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Attitude of Secondary School Teachers towards Integration of ICT in Classroom Teaching

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ABSTRACT
Information and Communication Technology (ICT) in education has brought about an easy access to different learning resources. ICT's are said to help expanding access to education, strengthen the relevance of education and raise educational quality by making teaching and learning into engaging, active and creative process connected to real life. The objective of the study is to find out the level of attitude of secondary school teachers towards integration of ICT in the classroom teaching and the differences in attitude among the subsamples based on Gender, Type of Institutions, Locale and Teaching experience. The study was conducted on a sample of 300 High School teachers and data was collected using five point Likert attitude scale. The study revealed that the level of attitude of secondary school teachers towards integration of ICT in classroom is satisfactory.
KEY TERMS: Information and Communication technology (ICT), attitude, secondary school teachers, integration of ICT, classroom teaching

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I. INTRODUCTION

The digital era brought revolutionary changes in which multifaceted instructional pedagogies have been incorporated in order to simplify classroom institution to the fullest extent. ICT provides variety in the presentation of content and also provides flexibility to learners for quality learning. Computer Assisted Instruction focusses on mastery of skills and content though repetition and reinforcement supplements and support the teacher. But it cannot be a substitute of a teacher.

In the present educational scenario the use of information technology is inevitable. Especially in Kerala IT@school project started a mission which gives IT training to all school teachers in developing multimedia programmes for different subjects and providing computers to schools. In recent years there has been a growing interest to know how computer and internet can best utilized to improve effectiveness and efficiency of education at all levels and in both formal and non-formal settings.

ICT in education has improved and has also brought about an easy access to different learning resources. They help to improve teaching skill and learning abilities of students. ICT has effected in every aspects of human activity and has a potential role to play in the field of education and training. It also helps in promoting opportunities of knowledge sharing throughout the world. ICT affects the teaching learning process in multiple and diverse ways. This helps the teachers in preparing techno pedagogical skills in transacting the curriculum.

The main purpose of the strategy for ICT implementation in education is to provide the prospects and trends of integrating ICT into general activities. How well do you know how much IT has progressed in the modern age? The use of computer in this modernization has become inevitable in every aspects of life.

To give the new generation a chance for digital learning, we need to impart ICT skills from lower classes. All teachers need to be whole hearted and willing to work on this initiative. Research studies of Amith kumar and Sharma (2018), Bindu (2017) and Watker (2014) showed the integration of ICT in teaching is very effective but there are many constraints including the attitude of teachers. Thus considering the significance of ICT for providing student friendly learning and a teacher friendly instruction, the investigator felt this as a crucial, current area and decide to make a probe into this area as a research problem. The integration of ICT in the teaching learning process is inevitable but the attitude of teachers can make constraints in it. In this context, the present study is entitled as " Attitude of Secondary School Teachers towards Integration of ICT in Classroom Teaching"

II. OBJECTIVES OF THE STUDY

1.To assess the level of attitude of secondary school teachers towards integration of ICT in the classroom teaching based on total sample.

2.To test whether there exists any significant difference in the attitude of secondary school teachers towards integration of ICT in the classroom teaching based on gender, type of management, locale and teaching experience

III. METHODOLOGY

In the present study the investigators adopted survey method to study the attitude of secondary school teachers towards integration of ICT in classroom teaching. Random sampling method was used for selecting the sample. Variables for the study were the attitude towards integration of ICT. The sub variables in the present study are Gender, Type of management, Locale and Teaching experience. The study was conducted on a sample of 300 High School teachers in Kozhikode district. The sample was selected by stratified random sampling techniques giving due to representation of different strata based on Gender, Locality, Teaching Experience and Type of Management. The tool used for present study is an attitude scale. "Scale for Assessing the Attitude of secondary school teacher towards integration of ICT in classroom". It is a five point Likert attitude scale which consists the following components -Teacher competency, Subject competency, Interest and satisfaction, Awareness and use of internet, Awareness and ability to deal with application programme and General awareness. Fifty items were selected for the final test using item analysis and administered to 300 Total samples.

After the selection of the sample, the investigator made arrangements for the administration of the tool. The final forms of the scale for assessing the attitude of secondary school teacher towards integration of ICT in classroom teaching are made ready for distribution. The investigator sought permission from the Heads of selected school for collecting data.

The investigator explained the nature and the confidentially of the study to the teachers concerned. The printed copies of the tool and response sheet were personally distributed to the teachers by the investigator and proper instructions were given to the teacher. The filled response sheet was collected on the spot.

The scoring of the obtained response sheets was according to the scoring scheme of each tool. The total score of the tool were consolidated. The scores of subsample based on the locality, gender, type of management and teaching experience were also consolidated. This consolidated data was used for statistical analysis using SPSS.

Major statistical techniques used for the analysis were Estimation of percentage, Test of significance of difference between means (t – test) and ANOVA.

IV. ANALYSIS

Estimation of Level and extend of attitude of secondary school teachers towards integration of ICT in the classroom based on total sample

To assess the level and extend of attitude of secondary schoolteachers towards integration of ICT in the classroom, the investigator calculated the percentage of attitude of secondary school teachers towards integration of ICT in the classroom teaching for total sample and result obtained are presented in the Table 1.

Table 1
Percentage of High, Moderate and Low Attitude of secondary school teachers towards integration of ICT in classroom for the Total Sample

Sample	N	High attitude ≥182		Moderate attitude 153<x<182		Low attitude ≤153	
		N	%	N	%	N	%
Total sample	300	38	12.67	226	75.33	36	12

From the Table 1, it is clear that the percentage level of attitude of secondary school teachers towards integration of ICT in the classroom teaching found to be different. That means the 12.67% of secondary school teachers have possessed high attitude. The moderate attitude of secondary school teacher is 75.33%. And the 12% of secondary school teacher have low attitude towards integration of ICT in classroom teaching. This indicate that the attitude of secondary school teachers towards integration of ICT in classroom teaching have satisfactory level. The diagrammatic representation of the percentage level of attitude of secondary school teachers towards integration of ICT in classroom teaching is given in Figure 1

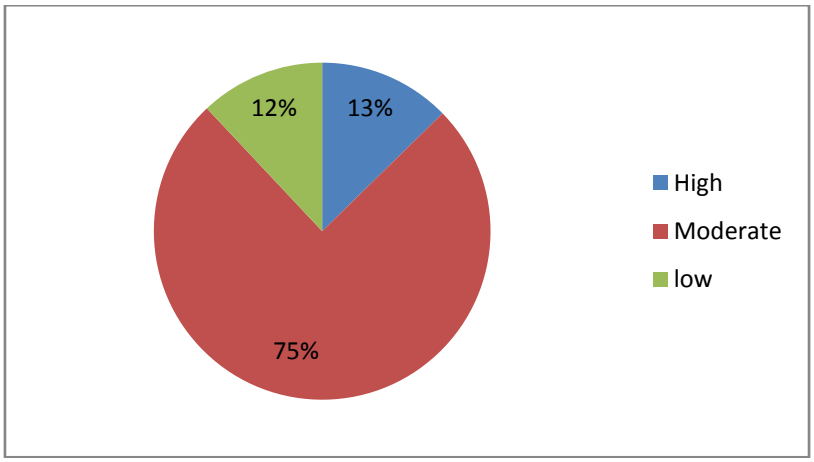

Figure 1: Percentage of Attitude of Secondary school teachers towards integration of ICT in classroom teaching among Total Sample

Comparison of Mean Scores of attitude of secondary school teachers towards integration of ICT in the classroom teaching based on Gender

The statistical indices and the result of test of significance difference between Mean scores of Male and Female of secondary school teachers was conducted and details are given in Table 2.

Table 2
Data and results of Test of significance difference in Mean Scores of attitude of secondary school teachers towards integration of ICT in the classroom teaching based on Gender

Sample	Number	Mean	Standard Deviation	t - value
Male	135	170.92	17.54	3.647
Female	165	165.03	10.01	

From the Table 2, it is found that the mean score of male teachers is 170.92 and standard deviation is 17.54 and that of female teachers is 165.03 and 10.01 respectively.
From this we can come into conclusion that the calculated t – value is 3.647, which is greater than table value of 2.58,value set at 0.01 level of significance. This means there exists a significant difference in the mean scores of attitude between male and female teachers towards integration of ICT in classroom teaching at 0.01 level. This indicates that the attitude of male and female teachers towards integration of ICT in classroom teaching are not equal.

Comparison of Mean Scores of Attitude of Secondary School Teachers towards Integration of ICT in the Classroom based on Type of Management

The test of significance difference between Mean scores of Government and aided of secondary school teachers was conducted and details are given in Table 3.

Table 3
Data and results of Test of significance difference in Mean Scores of Attitude of Secondary School Teachers towards Integration of ICT in the Classroom Teaching based on Type of Management

Sample	Number	Mean	Standard Deviation	t - value
Government	180	168.59	16.06	1.360
Aided	120	166.32	10.74	

From the Table 3, the statistical indices indicate that the mean of Government school teachers is 168.59 and standard deviation is 16.06 and that of Aided school teachers is 166.32 and 10.74 respectively.From the table it is clear that the calculated t – value is 1.360 is less than table value 1.96 at 0.05 level of significance. This means there exists no significant difference in the mean scores of attitude of Government school teachers and Aided school teachers towards integration of ICT in classroom teaching. From this it is clear that both Government and Aided school teachers are identical in the attitude towards integration of ICT in classroom teaching.

Comparison of Mean Scores of Attitude of Secondary School Teachers towards Integration of ICT in the Classroom based on Locale

The test of significance difference between Mean scores of Rural and Urban secondary school teachers was conducted and details are given in the Table 4

Table 4
Data and results of Test of significance difference in Mean Scores of Attitude of Secondary School Teachers towards Integration of ICT in the Classroom Teaching based on Locale

Sample	Number	Mean	Standard Deviation	t - value
Rural	132	165.52	16.65	1.602
Urban	168	168.17	13.07	

From the table 4, it is observed that the mean score of rural teachers is 165.52 and standard deviation is 16.65 and that of urban teachers is 168.17 and 13.07 respectively.From the table, the calculated critical ratio is 1.602 which is less than table value of 1.96 at 0.05 level of significance. This means there exists no significant difference in the mean scores of rural and urban teachers towards integration of ICT in classroom teaching. It is concluded that both rural and urban teachers are identical attitude towards integration of ICT in classroom teaching.

Comparison of Attitude of Secondary School Teachers towards Integration of ICT in the Classroom based on Teaching Experience

The total sample is divided into 3 groups based on teaching experience viz; 1 – 9 years, 10 – 19 years and 20 – 30 years. Analysis of variance is the effective way to find out the difference among the mean scores of more than two variables. The data and the results of ANOVA are presented in the Table 5 and 6.

Table 5
Descriptive statistics of Attitude of Secondary School Teachers towards Integration of ICT in the Classroom based on Teaching Experience

Teaching experience	N	Mean	Standard deviation
01 – 09 years	89	170.63	16.82
10 – 19 years	125	166.24	11.61
20 – 30 years	86	166.72	14.37

Table 6
Results of Attitude of Secondary School Teachers towards Integration of ICT in the Classroom based on Teaching Experience using ANOVA

Sl. No.	Source of Variance	df	Sum of squares	Mean squares	F Ratio
1	Between groups	2	1112.414	556.207	2.793
2	Within groups	299	59140.866	199.127	

From the Table 6 it is clear that the calculated F Ratio is 2.793 is less than table value 3.03 at 0.05 level of significance. This means there exists no significant difference in the mean scores of attitude of secondary school teachers based on teaching experience. Thus it can be interpreted that teaching experience in the secondary school teachers do not cause difference in attitude towards integration of ICT in classroom teaching.

V. FINDINGS AND CONCLUSIONS OF THE STUDY

The level of attitude of secondary school teachers towards integration of ICT in classroom is satisfactory. There exists significant difference in the mean scores of male and female teachers with regard to attitude of secondary school teachers towards integration of ICT in classroom teaching at 0.01 level.There exists no significant difference in theMean Scores of attitude of secondary school teachers towards integration of ICT in the classroom based on locale,Type of Institutions and Teaching experience.

In the age of digital divide betweem teachers and students, secondary school teachers should integrate more ICT and techno pedagogical skills in the classroom transaction and to update professionally through electronic learning and digital classes. Qualified and trained teachers represent the key to quality teaching and learner's motivation.

Innovative programmes implemented by the government can be fulfilled only if the teachers are enough competent in digital knowledge, or otherwise both the teacher and student will not be able to compete with the high level of digital literacy. Lack of gadgets and accessibility will restrict the use of internet

which may lead to low level of digital literacy. To promote digital literacy among the teachers, more emphasis on techno pedagogical practices and projects integrated with ICT can be integrated in the pre service Teacher Education curriculum. In-service teacher training should be conducted yearly for the professional development of teachers. Curriculum of developed countries should be familiarised with the teachers for motivating and empowering them with skills associated with smart teaching-learning process..

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