



## A study of technology literacy among the school teachers in Sriperumpudur Taluk

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### Abstract

Technology integration in education is one of the most popular topics in the last decades. Many countries have invested millions of dollars to equip classrooms with technological devices. International Technology Education Association (ITEA) defines technological literacy as the ability to “use, makes, assess and understand the technology”. The present study was undertaken to study the attitude towards using new technology among school teacher in Sriperumpudur Taluk. School teachers were also compared with each other on attitude towards using new technology scale. The data collected through Attitude towards using new technology scale was subjected to various statistical techniques viz., percentage, mean, S.D. and Chi – Square test. There is no relationship found between Level of Attitude towards using new technology and the personal and institutional variables Age, General educational qualification, Teacher educational qualification, School location, working experience, Type of school, Computer operating knowledge and Regular Internet browsing. There is close relationship found between Level of Attitude towards using new technology and the personal variables Gender, Possessing an e-mail address and having own Personal computer.

**Keywords:** attitude, new technology, literacy, school teachers

### Introduction

The impact of technology on global society has its implications on education. The extensive knowledge that has been generated about how people learn and what this means for creating more effective student - centre learning environments. Technology and Learning should go hand in hand to reap better results. This is evident from the government orders issued by the government of Tamil Nadu which relates to the revision of school education curriculum (2017), under the guidelines of incorporating Information and Communication technology with science subject for classes 6 to 10, encouraging e-learning through Learning Management System. The Government of Tamil Nadu strongly emphasis the usage of technology in the teaching learning process and the revised syllabus is framed with an eye on the technology usage in teaching.

Research on technology literacy among the Secondary School teachers is considered. This literacy is to emphasis the teachers to integrate academic subject and the vocational education. This technology literacy is lacking among the teachers which means that they are unable to apply the skills in their Profession. Zuga (1994) identified the imbalance of treatment in technology in education between 1987-1993. Among the shortcomings of this “technological literacy” is that the teachers are unaware of using technology on class room teaching. This is an attempt to study about the technology literacy in teaching of biology among the teachers who handle the Secondary class level schools in Sriperumpudur Taluk.

### Literature Review

Achieving a meaningful use of computer technology in the field of education can be influenced by many factors. One of these factors is teachers’ attitudes towards the use of technology in teaching and learning process. Research shows that the success of technology use in the educational settings largely depends on teachers attitudes toward technology use (Albirini, 2006, Baylor & Ritchie, 2002). Teachers’ attitudes are considered as a major predictor of the use of new technologies in the educational settings (Albirini, 2006). Thus, their attitudes toward computer can play an important role in the acceptance and actual use of computers. The successful utilization of technologies in the classroom depends mainly on the teachers’ attitudes toward these tools (Kluever, Lam, Hoffman, Green & Swearinges, 1994). Thus, it can be concluded that the attitude further related to the usage frequency of technology and usage amount of the technology. Thus, an attitude plays an important role in determining people reactions to situations. A review of the psychological literature reveals diverse definitions of attitudes. All port (1935) defined it as “a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual’s response to all objects and situations with which it is related”. Other researchers define attitude as a positive or negative emotional reaction toward a specific situation. Moreover, Fishbein (1967) defined attitude as “a learned predisposition to respond to an object or class of objects in a consistently favorable or unfavorable way”. As it seen above, technology has been accepted as a powerful tool

that can help bring about transformation in education (Chigona, 2015). However, there are several barriers in front of technology implementation in the field of education. The lack of professional development is one of the most cited reasons for lack of technology implementation (Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur & Sendurur, 2012).

**Motivation for Research**

The learners studying from class 6 to 10 need to be taught using computer. Computer knowledge is required for proper understanding of the subject in an efficient way as computer knowledge shows the complete content animations for proper in depth understanding of the subjects. Thus teachers need to have the computer knowledge as they handle the subjects. In this competitive world students are being very strong with computer knowledge. They are expecting the same computer knowledge for teaching in their class rooms. Lack of computer knowledge among the teachers leads the uncomfortable class room. Thus the teachers have to be strong in using computer knowledge on teaching learning process. The functional knowledge and school knowledge in all

subjects could be available where the students interact and experience in day to day life through functional knowledge. The use of technology in knowing the subject is spotted in the text book and although all websites and advanced information are published, the computer knowledge may yield more explosion of knowledge.

**Objectives of the study**

The objectives of the studies are to find out the technological literacy and find out the attitude of using new technology among the school teachers in Sriperumpudur Taluk.

**Research Parameters**

The Personal and Institutional Variables considered for study are Age factors, Gender, General educational qualification, Teachers’ Teacher Education Qualification, Teaching experience, School category (Type of School), School locality, Computer operating knowledge, Possessing a email address, Having a personal computer, Regular Internet browsing habit and the operational variable is attitude of using new technology

**Table 1:** The Parameters of study

S. No	Design Tools	Associated Techniques
1	Methodology	Survey Method
2	Population	Sriperumpudur Taluk High School and Higher Secondary teachers
3	Sample Size	500
4	Sampling	Cluster Sampling
5	Standardised Tool	Attitude Towards Using New Technology Scale (ATUNTS-R), Dr. S.Rajasekar, (2009).
6	Analysis	Mean, Median, Standard deviation, Percentage analysis on Teachers responses, Chi-Square test and Correlation.

**Hypothesis and Statistical Analysis**

The hypothesis pertaining to the study is enlisted as follows:

**H01: There is no significant relationship between different Age Group of teachers and their Level of Attitude towards using new technology.**

The sl. no 1 in Table 2 reveals that the Calculated Chi-square value (35.138) is greater than the Table value (12.592). Hence the Null Hypothesis is rejected at 5% level of significance. So there is close relationship between different Age Group of teachers and their Level of Attitude towards using new technology.

**H02: There is no significant relationship between Male and Female teachers and their Level of Attitude towards using new technology.**

The sl. no 2 in Table 2 reveals that the Calculated Chi-square value (5.393) is lesser than the Table value (5.991). Hence the Null Hypothesis is accepted at 5% level of significance. So there is no relationship between Male and Female teachers and their Level of Attitude towards using new technology.

**Table: 2** Chi-Square Test Results

Sl. No	Hypothesis	Factors	Calculated $\chi^2$ value	Table Value	Degrees of Freedom	Remark
1	H01	Age Group	35.138	12.592	6	Significant
2	H02	Gender	5.393	5.991	2	Not Significant
3	H03	General Educational qualification	7.835	5.991	2	Significant
4	H04	Teacher Education Qualification	33.844	9.488	4	Significant
5	H05	Experience	32.053	12.592	6	Significant
6	H06	Types of Schools	12.347	9.488	4	Significant
7	H07	School Location	16.961	9.488	4	Significant
8	H08	Computer Operating Knowledge	16.205	5.991	2	Significant
9	H09	Response Of Keeping e-mail	3.993	5.991	2	Not Significant
10	H010	Response in having Own Personal Computer	4.680	5.991	2	Not Significant
11	H011	Response in Regular Internet Browsing	6.583	5.991	2	Significant

**H<sub>03</sub>: There is no significant relationship between Under Graduate and Post Graduate teachers and their Level of Attitude towards using new technology.**

The sl. no 3 in Table 2 reveals that the Calculated Chi-square value (7.835) is greater than the Table value (5.991). Hence the Null Hypothesis is rejected at 5% level of significance. So there is close relationship between Under Graduate and Post Graduate teachers and their Level of Attitude towards using new technology.

**H<sub>04</sub>: There is no significant relationship between Under Graduate, Post Graduate and Secondary Grade completed teachers and their Level of Attitude towards using new technology.**

The sl. no 4 in Table 2 reveals that the Calculated Chi-square value (33.844) is greater than the Table value (9.488). Hence the Null Hypothesis is rejected at 5% level of significance. So there is close relationship between Under Graduate, Post Graduate and Secondary Grade completed teachers and their Level of Attitude towards using new technology.

**H<sub>05</sub>: There is no significant relationship between different working experience of teachers and their Level of Attitude towards using new technology.**

The sl. no 5 in Table 2 reveals that the Calculated Chi-square value (32.053) is greater than the Table value (12.592). Hence the Null Hypothesis is rejected at 5% level of significance. So there is close relationship between different working experience of teachers and their Level of Attitude towards using new technology.

**H<sub>06</sub>: There is no significant relationship between the teachers working in different types of schools and their Level of Attitude towards using new technology.**

The sl. no 6 in Table 2 reveals that the Calculated Chi-square value (12.347) is greater than the Table value (9.488). Hence the Null Hypothesis is rejected at 5% level of significance. So there is close relationship between the teachers working in different types of schools and their Level of Attitude towards using new technology.

**H<sub>07</sub>: There is no significant relationship between the teachers working in different locations of schools and their Level of Attitude towards using new technology.**

The sl. no 7 in Table 2 reveals that the Calculated Chi-square value (16.961) is greater than the Table value (9.488). Hence the Null Hypothesis is rejected at 5% level of significance. So there is close relationship between the different school locations and teachers Level of Attitude towards using new technology.

**H<sub>08</sub>: There is no significant relationship between different responses in computer operating knowledge of teachers and their Level of Attitude towards using new technology.**

The sl. no 8 in Table 2 reveals that the Calculated Chi-square value (16.205) is greater than the Table value (5.991). Hence the Null Hypothesis is rejected at 5% level of significance. So there is close relationship between different responses in computer operating knowledge of teachers and their Level of Attitude towards using new technology.

**H<sub>09</sub>: There is no significant relationship between different responses in keeping e-mail address of teachers and their Level of Attitude towards using new technology.**

The sl. no 9 in Table 2 reveals that the Calculated Chi-square value (3.993) is lesser than the Table value (5.991). Hence the Null Hypothesis is accepted at 5% level of significance. So there is no relationship between different responses in keeping e-mail address of teachers and their Level of Attitude towards using new technology.

**H<sub>010</sub>: There is no significant relationship between different responses in having own private computer of teachers and their Level of Attitude towards using new technology.**

The sl. no 10 in Table 2 reveals that the Calculated Chi-square value (4.680) is lesser than the Table value (5.991). Hence the Null Hypothesis is accepted at 5% level of significance. So there is no relationship between the teachers who are having own personal computer and the teachers not having personal computer on their Level of Attitude towards using new technology.

**H<sub>011</sub>: There is no significant relationship between different responses in regular internet browsing of teachers and their Level of Attitude towards using new technology.**

The sl. no 11 in Table 2 reveals that the Calculated Chi-square value (6.583) is greater than the Table value (5.991). Hence the Null Hypothesis is rejected at 5% level of significance. So there is close relationship between different responses in regular internet browsing of teachers and their Level of Attitude towards using new technology.

**Findings**

There is no relationship found between *Level of Attitude towards using new technology* and the personal and institutional variables Age, General educational qualification, Teacher educational qualification, School location, Working experience, Type of school, Computer operating knowledge and Regular Internet browsing.

There is close relationship found between *Level of Attitude towards using new technology* and the personal variables Gender, Possessing a e-mail address and Having own Personal computer.

There are positive relationships found between the teachers *Technology literacy* related with their Socio economic status, Mobile learning attitude, Computer knowledge and their Attitude towards using new technology.

**Conclusion and future work**

The researcher found that the teachers' Gender, Possessing a e-mail address and Having own Personal computer are affects their attitude towards using new technology. But the teachers' Age, General educational qualification, Teacher educational qualification, School location, working experience, Type of school, Computer operating knowledge and Regular Internet browsing are not affecting their attitude towards using new technology. Research is fundamentally a creative enterprise, with the most creative aspect arguably able to find challenging and interesting problems. This research explores

new and different frontiers and this is the need done through Technology Literacy.

There are more positive relationships found between the teachers Technology literacy related with their Socio economic status and their Attitude towards using new technology. Initially, motivating the teachers in any one among the above three operational variables leads to the overall development on their Technology literacy in Teaching and Learning process. QR code for all the science subject diagrams is strongly recommended to enable the students learn the subjects with animation making use of mobile app Technology. Separate studies can be conducted for Personal Digital Assistants (PDAs) and any other handheld information and communication devices used in the Teaching learning process. The different tools can be used in future studies. For example, Attitude of using advanced Gadgets in Teaching and learning, Advanced Computer knowledge test, Attitude of using Mobile and Computer applications etc.

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