TPACK STRATEGY: AWARENESS AND INTEREST AMONG SECONDARY SCHOOL TEACHERS

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ABSTRACT

Today we are living in the world of digitalization and technology. Technology plays a vital role in our daily life. We can see its reflections on our educational system also. The use of technology in teaching learning process made education more meaningful and efficient. TPACK stands for Technological Pedagogical and Content Knowledge. It is a theory that was developed to explain the set of knowledge that teachers need to teach their students a subject effectively with the help of technology. It was first proposed by Koehler and Mishra in 2005. In the present study the investigator aims to find out the awareness and interest on TPACK strategy among secondary school teachers. A descriptive survey method was used for the study. A sample of 100 secondary school teachers was randomly selected for this purpose. The data were collected with the help of TPACK awareness questionnaire and TPACK interest questionnaire prepared by the investigator with expert discussion. Analysis of the collected data shows that the awareness and interest of secondary school teachers on TPACK strategy varies from low, average and high level.

Keywords: Awareness, Interest, Technological Pedagogical and Content Knowledge (TPACK) Strategy, Secondary School Teachers

I.INTRODUCTION

TPACK is a dynamic framework proposed by Koehler and Mishra in 2005. It is an extension of Schulman's Pedagogical Content Knowledge strategy. TPACK is an understanding of how teaching and learning can change with the help of particular technology. In TPACK model there are three main components of teachers' knowledge: Content, Pedagogical and Technological. These three components and interaction between and among these knowledge components are equally important in this model. The figure 1 given below shows the TPACK framework and its knowledge components.

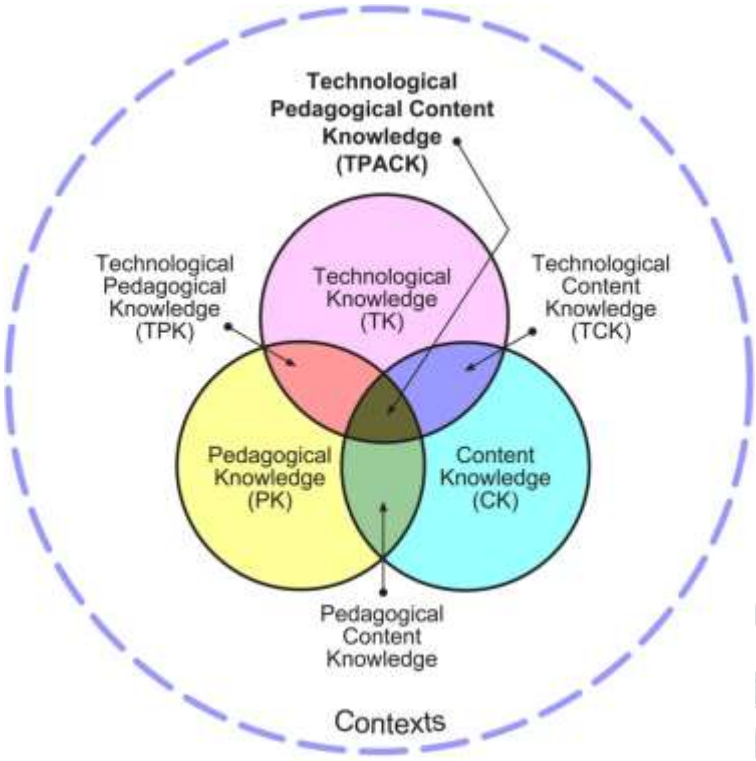

Figure 1: TPACK framework and its Knowledge components

Content Knowledge refers to the teacher's knowledge about the subject or content that will teach. Pedagogical Knowledge refers to teacher's knowledge about processes and practices of teaching and learning. Technological Knowledge means knowledge about operating various technological tools. Pedagogical Content Knowledge involves the subject knowledge and the way to present that topic. Technological Content Knowledge is teacher's understanding about which particular technology is suit for teaching a particular subject matter. Technological Pedagogical Knowledge involves understanding about various pedagogical strategies and effect of various technological aids on teaching learning process. Technological Pedagogical and Content Knowledge refers to teaching instructional material with pedagogical methods that involve technologies in order to make teaching learning process effective.

II.NEED AND SIIGNIFICANCE OF THE STUDY

Technology is an essential part of present education system. TPACK strategy integrates the growing demand on the use of technology in the classroom. It provides equal importance to content, pedagogy and technology. TPACK helps the teacher to be up to date and knowledgeable with the curriculum and promote their professional development. It helps the students to work better through technology and become more engaged in their learning.

III. OBJECTIVE

- To find out the level of awareness on Technological Pedagogical and Content Knowledge Strategy among Secondary School Teachers.
- To find out the level of interest on Technological Pedagogical and Content Knowledge Strategy among Secondary School Teachers.

IV. METHODOLOGY

In the present study the investigator used descriptive survey method in order to know the level of awareness and interest on Technological Pedagogical and Content Knowledge Strategy among secondary school teachers. The sample of the study consisted of 100 secondary school teachers selected through random sampling technique. The tools used in the study were TPACK Awareness questionnaire and TPACK Interest questionnaire, prepared by the investigator. TPACK Awareness questionnaire consists of two parts. The first part collected the personal information of the secondary school teachers such as name of the teacher, age, gender, name of the school, educational qualification and teaching experience. The second part of the tool consisted of 20 YES/ NO type questions which focus on measuring the awareness on various areas of TPACK such as basic conceptual knowledge about TPACK Strategy, Knowledge in other technological tools and strategies etc. TPACK Interest questionnaire also consists of two parts. The first part collected the personal information of the secondary school teachers such as name of the teacher, age, gender, name of the school, educational qualification and teaching experience. The second part of the tool consisted of 20 YES /NO type questions which gives focus on measuring the interest of secondary school teachers towards TPACK strategy. Interpretations of the results were done by using descriptive statistical analysis.

V. MAJOR FINDINGS OF THE STUDY

The data collected from the sample were tabulated and analyzed. The statistical measures used for the analysis of collected data were mean, median, mode and standard deviation.

The data and result of the statistical analysis of Awareness on TPACK Strategy among secondary school teachers are given in the Table 1

Table 1

Data and result of Statistical analysis of Awareness on TPACK Strategy among secondary school teachers

Sl. No.	Statistics	Awareness
1	**Sample size**	100
2	**Maximum score**	**20**
3	**Minimum score**	**0**
4	**Highest score**	**18**
5	**Lowest score**	**6**
6	**Mean**	**10.84**
7	**Median**	**11**
8	**Mode**	**9**
9	**Standard Deviation**	**2.74**

On the basis of the result obtained from the data analysis, the level of Awareness on TPACK Strategy of secondary school teachers was interpreted. A percentage analysis was done for calculating M+S.D and M-S.D. The scores obtained above M+S.D were treated as high awareness, M-S.D as low awareness and scores in between these two values as average awareness. The result obtained were tabulated and given as Table 2.

Table 2

Percentage analysis of level of awareness on TPACK Strategy among secondary school teachers

Level	Percentage of awareness
High	**16%**
Average	**63%**
Low	**21%**

The above mentioned percentage analysis of awareness on TPACK strategy among secondary school teachers are given as graphical representation and is given as Figure 2

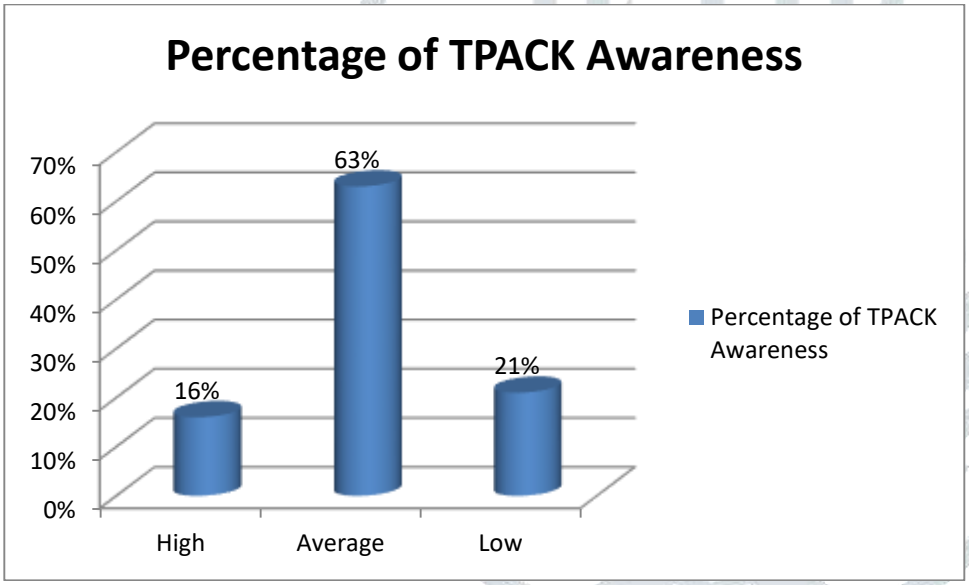

Figure 2: Graphical representation of awareness on TPACK Strategy among secondary school teachers

From the above table and graph it is clear that 63% of secondary school teachers have an average level of awareness on TPACK Strategy, 21% of teachers have a low level of awareness and only 16% of teachers have a high level of awareness.

The data and result of the statistical analysis of interest among secondary school teachers towards TPACK Strategy is given in the Table 3

Table 3

Data and result of Statistical analysis of interest among secondary school teachers towards TPACK Strategy

Sl. No.	Statistics	Awareness
1	**Sample size**	100

2	Maximum score	20
3	Minimum score	0
4	Highest score	16
5	Lowest score	7
6	Mean	12.61
7	Median	13
8	Mode	13
9	Standard Deviation	2.24

The level of interest of secondary school teachers towards TPACK strategy was interpreted. A percentage analysis was done for this. M+SD and M-SD were calculated. The scores obtained above M+SD were treated as high interest scores, M-S.D as low interest scores and in between these values as average interest scores. The result obtained were tabulated and given as Table 4.

Table 4

Percentage analysis of level of Interest on TPACK Strategy among secondary school teachers

Level	Percentage of Interest
High	24%
Average	62%
Low	14%

The above mentioned percentage analysis of Interest on TPACK Strategy among secondary school teachers are presented as a graphical representation and is given as Figure 3

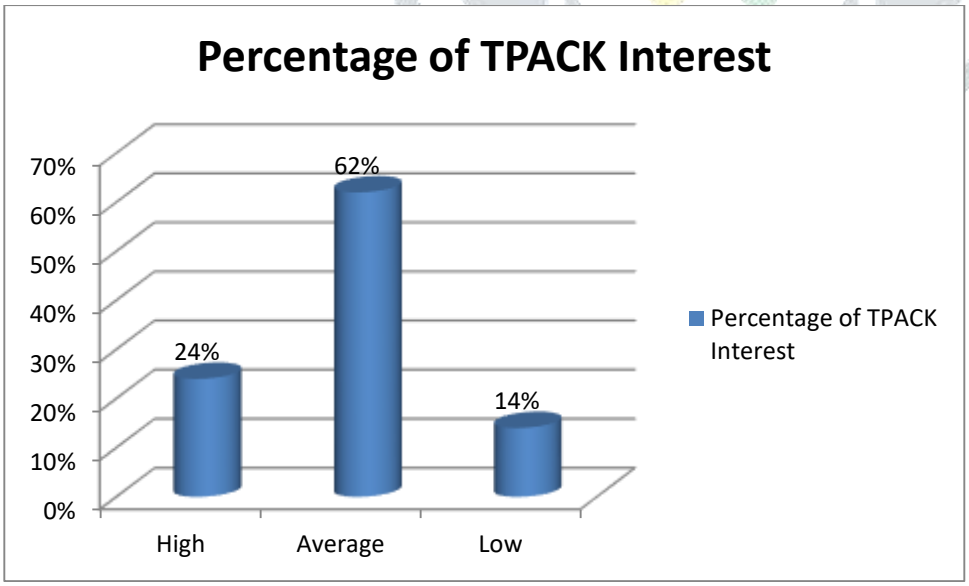

Figure 3: Graphical representation of interest on TPACK Strategy among secondary school teachers

From the above table and graph it is clear that 62% of teachers have an average level of interest towards TPACK strategy, 14% of teachers have a low level of awareness and 24% of teachers have a high level of interest towards TPACK strategy.

VI. CONCLUSION

The result of the analysis showed that 16% of teachers in the secondary school have high awareness and 63% have average awareness on the TPACK Strategy. But 24% of teachers have high level of interest in TPACK strategy and 62% of the teachers have average level of interest on TPACK Strategy. This shows that most of the teachers have interest on TPACK strategy irrespective of their awareness about this strategy. It focuses on the need for including TPACK in pre service teacher education programs and professional development of practicing teachers. Also suitable programmes should be given to in-service teachers to enhance their awareness on TPACK strategy.

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