Research Paper

An Examination of Techno-Pedagogical Competence and Anxiety towards the Use of Instructional Aids in Teaching among Senior Secondary School Teachers

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Abstract

The purpose of the study was to explore the predictors of Techno-Pedagogical Competence among senior secondary school teachers. The present study was descriptive in nature so survey method was used by the investigator to collect the pertinent data. In this study the data was collected from 100 senior secondary school teachers, both from government and private schools, using stratified random sampling technique. In this study, Teachers Techno-Pedagogical Competence scale by S.Rajashekar and K.Sathiyaraj (2013), and Scale for Anxiety towards the use of Instructional aids in teaching by S.Rajashekar and K.Sathiyaraj (2013), were used for collecting the data. The application of statistical techniques such as percentage, mean, t-test, standard deviation and linear regression helped to analyse the data. The research findings indicated that 1) Out of 100 senior secondary school teachers, 6 senior secondary school teachers showed low level of techno-pedagogical competence, 43 senior secondary school teachers showed average level of techno-pedagogical competence and the remaining 51 senior secondary school teachers showed high level of techno-pedagogical competence. 2) Out of 100 senior secondary school teachers, no senior secondary school teacher showed high level of anxiety towards the use of instructional aids in teaching, 27 senior secondary school teachers showed average level of anxiety towards the use of instructional aids in teaching and the remaining 73 senior secondary school teachers showed low level of anxiety towards the use of instructional aids in teaching. 3) Male and female senior secondary school teachers did not differ significantly from each other with respect to

their techno-pedagogical competence and anxiety towards the use of Instructional aids in teaching.

Introduction

Teachers are the catalyst of change to whom the future of our Nation lies upon. They play a vital role in the nurturing the students. Teaching is one of the most prestigious and noblest professions as it is considered 'the mother of all professions'. For e.g. if a medical doctor makes a mistake while doing a surgery, it may lead to the death of the patient; if a businessman commits a mistake, perhaps it may lead to the downfall of the company, but if a teacher, who is the light of the nation, makes a mistake, the entire nation or generation will suffer the effect of that mistakes. This shows how important a teacher is in the building of a nation.

Teaching as a profession is probably the most difficult and challenging task one could ever take up in life. One needs to have sound knowledge and wisdom, communication skills, tolerant attitude, exceptionally well reading and writing skills and above all humbleness in helping a child grow into a respectable citizen of a nation. Teachers are those who have courageously chosen the path towards selflessly working for the mankind. Not everybody in this world has the courage and determination to shoulder such a great responsibility. The Leaders of today are earnestly and diligently getting the Leaders of tomorrow ready. Students' achievement depends on the quality of education they receive. Yet the existence of traditional methods of teaching in modern education does not provide a good learning climate for engaging an active learning strategy in teaching. Here the teacher alone plays a vital role without the involvement of the students. It is totally a Teacher-centric classroom. Students are only made to listen to the teacher's explanations. Students remain quiet and the teacher takes full control of the classroom and its related activities. Students are made to learn on their own and make their own decisions. If teachers don't allow students to express their opinions or ask questions, it makes learning difficult and environment unhealthy.

So in order to convert learning fruitful, teachers should make sure that students actively participate in classroom activities. For this appropriate teaching methods should be used. More activity-based approaches and students' involvement should be adopted as it will make the teaching-learning more interesting as well as fruitful.

With the development of science and technology in the modern era, the knowledge and skills of the teachers also need to be updated. Teaching is a product which a teacher needs to

fulfil. But not every classroom features a good, competent, creative, ambitious and innovative teacher. In order to teach students properly, a teacher should have good training and knowledge about various skills so that quality education is imparted to students. Lack of certain skills among teachers such as not possessing clear objectives for lessons, ineffective discipline skills, poor classroom management and poor communication skills with the parents and students, no good passion for children and teaching, may destroy teacher's overall effectiveness. Another reason could be lack of techno pedagogical competence among teachers such as content knowledge, pedagogical knowledge and technology knowledge. Improper training, lack of experience, lack of quality education and unavailability of resources in one or the other way greatly affects the competence level of the teachers. So the teacher should get themselves out from their comfort zone and acquire technology skills which will help them in designing and developing learning situations according to the needs and requirements of their students.

The Changing Role of the Teacher

Modern society requires teachers who can adapt quickly and effectively the ever changing challenges as per the needs and demands of the society. It's time for teachers to take different approach to education in order to fulfil the needs of the 21st century students. Many technology applications in teaching offer the teachers a way in understanding the capacity of knowledge of their own self as well as the students and enable them to explore that to what extent they can work in bringing desirable changes during teaching-learning process.

The use of technology in classroom does not only help students progress but also it provides an opportunity in changing the role of teachers in the classroom. Teachers, who fail to adapt to the demand of the new technology driven classroom, are likely to become a history of the past as much as textbooks. Non-technology classroom learning simply means grapping knowledge and teaching-learning with the use of technology, but it is all about discovering and using knowledge effectively and efficiently. So, teachers need to be flexible in order to follow these new paths and master certain skills which educators in the past failed to do.

Use of technology in teaching-learning gives teachers the opportunity to give special attention to every student. It also increases interaction and interest level among the students making them an active learner. It helps the students to visualize and perpetuate the things that are being taught with the help of technology. Technology equipped classroom help both teachers and students to have access to constant information than the past generations. So,

teachers needs to develop the tools, the true power of technology in order to meet the ever changing challenges and needs of the students as well as the society.

Use of technology in teaching and learning engages the teachers in carrying out effective work but it also creates a certain doubt and fear among teachers who are not aware of it. Not every teacher is technologically competent. A feeling of not being able to make use of technology or being competent or master enough to relate it with teaching can prevent the teacher from taking any further step to get started or get going with the new environment. Cetin (2016) also conducted a study in this regard mainly to examine science teachers' level of using computers in teaching and the effect of teachers' professional development program (TPDP) based on their opinions regarding the use of computers in science education. Altogether 43 in-service science teachers from different regions of Turkey attended a five day Teacher Professional Development Program. The data for this study were collected by means of survey and semi-structured interviews. The result findings pointed out that most of the science teachers initially lacked the essential skills and knowledge required for using computers in teaching. Later, after the TPDP majority of them developed positive outlooks on using computers in teaching and learning and also provided ways and means of successful integration of Information Communication Technology in teaching.

The advent of technology in the 21st century has brought about many changes particularly in the field of learning and its learning environment and people need to adapt themselves to these changes in a balanced manner. Technology integrated classroom converts students as information seekers, analysers, problem solvers, decision makers, producers, creative, communicators and collaborators. So corresponding to these teachers need to be updated in terms of use of technology in classroom.

Teacher competencies in technology include the ability to manage and control information technology, plan effective learning activities that make use of existing technology, using digital resources to differentiate the system of instruction, demonstrating positive attitude among students towards educational technology. Teacher should not only be able to design classroom work and activities but should also participate in the development of programs which will help them not only to be a knowledge giver but also knowledge producer.

The common challenges teacher face as they try to integrate technologies into their classroom teaching in almost all the countries are:- lack of training for the use of technologies, lack of experience, lack of financial support, lack of technical assistance, lack of

knowledge about computers functioning, lack of time required to successfully integrate technology in curriculum, lack of support from administration and an inherent fear to experiment with new technologies.

So there is dire need that teachers are required to come out of their deeply ingrained conception that they have learn it all at once and need not to upgrade anymore.

Techno-Pedagogical Competence

Education system nowadays moving on the path of modification from the old traditional chalk-and-talk method to a more refined and digitized pedagogical system. The development of techno-pedagogy has brought a drastic change in the field of education. In techno-pedagogy, there are three areas of knowledge which include namely, content, technology and pedagogy: -

A) Content: - content is the subject matter or body of information which is to be learned or taught to the students. It refers to the facts, concepts, theories and principles that are taught and learned rather than reading and writing.

B) Technology: - Technology encompasses an understanding of how to use computer software and hardware such as internet, digital video and common technologies including overhead projectors, interactive boards and e-books in education. It is about certain ways of thinking and functioning with technology, tools and its resources.

C) Pedagogy: - Pedagogy is an understanding of how teaching and learning can be transformed and carried out with the assistance of various strategies, procedures, processes and methods. Acquiring techno-pedagogical competencies will make teaching and learning more pleasurable and meaningful endeavour as it will lessen the pressure on the part of the teachers and enable the students to develop deeper domain of knowledge.

Developing Techno-Pedagogical Competence among Teachers Preparing teachers to use effective technology has become an important means in today's context since teacher are the means through which students acquire knowledge. Teachers need to master themselves in every field. Following are the points for developing techno-pedagogical skills in teachers: -

1) Creating an innovative online learning environment: - In order to create an innovative learning environment the teacher should be taught how to make use of various technologies through practical as well as theoretical approach. They should be introduced to various kinds of technologies and develop their attitude and ability in implementing those skills in the modern classrooms.

2) Meta-teaching and process-oriented instruction: - if teaching-learning needs to be improved, the teacher must be technologically competent. Meta-teaching helps in preparing teachers to be techno-pedagogically skilled as it helps them to develop holistic understanding of the process of teaching with technology. With the help of meta-teaching the teacher comes to know that teaching with technology is all about learning which includes both teachers and students.

3) Technology exposure: - Technology exposure includes collecting materials from the various internet sources, virtual field trips, integration method etc. The teachers should be trained about how to get access to different websites and make them known about the advantages of using those webs in teaching. Technology exposure will help the teacher in gathering information about the best use of technology in pedagogy, which will help in widening the information base of students.

The classroom proves to be a good starting point for teachers to teach students on how to make use of these sophisticated machines. It however, does not mean undermining and neglecting the role of the efficient teachers but it is a tool in the hands of the teacher to make their work easy and fast. Computer engages the students in different interactive collaboration and improves student level of understanding and knowledge. It brings to the student a world of joyful learning. So teachers of this era should focus on learning and instructional design, theories as well as integrating computer into the curriculum.

Anxiety towards the use of Instructional Aids in Teaching

Instructional Aids are those devices that support an instructor in the teaching-learning process which include preparation of the lesson, presentation of the lesson with the help of various aids and facilitation of teaching learning process. Today, there are extensive range of instructional aids namely, videos, audios, e-books, DVD's etc. with the option of being used in the classroom .With the help of various software methodologies, teaching becomes more efficient, powerful and flexible. Generally, instructional aids can be grouped in four main types: -

A) Visual aids: - Aids which are concerned with sight. It includes blackboards, pictures, charts, demonstrations, models, etc.

B) Auditory aids: - Aids which appeal to learner sense of hearing. It includes radio, tape recorder and many types of audio recording.

C) Audio-visual aids: - Aids which are concerned to both hearing and seeing. It includes sound motion pictures, slides on sound and television.

D) Stimulation devices: - Aids that are actual representation of the real objects or process but less as compared in size. The purpose is to develop the 'feel' of the actual working of the real objects.

The use of instructional aids is important in teaching as it helps the communication network clearer and develops good conceptual understanding of the content or skill to be taught to the students. With the help of instructional aids even the most difficult topic can be simplified. The use of instructional aids in teaching helps the students to develop better understanding and to retain information provided to them for a longer span of time.

The use of instructional aids in teaching can improve the reading, writing and speaking skills of the students. It helps making the communication network clearer and removes the level of fear, stress and anxiety. The use of audio-visuals and graphics in teaching-learning increases the interest of the students and helps them in quick and more learning, and longer retention of what has been taught. In addition to this it also helps in solving certain language barrier related problems and in clarifying the relationship between material objects, ideas and concepts. In short it makes the teaching process free from all sort of frictions.

Significance of the Study

The technological revolution has enthused an ultimate shift in the understanding of diverse pedagogies and its related practices. Technology pervades in all walks of life and in almost every field of human endeavour. Technology skills are becoming essential in all subject areas because the computer is now the universal vehicle for all accomplishment and dissemination of information in all fields. Therefore, in order to function and work effectively in a technology- oriented society, students must develop fundamental and computer skills and also develop ability in using a variety of technology tools to solve various academic problems. The development and progress of these skills is the sole duty and responsibility of the schools and teachers.

The present study is an attempt in bringing about a positive outlook for teachers who are facing difficulties in going hand-in-hand with technology. It necessarily does not mean every teacher should be competent in using technology but its sole aim is that every teacher should have technology knowledge as it has become a necessity in the present century.

The present study helps in highlighting the extent to which the teachers are competent in using technology in teaching. It is a step towards developing an idea on both the positive and negative sides of the teachers. The study helps to attain a clear knowledge about the technological competence level of the teachers and to explore that how far teachers are using and applying this knowledge effectively for teaching the students. The study also helped to highlight the kind of resources made available to teachers; finding out the ways and means in which field or area they are lacking behind, attitude and anxiety towards the use of technology, ability of accessing to technology and the factors that are stopping them from using technology in their teaching. The findings of this research will have profound importance for the development of techno-pedagogical competence, computer skills and usage of various aids by instructors in teaching profession and may help increase the use of technology among teachers by overcoming various barriers which stops them from using and integrating technology in teaching.

STATEMENT OF THE PROBLEM

Predictors of Techno-Pedagogical Competence among Senior Secondary School Teachers

OPERATIONAL DEFINITION OF THE TERMS USED

- **TECHNO-PEDAGOGICAL COMPETENCE:** Techno-pedagogical competence refers to a sound pedagogic way of teaching and learning through effective use of technology. It denotes to effective ways and means through which accessible and reasonable quality education can be imparted to all. It simply means digitizing education system.

- **ANXIETY TOWARDS THE USE OF INSTRUCTIONAL AIDS IN TEACHING**: Anything that are used or adopted in addition to a verbal explanation by the instructor in delivering a lesson could be called as an instructional aid. Instructional aids are the aids which are helpful for teachers for imparting classroom instructions in an effective manner.

OBJECTIVES

1. To study the level of techno-pedagogical competence and anxiety towards the use of instructional aids in teaching among senior secondary school teachers.
2. To find out the difference between male and female senior secondary school teachers with regard to their techno-pedagogical competence.

3. To find out the difference between male and female senior secondary school teachers with regard to their anxiety towards using instructional aids in teaching.

HYPOTHESES

1. There exists no significant difference between male and female senior secondary school teachers in their techno-pedagogical competence.

2. There exists no significant difference between male and female senior secondary school teachers in their anxiety towards the use of instructional aids.

DELIMITATIONS OF THE STUDY

i) The present study was delimited only to senior secondary schools of Phagwara.

ii) Both Private and Government senior secondary school were considered in the present study.

iii) Data collection was done only from the teachers of senior secondary school.

RESEARCH METHOD

The objective of this research was to study the techno pedagogical competence and anxiety towards the use of instructional aids in teaching among senior secondary school teachers of Phagwara. Therefore, descriptive survey method was employed in the present study in order to gather data regarding the existing practises among teachers, comparison of existing status with the established status and standards and adopting ways and means of improving the existing status.

SAMPLING

The present study was conducted on different senior secondary school teachers of Phagwara. The sample consisted of 100 senior secondary school teachers of Phagwara both from private and government schools. The investigator used stratified random sampling technique in order to collect the data from different senior secondary schools of Phagwara. Figure 1.1 shows the school and gender wise distribution of sample.

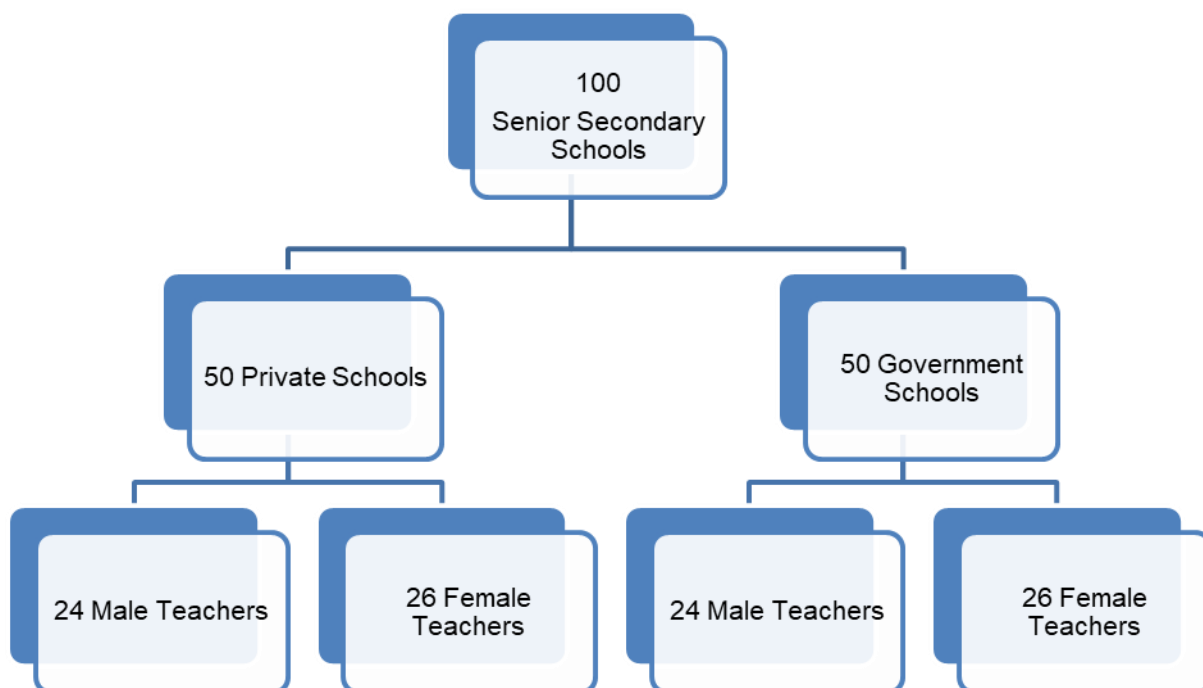**Figure 1.1 School and Gender wise distribution of Sample**

TABLE 1.1

Number of teachers in different Senior Secondary Schools

S. No.	Name of School	Type of School	Number of Teacher		Total Teacher
			Male	**Female**	
1.	Ivy World School, Jalandhar	Private	5	5	10
2.	Saffron Public School,Phagwara	Private	7	3	10
3.	Liberty Public School,Goraya	Private	3	7	10
4.	G.D.R. Day Boarding Public School, Phagwara	Private	4	6	10
5.	Lord Jain Mahavir Senior Secondary School,Phagwara	Private	5	5	10
6.	MLV DAV College,Phagwara	Government	5	5	10
7.	Government Girls Senior	Governmen	5	5	10

	Secondary School,Phagwara	t			
8.	G.H.R. Khalsa Senior Secondary School,	Government	4	6	10
9.	Ramgarhia Senior Secondary School,Phagwara	Government	5	5	10
10.	Government Senior Sec. School,NangalMajha	Government	5	5	10
	Total		48	52	100

TOOLS FOR DATA COLLECTION

Tools are nothing but instruments that assist the researcher in collecting the required data. The investigator used the following tools for collecting the data: -

1. Teachers Techno-Pedagogical Competence scale by S. Rajashekar& K. Sathiyaraj (2013).
2. Scale for Anxiety towards the use of Instructional Aids in teaching by S. Rajashekar & K. Sathiyaraj (2013).

Results and Interpretation

Result pertaining to the Level of Techno-Pedagogical Competence among Senior Secondary School Teachers

The objective was to find out the level of techno-pedagogical competence among senior secondary school teachers. After administering the techno-pedagogical competence scale, scores obtained has been calculated as per the norms presented in the manual for each respondent and classified all senior secondary school teachers into three levels of techno-pedagogical competence namely high, average and low level of techno-pedagogical competence. The detailed results have been presented in table 1.2
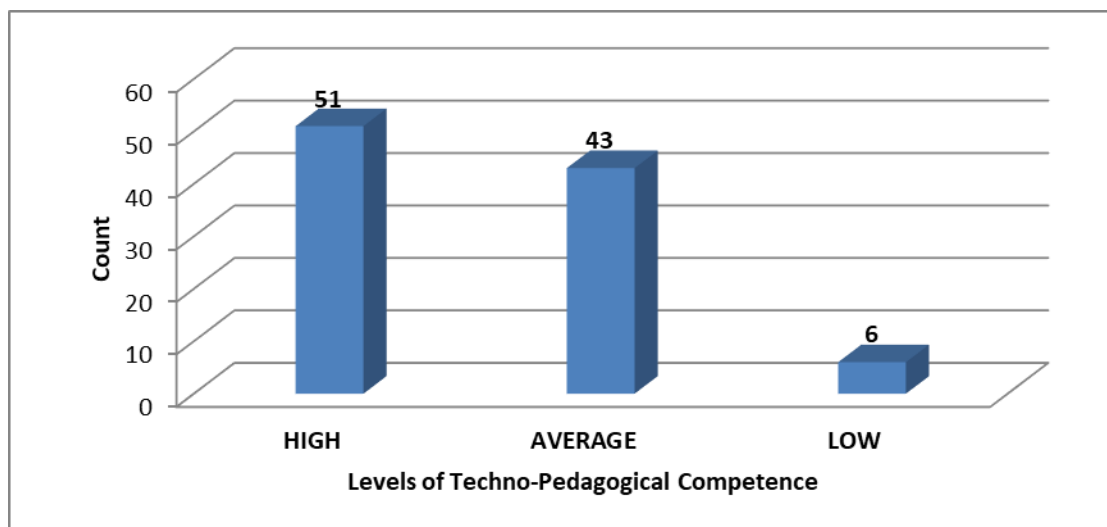
TABLE 1.2

Number and Percentage of Senior Secondary School Teachers in different Levels of Techno-Pedagogical Competence

Levels of Techno-Pedagogical Competence	Number of Senior Secondary Teachers	Percentage of Senior Secondary School Teachers

HIGH	51	51
AVERAGE	43	43
LOW	06	6
TOTAL	100	100

Interpretation

From table 1.2, it is evident that the majority of the senior secondary school teachers possessed high level of techno-pedagogical competence. Out of 100 senior secondary school teachers, 6 senior secondary school teachers shows low level of techno-pedagogical competence, 43 senior secondary school teachers show average level of techno-pedagogical competence and the remaining 51 senior secondary school teachers show high level of techno-pedagogical competence. The percentage of senior secondary school teachers falling in the low level of techno-pedagogical competence is 6%, while the senior secondary school teachers with average level of techno-pedagogical competence is 43% and the senior secondary school teachers with high level of techno-pedagogical competence is 51%.

Graph 1.1 Number of Senior Secondary School Teachers in different Levels of Techno-Pedagogical Competence

Result pertaining to the level of anxiety towards the use of instructional aids in teaching

The objective was to find out the level of anxiety towards the use of instructional aids in teaching by senior secondary school teachers. After administering the anxiety towards the use of instructional aids in teaching scale, scores obtained has been calculated as per the norms presented in the manual for each respondent and classified all senior secondary

school teachers into three levels of anxiety towards the use of instructional aids in teaching namely high, average and low level of anxiety towards the use of instructional aids in teaching. The detail results have been presented in table 1.3.
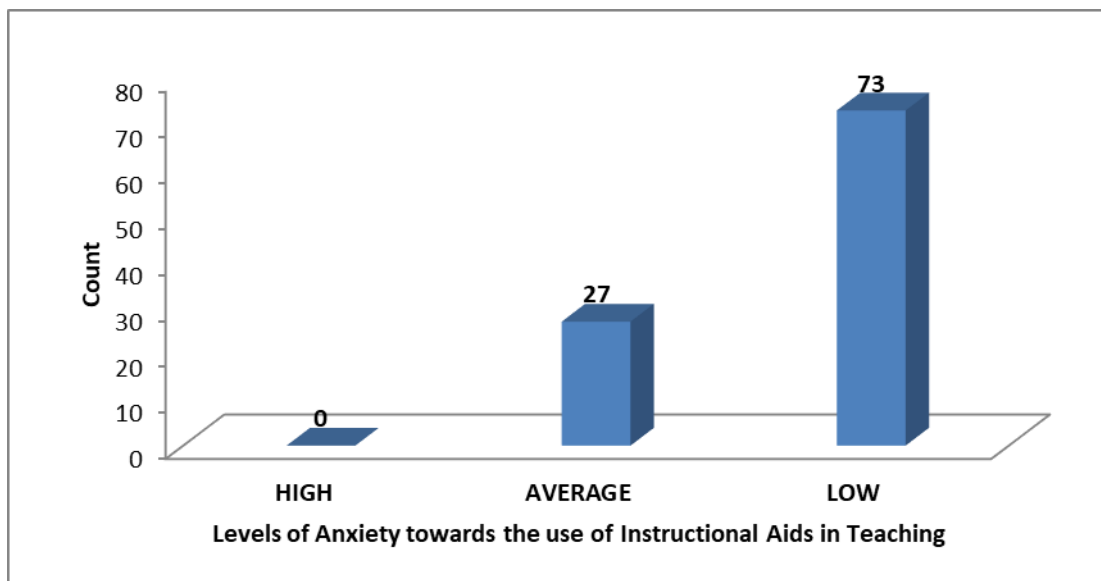
TABLE 1.3

Number and Percentage of Senior Secondary School Teachers in different Levels of Anxiety towards the Use of Instructional Aids in Teaching

Levels of Anxiety towards the Use of Instructional Aids in Teaching	Number of Senior Secondary Teachers	Percentage of Senior Secondary School Teachers
HIGH	0	0
AVERAGE	27	27
LOW	73	73
TOTAL	100	100

Interpretation

From table 1.3, it is evident that the majority of the senior secondary school teachers exhibit low level of anxiety towards the use of instructional aids in teaching. Out of 100 senior secondary school teachers, no senior secondary school teacher shows high level of anxiety towards the use of instructional aids in teaching, 27 senior secondary school teachers show average level of anxiety towards the use of instructional aids in teaching and the remaining 73 senior secondary school teachers show low level of anxiety towards the use of instructional aids in teaching. The percentage of senior secondary school teachers falling in the high level of anxiety towards the use of instructional aids in teaching is 0%, while the senior secondary school teachers with average level of anxiety towards the use of instructional aids in teaching is 27% and the senior secondary school teachers with low level of anxiety towards the use of instructional aids in teaching is 73 %.

Graph 1.2 Number of Senior Secondary School Teachers in different Levels of Anxiety towards the Use of Instructional Aids in Teachings

Result pertaining to difference between Male and Female Senior Secondary School Teachers with regard to their Techno-Pedagogical Competence

The objective was to find out the difference between male and female senior secondary school teachers with regard to their Techno-Pedagogical Competence. After administering the techno-pedagogical competence scale, mean, standard deviation, standard error of difference and t'-value of the techno-pedagogical competence score for male and female senior secondary school teachers have been calculated and presented in table 3.3.

Ho: There exists no significant difference between male and female senior secondary school teachers in their techno-pedagogical competence.

TABLE 1.4

Significance of Mean Difference among Male and Female Senior Secondary School Teachers in their Techno-Pedagogical Competence

GROUP	N	Mean	SD	SED	t'-Value	Remarks
MALE	48	129.83	34.87	6.84	0.65	Not Significant
FEMALE	52	134.29	33.37			

Interpretation

Table 1.4 reveals that the mean scores of male and female senior secondary school teachers with regard to their techno-pedagogical competence is 129.83 and 134.29 respectively. The

value of standard deviation in case of male and female senior secondary school teachers is 6.84. The t'-value of male and female senior secondary school teachers in terms of their techno-pedagogical competence comes out to be 0.65 which is not significant at 0.05 level of confidence.

Hence, the stated hypothesis, there exists no significant difference between male and female senior secondary school teachers in techno-pedagogical competence, is accepted at 0.05 level of confidence.
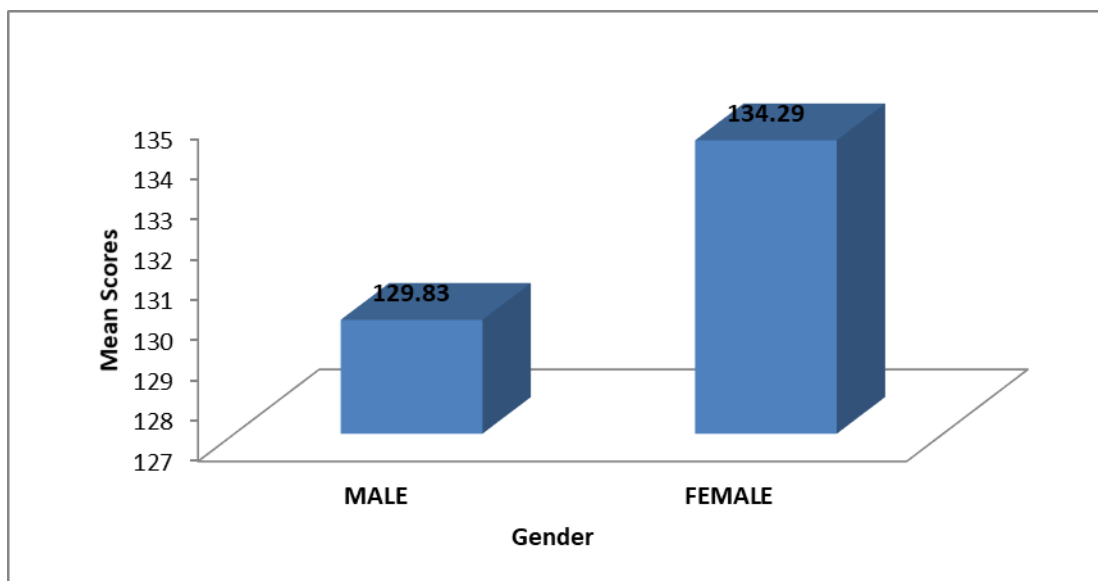
Graph 1.3 Mean Techno-Pedagogical Competence Scores of Male and Female Senior Secondary School Teachers

Result pertaining to difference among male and female senior secondary school teachers with regard to their anxiety towards the use of instructional aids in teaching

The objective was to find out the difference between male and female senior secondary school teachers with regard to their anxiety towards the use of instructional aids in teaching. After administering anxiety towards the use of instructional aids in teaching scale, mean, standard deviation, standard error of difference and t'-value of the anxiety towards the use of instructional aids in teaching of the male and female senior secondary school teachers have been calculated and presented in table 1.5

Ho: There exists no significant difference between male and female senior secondary school teachers in their anxiety towards the use of Instructional aids in teaching.

TABLE 1.5

Significance of Mean Difference between Male and Female Senior Secondary School Teachers in their Anxiety towards the Use of Instructional Aids in Teaching

GROUP	N	Mean	SD	SED	t'-Value	Remarks
MALE	48	142.50	19.46	4.21	0.63	Not Significant
FEMALE	52	139.85	22.59			

Interpretation

Table 1.5 reveals that the mean scores of male and female senior secondary school teachers with regard to their anxiety towards the use of instructional aids in teaching is 142.50 and 139.85 respectively. The value of standard deviation in case of male and female senior secondary school teachers is 4.21. The t'-value of male and female senior secondary school teachers in terms of their anxiety towards the use of instructional aids in teaching comes out to be 0.63 which is not significant at 0.05 level of confidence.

Hence, the stated hypothesis, there exists no significant difference between male and female senior secondary school teachers in their anxiety towards the use of Instructional aids in teaching, is accepted at 0.05 level of confidence.
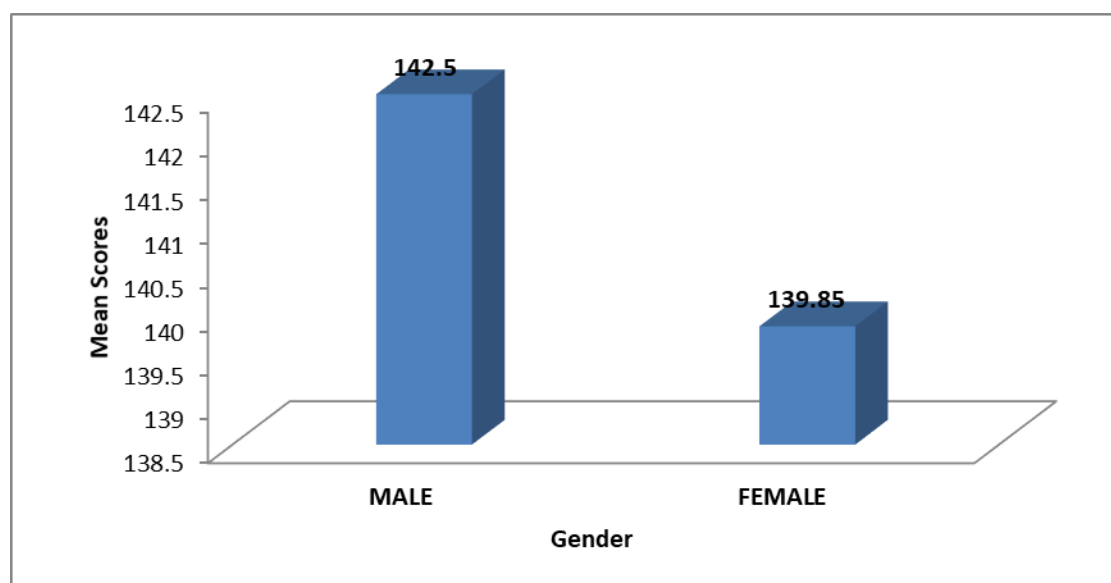
Graph 1.4 Mean Anxiety towards the Use of Instructional Aids in Teaching Scores of Male and Female Senior Secondary School Teachers.

CONCLUSIONS

1. Out of 100 senior secondary school teachers, 6 senior secondary school teachers shows low level of techno-pedagogical competence, 43 senior secondary school teachers show average level of techno-pedagogical competence and the remaining 51 senior secondary school teachers show high level of techno-pedagogical competence.

2. Out of 100 senior secondary school teachers, no senior secondary school teacher shows high level of anxiety towards the use of instructional aids in teaching, 27 senior secondary school teachers show average level of anxiety towards the use of instructional aids in teaching and the remaining 73 senior secondary school teachers show low level of anxiety towards the use of instructional aids in teaching.

3. Male and female senior secondary school teachers do not differ significantly from each other with respect to their techno-pedagogical competence and anxiety towards the use of Instructional aids in teaching.

LIMITATIONS

The limitations of study are those impacted of inclined, the appliance or analysis of the result of the study. Following are some of the inevitable shortcomings of the present study:-

1. The present study was limited only to 10 senior secondary schools in Phagwara.

2. The size of the sample was not very large. It was limited to 100 senior secondary school teachers only.

3. The study was confined to Phagwara only.

4. The study focussed only on the senior secondary school teachers.

5. The study was limited to only two variables, Teachers' Techno-Pedagogical Competence and Anxiety Towards the use of Instructional Aids in Teaching.

RECOMMENDATIONS

1. The present study has revealed that the majority of the senior secondary school teachers have high level of Techno-Pedagogical Competence which is required effectively in the 21st century. The teacher should be encouraged more to adapt and explore themselves to modern educational technologies in order to continue with the same trend.

2. Majority of the senior secondary school teachers show low level of Anxiety towards the use of Instructional aids in teaching. It means that senior secondary school teachers are happy and comfortable in using instructional aids. So, the schools must

provide more instructional aids to teachers in order to make their teaching more effective and interesting.

SUGGESTIONS FOR FURTHER STUDIES

Every investigator after completing his/her owns piece of work inevitably becomes aware of the areas in which further research is needed. Though, the results of the problem undertaken yet certain suggestions are provided which can prove helpful for more extensive investigations and in addressing all the parameters. The following suggestions are put forward for carrying out further research in this particular area:-

1. The first and foremost suggestions for future research will involve replication of the study on larger samples, with more diverse participation from different districts and states.
2. A comparative study can be conducted for urban senior secondary school teachers and rural senior secondary school teachers.
3. The study can be conducted for secondary school teachers and universities teachers.
4. A comparative study can be conducted for Indian and International universities.

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