventional, online and NTS way were taken for the study.

Explanation of terms and abbreviations

a.	NTS	National Testing Service
b.	SSTs	Secondary School Teachers
c.	CV	Coefficient of Variation
d.	KP	Khyber Pakhtunkhwa
e.	PSC	Khyber Pakhtunkhwa Public Service Commission
f.	B.Ed	Bachelor of Education
g.	B.Sc	Bachelor of Science
h.	BA	Bachelor of Arts
i.	B.S.Ed	Bachelor of Science Education
j.	CT	Certificated Teacher
k.	PST	Primary School Teacher
l.	DM	Drawing Master
m.	PET	Physical Education Teacher
n.	AT	Arabic Teacher
o.	CBTE	Competency Based Teacher Education

Dated Peshawar the 26/06/2012, Finance Deptt: Govt: of Khyber Pakhtunkhwa (Regulation Wing) Endstt: No. SO (FR)/ FD/ 10-22 (E)/ 2010.

Literature Review

Teacher's Concept

A word teacher defined by different authors in different ways. A teacher is a person who teaches and facilitates teaching learning process (Zombwe, 2008). A teacher is person who imparts knowledge and prepares the young adults for the future. Teacher has the ability to prepare the young generation for future challenges. He has such supreme power that determines the destiny of the nation. Both teacher and parents spent lot of time with their children. The teachers impart skills, knowledge and value to their children. The educated people get opportunities from the both public and private sectors. The educated person can easily protect their employment and try to get lifelong skills through education and prepare himself to live better life in the society (Nyerere, 2008).

Concept of Teacher in Islamic Perspective

The Islamic educator is generally a preacher. The transfer of Islamic belief, thoughts values and culture in smooth way to the young generation is the duty of teacher. In Islamic society preaching and teaching goes side by side. Here are the views of some philosophers and thinkers of Islam on teaching and teachers. Teacher has virtuous and principal place in the Islamic belief. The Prophet (Peace be upon him) personally decided to the name of teacher in the Quran by Allah. The job of teacher is not merely the promotion of literacy and imparting knowledge to pupils. Teacher has vital role in whole education process. Teacher should be a person, having command over the subject matter and respect the students by virtue of what he is. Teacher must grasp meaning of education and relate with daily life examples (Iqbal, 2006).

Teaching

According to Merriam-Webster dictionary the practice or profession or the act, of teacher is called teaching. The word "teaching" is using in three ways.

1. First it can be used in the meaning of the "Body of knowledge". In the expression "the teachings of Islam" means a body of ideas or a system of beliefs.
2. Secondly it can be used it in the meaning of "occupation" or "profession" of someone who educate or teach.
3. Thirdly it is used in the meaning the ways of making something known to other in the school environments (Merriam-Webster's Collegiate Dictionary, 2004)

Teacher Education

The education process develops self-awareness among the individuals and also among the nation too, who creates it. It is general but not a public view only. The education is social institution, which is responsible for mental, physical, moral and ideological training of the individuals of the nations. Education enables the individuals

to aware himself, purpose of their life and prepare them to achieve these purposes (Iqbal, 2006).

The effectiveness of any education system depends upon the quality of teachers and teacher education system. If the teacher education is not based on the strong foundation, then preset objectives of the entire education system are not achievable. Therefore, we can say that teacher education is the main cartridge of the completely educational development (Chauhan, 1984).

The teacher education program should be monitor in the following ways as:

1. Perspectives and in service teachers are the main targeting candidates in the present teacher education program from the recruitment till retirement.
2. Re-shaping and designing the structure and the content of teacher education with respect to the changing world, there must a link between in service and pre service education.
3. Teacher education program must be based on lifelong skills to meet the demands of the society in changing world (UNESCO, 2006).

Competency

Competency means performing right thing in right way, to do a work in accurate way. In other words to perform a job with quality, neatness, enthusiasm, fluency, originality and flexibility are qualities of competency. Competence is not the result of great amount of knowledge. Competence must be operative at right time. Knowledge integrates into pattern of the behavior for useful purpose (Burke, 2005). Competency means adequacy and sufficiency. So, teacher competencies (plural of competency) are skill, knowledge, values which a teacher possess; these are the tools of teaching” (Dutt & Rao, 2003).

Competency is a Skill, information, knowledge set necessary for adequate performance for the specific activity. The position of teacher demands some specific academic and pedagogical competency as described in standardized tests for licensing or certification. The academic competency and professional proficiency are necessary for instructor or teacher for authorizing or accreditation. Such competency can be acquired through quality education and competency based teacher education (Collins III & O’Brien, 2011).

Competency-Based Teacher’s Education (CBTE)

The competency based teacher education is a movement of the late 1960s clarifies educators’ job and roles linked with specific abilities in the areas of skills, information and attitude. This movement try to provide knowledge based teacher’s education. This movement provides sound base for authorized teacher. Teacher able to demonstrate observable behaviors’ in this types of teacher education. Teachers trainers

has the prominent role in competency based teachers education, who examine the trainee's skills and competencies and then assign new roles to them until they acquire command over the previous role (Collins III & O'Brien, 2011). Subject matter competency is one of the vital competency in this model. Subject matter content knowledge is very necessary for every level of teachers.

Subject Matter Content Knowledge

Teachers' appointment is related to specific term and conditions. Teacher teaches the students in some recommended subjects at every level. So the fundamental rule for the teacher recruitment is sound foundation in the subject matter. Teacher shows subject matter knowledge before the students. Teacher must have the information of essential standards, ideas, beliefs and guidelines about his subject. He/she can execute this obtained information in reality circumstance. The teacher competency in the subject matter is to teach the students what is meaningful for them. A teacher knows lot of things but his students requires an essential part of the knowledge which having the unique background. Teacher must understand basic concept of the subject matter then uses inquiry, method to teach them. A competent teacher must know the technicality of the subject matter and then create leaning environment and make it meaningful for their students (Gu, 2007).

Teaching is actually importing of knowledge, skill and attitude to an individuals. The subject information of the teacher influences teaching and learning in the schools. It is necessary for a teacher that what he is teaching. The idea of knowing subject matter for teaching does not mean that someone knows how to teach the students, but having command over the subject content material. The comprehension of the topic by an instructor implies that educator can educate the imperative purposes of the topic to the students and clarify the mistaken result of the topic, which put significant effect on students learning. The subject matter knowledge of a teacher improves the lives of the students they actively participate in the teaching learning process and understand the society in better ways (Jadama, 2014). The teacher's education researcher has his own point of view, who ignored studies relating with matter or components of the instructed lesson. Teacher not only have the information of content, but also the information of linking and re-structure of content material and teaching (Shulman, 1986). Pedagogical content knowledge having following fundamental elements:

- i. Subject matter demonstration
- ii. Students learning of the subject
- iii. Teaching methodology and strategies
- iv. Knowledge of curriculum
- v. Awareness about educational context and
- vi. Awareness about the Purpose of education (Shulman, 1987).

Gender Based Subject Matter Knowledge Studies

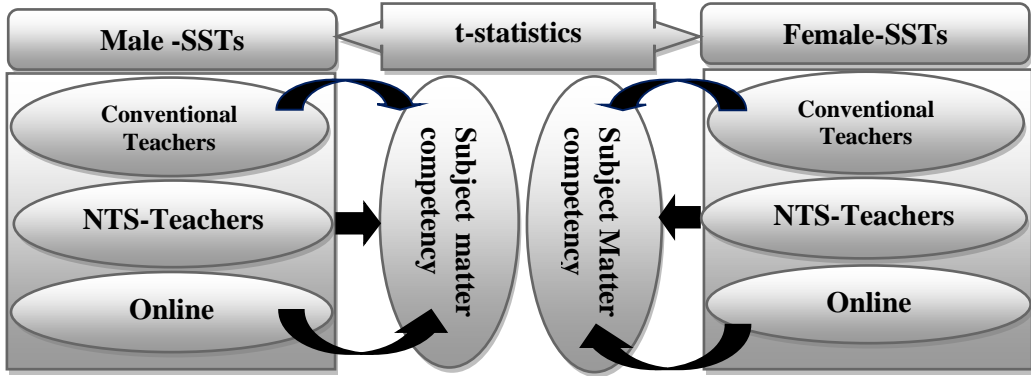
There exist no any sound theory about the nature of fundamental learning mathematics ability of male and female students. It is also difficult to define factors which promote and predictive mathematical ability among the students. General intelligence of a person is an important factors. Past mathematics achievement predicts the future performance. Previous grade in mathematics is the best predictors about the college's mathematics performance. There are strong belief in all over the world that males are more competent than females in the subject of mathematics. But the research records does not support this belief. Majority of studies in the United State does not reveal any sex differences in overall performance in the subject of mathematics prior to the secondary school level. But male and female mathematic test performance shows large difference by the end of secondary school level (Gallagher & Kaufman, 2005).

The study was conducted on the topic to examine the connection of subject matter knowledge in science theme and teacher entering, departure and retaining in the respective career. Biology and science marks are taken as subject matter knowledge of the teachers. Maximum likelihood logistical regression analysis was for data analysis. The connection between job status and knowledge in the subject matter of science, race and sex was determined. The finding of the study showed that thirty one out of eighty three was not fit for teaching and twenty two were fit for teaching as career. The main thing among the non-recruit versus career teachers was subject matter knowledge (Shugart & Hounshell, 2005).

The study was conducted on the theme the influence of gender on the students' choice of language teachers. The one hundred and forty six female students were included in the study among all female college. Five points Likert scale was used for the study. It was indicated that mostly learners favor male teachers as they believe that male teachers having the positive personal characteristics as compare to female teachers. But information displayed both male and female are good language teachers. So gender is not the standard for choosing the decent language teachers. So, this aspect put no any significant effects on any teacher competency in the long run (Taqi, Al-Darwish, Akbar, & Al-Gharabali, 2015).

Research frame Work of the Study

The following were the theoretical frame work of the current research work.



Methodology

Population

The population for the current research work involved all Secondary school teachers (SSTs) working in High and Higher secondary schools of District D.I.Khan. All these SSTs were selected through the different modes of selection on their initial selection like conventional, Online and NTS process. But only those schools were selected, where all these three types of SSTs were working altogether.

Sample

23-Schools on random bases were selected out of 151 secondary and higher Secondary schools situated in rural and urban areas of District D.I.Khan. From these 23-schools, 62-teachers (38-male and 24-Female) were selected as a sample on random bases. Multistage Sampling technique was used. At first Stage, a sample of twenty three schools located in District D.I.Khan was selected randomly out of 151 secondary and higher secondary schools. At second stage, a sample of sixty one teachers selected through stratified random sampling technique.

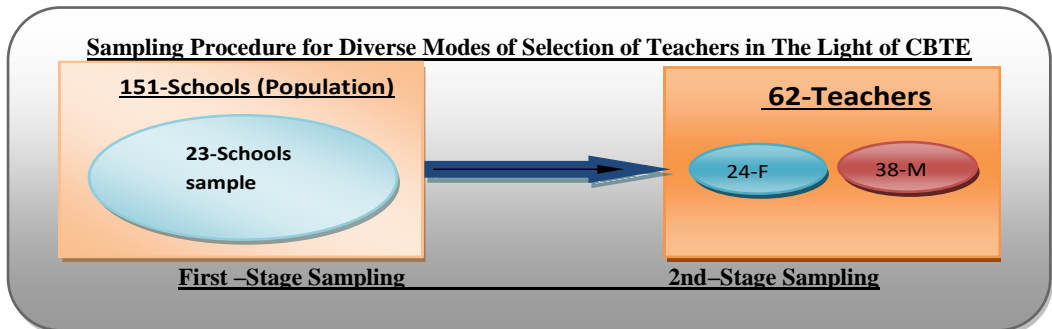


Table 1

Gender wise statistics of high and higher secondary schools in district D.I.K

District D.I.Khan Schools	High Schools	Higher secondary Schools	Total High Higher Secondary schools
Male	71	24	95
Female	45	11	56
Total	116	35	151

Source: District EMIS D.I. Khan 2014-15

Table 2

Gender wise statistics of secondary school teachers (Conventional, online and NTS)

Teacher's Categories	Online	NTS	Conventional
Male-SSTs	101	24	133
Female-SSTs	40	12	111
Total SSTs	141	36	244

Source: District EMIS D.I.Khan 2014-15

Instrument

The data were collected for the current study with the help of scholar self-made Subject matter Competency scale.

Description of the Instrument

Teaching competency scales comprising planning, presentation, closing and managerial used to measure teaching competency of secondary school (Passi & Lalita, 1976). The stuffs were associated to educator, class-room behavior in relation to pupil behavior. This was a five point Likert scale used to measure gender wise subject matter competency of secondary school teachers. The same five point Likert scale ranging from '5' for 'Strongly Agree' to '1' for 'Strongly Disagree' (Y Ganaie & Mudasir, 2014) was used. The researcher self-made questionnaire was used in the present study, items cover the teacher's subject matter knowledge. The questionnaire consisted six items based on 5-points Likert scale to measure the subject matter competency of the respective SSTs. The questionnaire was developed on the bases of State Professional Standards for Educators in Pakistan.

Administration of Subject Matter Competency Scale

The nature and purposes of the tool were openly and sincerely explained before the teachers from whom, the data were collected. This thing was ensure honestly before the respective SSTs that collected information would remain confidential and this would be used only for research purposes. Every effort was made by researcher to

maintain complete understanding among all sampled secondary school teachers selected through different modes. The Subject specialist of different subjects (Physics, Chemistry, Biology, Mathematics, English, Urdu, and Islamiyat) was responsible to judge the subject matter competency of the respective male and female secondary school teachers through self-developed of researcher competency scale. The observation of the respective teacher was taken when the same teacher was teaching to his students. The team of expert was judging him and give rating about the subject matter competency on prescribed scale. This procedure was adopted for each male and female secondary school teachers by three different modes (Y Ganaie & Mudasar, 2014).

Procedure of the Study

The subject matter Competency scale was administered among twenty three secondary and higher secondary school teachers (24-female and 38-male) to find out subject matter competency. The expert team administered the respective tool according to the instructions provided by researcher verbally and manually (Y Ganaie & Mudasar, 2014). The subject experts' team comprising Subject specialist of the respective subjects, was collected data on prescribed subject matter scale, when the respective secondary school teachers were teaching the class on prescribed time and venue.

Statistical Analysis

The data of subject matter competency was collected, ordered and organized of respective male and female secondary school teachers. It was then analyzed to make gender based comparison in the subject matter competency of Conventional, Online and NTS selected secondary school teachers regarding CBTE. The data was analyzed by using SPSS-17 by using mean, standard deviation and t-statistics to find the gender based differences in secondary school teachers(conventional, online and NTS) (Atta, 2013).

Table 3

Showing mean score of gender based comparison of the performance of three categories of SSTs in Subject matter competency regarding CBTE

Group	N	Mean
Male SSTs	38	3.63
Female SSTs	24	3.23

Above table indicates that there were about 38 male SSTs and 24 Female SSTs, which were selected from three different modes of selection (Conventional, National testing Service and Online). The mean scores of the subject matter competency of male and Female SSTs who were selected through different mode of selection were 3.63 and 3.23 respectively.

Table 4

Showing standard deviation of gender based comparison of the performance of three categories of SSTs in Subject matter competency regarding CBTE.

Group	N	S.D
Male SSTs	38	1.05
Female SSTs	24	1.23

Above table indicates that there were about 38 male SSTs and 24 Female SSTs, which were selected from three different modes of selection (Conventional, National testing Service and Online). The standard deviation scores of the subject matter competency of male and Female SSTs who were selected through different mode of selection were 1.05 and 1.23 respectively.

Table 5

Showing coefficient of variation of gender based comparison of the performance of three categories of SSTs in Subject matter competency regarding CBTE

Group	N	C.V
Male SSTs	38	28.92
Female SSTs	24	38.08

Above table indicates that there were about 38 male SSTs and 24 Female SSTs, which were selected from three different modes of selection (Conventional, National testing Service and Online). The standard deviation scores of the subject matter competency of male and Female SSTs who were selected through different mode of selection were 28.92 and 38.08 respectively.

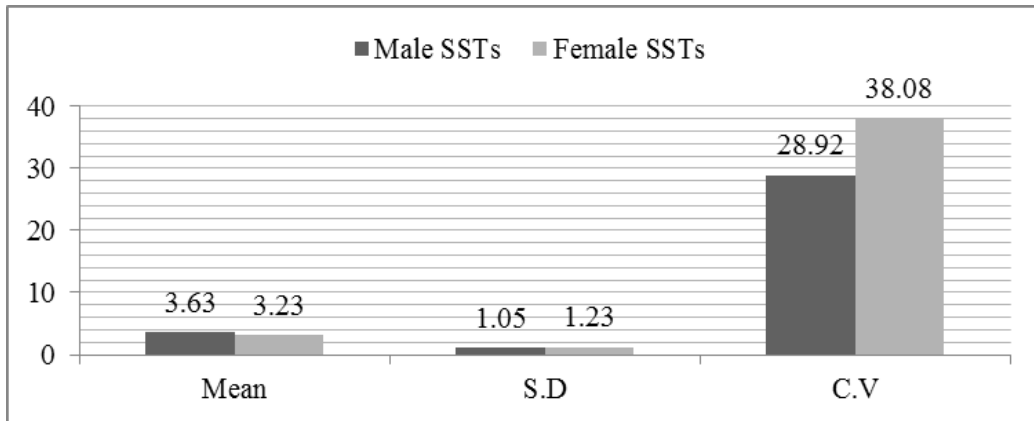
Table 6

Showing gender based difference between male and female SSTs in subject matter competency regarding CBTE

Group	N	d.f	α	t- tabulated	t-calculated	P-Value
Male SSTs	38	60	0.05	2.00	1.361	0.179
Female SSTs	24					

Above table indicates that there were about 38 male SSTs and 24 Female SSTs, which were selected from three different modes of selection (Conventional, National testing Service and Online). The t-Calculated value 1.361 was less than the t- tabulated 2.00, and also p-value is greater than α -value as $0.179 > 0.05$. So we accept H_0 and conclude that there was no significant difference between the Subject matter competency of male SSTs and Female SSTs.

Figure



Finding

Following findings were calculated

1. A comparison of mean scores of male and female secondary school teachers selected through different modes as perceived by different subject specialist through subject matter competency scale was ($M_{(male)}= 3.63$ and $M_{(Female)} =3.23$)(Table-3).
2. A comparison of standard deviation of male and female secondary school teachers selected through different modes as perceived by different subject specialist through subject matter competency scale was ($S.D_{(male)}= 1.05$ and $S.D_{(Female)} =1.23$)(Table-4).
3. A comparison of coefficient of variation of male and female secondary school teachers selected through different modes as perceived by different subject specialist through subject matter competency scale was ($C.V_{(male)}= 28.92$ and $C.V_{(Female)} =38.08$)(Table-5).
4. A comparison of calculated t-values of male and female secondary school teachers selected through different modes as perceived by different subject specialist through subject matter competency scale was (t-calculated value =1.361 and t- tabulated 2.00, and also p-value = 0.179 and α -value = 0.05)(Table-6).

Discussion

The mean scores through competency scale of the male secondary school teachers selected through different modes were better than female secondary school teachers. In the past studies the difference at secondary level between the male and female teachers was insignificant, but at the end of the higher secondary level there was unavoidable difference between the male and female teachers (Gallagher & Kaufman, 2005).

The value of standard deviation of male secondary school teachers was less than female, similarly the coefficient of variation (C.V) of Male SSTs was also less than Female SSTs. This indicates that there exist consistency in the performance of Male Secondary School Teachers (SSTs) than Female Secondary School teachers (SSTs) in Subject matter regarding CBTE. The past study on topic “Equal Mathematics Education for Female Students” showed that males and female teachers having different classroom experiences, their approaches for learning different and treatment towards the students differently. The females’ achievement in the subject of mathematics is same to the males at elementary school level, but decreases at middle and secondary level. The literature review on teaching practice and communication in the classroom indicates that treatment of teachers towards female students discourage them to learn mathematics. This also shows that some negative attitudes towards female students by teachers and parents is responsible for the low competency in the subject of mathematics and other disciplines too (Wendy & Katherine, 1992). The past studies results match with current research work.

Conclusion of the Study

The finding showed that there is no significant difference among the gender based Subject matter Competency of all three groups of teachers, while they were teaching to their students. Besides this result, graphical representation and values of standard deviation and coefficient of variation (CV) of Male SSTs was less than female SSTs, which were selected through Conventional, NTS and online regarding CBTE, shows that subject matter competency of male SSTs was consistent and reliable than Female SSTs.

Recommendation

The findings of the study exhibit there is no significant difference between male and female subject matter competency, and coefficient of variation (C.V) demonstrated that male SSTs competency was consistent in the subject matter than female SSTs. Courses change with the passage of time at different school’s levels. Therefore, it is recommended that in-service training may be arranged by the government to enhance subject matter competency of respective teachers.

Implication of the Study

The study has tremendous implication in teacher training institutions (TTIs). The Government of Pakistan started Associate Degree in Education and B.Ed (Hons) program in different TTIs across the country. The curriculum of these programs divided into three categories including content courses, foundation courses and professional courses. The main focus of the TTIs were on methods rather subject matter competency of trainees, which resulted poor grip over subject matter. Therefore, equal weightage to all categories of subject may be considered.

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