A STUDY OF TECHNOPHOBIA AMONG SECONDARY SCHOOL TEACHERS IN VIZIANAGARAM DISTRICT

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ABSTRACT

Education Technology plays a significant role in the teaching learning process. It refers to a family of technological tools (software, hardware and associated technologies) mostly based on computer technology devoted to promote more engaging, interactive and individualized learning experiences. It improves student learning to a great extent when teachers are digitally literate and integrate technology with school curriculum. The teachers should develop in their students the necessary skills to meet the challenges in the fast growing technological world. However, most of the teachers working in secondary schools have developed a kind of fear or anxiety towards using technology in classroom teaching. This kind of technophobia on the part of the teachers has been proved to influence the student performance negatively. The present study is an attempt to explore the perceptions of teachers towards the use of technology in their classroom teaching, to know the causes for their technophobia and suggest measures to overcome this problem. The researchers used a well prepared and standardized questionnaire as the tool for collection of data from a sample of 600 teachers (80 Headmasters and 520 School Assistants) selected from 80 secondary schools located in the rural as well as urban areas in Vizianagaram District of Andhra Pradesh using Stratified Random Sampling technique. Mean score values, standard deviations and independent t-tests were used for analysis of data. The findings of the study revealed that the demographic variables – Gender, Age and Medium of instruction offered by the school have no influence on the technophobia of teachers working in secondary schools. However, teaching experience and the location of the school have a positive influence on their technophobia. The study suggests that the teachers working in secondary schools should overcome the problem of technophobia; and use ICT tools effectively with a view to improve student performance.

Key words: *Technophobia, Education Technology, Teaching-learning process, Information and Communication Technology (ICT), Digitally literate.*

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INTRODUCTION

Education system has a tremendous responsibility to transform a child into a fully developed individual. It is an effective means of social reconstruction. It is the process of facilitating

learning. It helps in the acquisition of knowledge, skills, values, morals, beliefs and habits necessary for the human living. It is the most powerful instruments of social, economic and cultural transformation necessary for the realization of national goals (Report of the Indian Education Commission, 1964-66). It helps to increase the productivity, achieve national and emotional integration and accelerate the process of modernization. Over the ages, academicians and educationists of the country have been persistently working to develop a system of education which can express and promote its social and cultural identity; and accomplish the requirement of the time. Research is being conducted continuously in education sector for the improvement of the existing system; and to establish a system wherein learners can be equipped with necessary skills to face the challenges of the technological world.

Teaching has become one of the most challenging professions in our society where knowledge is expanding rapidly and modern technologies are demanding teachers to learn how to use these technologies. Education Technology plays a significant role in the teaching learning process. It refers to a family of technological tools (software, hardware and associated technologies) mostly based on computer technology devoted to promote more engaging, interactive and individualized learning experiences. It improves student learning to a great extent when teachers are digitally literate and integrate technology with school curriculum.

Advancement in technology has opened up new avenues for all generations of people in various fields like education, marketing, commerce, medicine, engineering, agriculture etc. To keep pace with this advanced technology in education, the stakeholders need to keep themselves abreast of the developments in the use of technology for the benefit of human learning. Teachers are one of the most important personnel who need digital literacy because their gained knowledge can transform teaching learning process which emphasize more on connected learning. It enhances professional content, resources and systems to help them improve their own instruction and personalize learning.

The teachers should equip themselves with the necessary skills to use technology effectively for the benefit of their students. National Curriculum Framework (NCF)-2005 envisioned: “Integration of Information and Communication Technologies (ICT) into schooling needs serious consideration. Teacher educators, Curriculum developers, Evaluators and other stakeholders will have to redefine their roles to tackle ICT rich environment and harness its full potential for the benefit of the learners”. As the teacher plays a significant role in the management of learning, teachers should equip themselves with ICT competencies to design new learning environments using the most modern technologies in the field of education. However, most of the teachers working in secondary schools have developed a kind of fear or anxiety towards using technology in classroom teaching. This kind of technophobia on the part of the teachers is a hindrance in the teaching learning process; and influences student performance negatively. Hence, the teachers should get rid of technophobia; and join the main stream of integrating technology in education to the best of their abilities in their classroom teaching with a view to improve student performance.

THE CONCEPT OF ‘TECHNOPHOBIA’

[Psychological factors such as anxiety, negative attitudes, negative thoughts or cognitions are seen most commonly among people living in a technological world. These generally lead to stress, fear, overwhelming feelings and frustration which make this an unpleasant human

experience that can lead to avoidance of technological devices. Technophobia can be described as an extreme state of anxiety in the use of technology. For many people the computer represents a barrier to both educational and employment opportunities; and it may be seen as a threatening intruder into their lives. These people are known as 'techno phobes'. Technophobia is a concept introduced in 1985 described as a specific phobia expressed as "an irrational fear of or aversion to computers"; and more generally, a fear and/or inability to learn about new technologies.

Technophobia is a feeling of discomfort, fear or unease towards any technology. It is a condition of nervousness which affects the person mentally and physically. Jay (1981) defines it as "a resistance to talking about computers or even thinking about computers; fear or anxiety towards computers; hostile or aggressive thoughts about computers". Rosen and Maguire (1990) characterize technophobia as "anxiety about current or future interactions with computers or computer-related technology; negative global attitudes about computers, their operation or their societal impact; and/or specific negative cognitions or self-critical internal dialogues during actual computer interactions or when contemplating future interaction". Morreale et al. (2001) suggests that technophobia is often based on unfamiliarity with a medium. Yet, everyone must learn the use of technology, as our educational system is becoming more and more dependent upon the use of advanced technology.

Technophobia is an overwhelming fear of advanced technology and the use of technological devices. It is the constant and persistent fear of technology and, in greater depth, is defined as "the feeling of severe anxiety associated with using anything technologically advanced". The word, 'technophobia' is derived from the Greek '*techne'* meaning "art, skill or craft" and *phobos* meaning "fear or aversion". It is the opposite of technophilia, i.e. love for technology. In technophobia, there is a sense of irrational fear, anxiety and a feeling of being uncomfortable with the technological gadgets and their application. The constant fear and anxiety hinder teachers to accept new advancements in technology. To meet the needs of the new generation learners, teachers need to keep pace with the innovative teaching learning practices using technology effectively. But technophobia becomes a setback in adopting and adapting technology.

Technophobia, or the fear of technology, is the intense fear or dislike of advanced technology or complex devices, especially computers. Technophobia is surprisingly common. Some experts believe that we all experience at least a small amount of nervousness when confronted with new technology. In today's rapidly changing world, it can be easy to feel out of touch. The fear of technology usually is not attributable to a single cause. Instead, a variety of different factors may play a role. Whenever there are major changes in how we do things, particularly if machines are involved, technophobia is more likely to occur.

FACTORS INFLUENCING TECHNOPHOBIA

The following are some of the factors that influence technophobia:

(i) Fear of change

Fear of change is a factor that may lead to technophobia. Our brains are not wired to readily adapt to new ways of doing things. As creatures of habit, we find comfort in consistency. For many people, having to learn new programs or systems, adjust to new or upgraded machines, or worry about cyber-attacks can produce persistent feelings of anxiety This attitude among the teachers hinders them avoid the use of technology in the classroom teaching.

(ii) Social and cultural factors

The more frequently people use an item, the more comfortable and confident they become with its use. Traditionally, teens and young adults are the first to embrace new products and the first to become proficient with them, followed shortly by younger children. Adults are generally somewhat slower to adopt new technologies, and some older adults may never embrace them.

(iii) Lack of inclination for innovation

With the advancement of technology, there has been a set of new application discovered in the field of education. The teachers should keep themselves abreast of these applications. But teachers are engaged in the traditional methods of teaching in the schools. Most of the teachers do not show any inclination for innovation. Hence, they cannot keep pace with the innovative practices and advancements using technology in education.

(iv) Lack of motivation from the management

If the management of the institution does not provide requisite technological gadgets and the internet connection in the school, they may not be able to learn as well as execute the innovative practices using technology. Lack of motivation and support from management in the effective use of technology has become a barrier for teachers to use innovative practices in teaching. This has developed in them a kind of disinterest towards the use of technology in their classroom teaching.

(v) Cost-effective nature of technological devices

Buying and maintaining technological devices incur a lot of expenditure. If the institution does not spend and support this cost, teachers can not use technology in their teaching. This ultimately makes the teachers use the traditional methods of teaching.

(vi) Lack of training for teachers in the use of technology

The school authorities should provide adequate training for teachers in the use of technology for educational purposes. The administration should provide adequate in-service training for school teachers in the use of technological gadgets/devices for better understanding of various concepts easily by the students. In the absence of such training, the teachers cannot select appropriate devices for teaching various concepts in their respective school subjects as a part of integrating technology in education.

REVIEW OF RELATED STUDIES

A review of the studies carried out in the field of technophobia reported that there are factors such as gender, qualifications, teaching experience and location of the institution influence the technophobia of teachers working in secondary schools to a great extent. The following are some of the research studies conducted in this area earlier.

Elham Toni et al. (2023) conducted a study to investigate the level of technophobia and its causative factors among nursing students at Kerman University of Medical Sciences (KUMS), Kerman, Iran. The researchers used four valid and reliable questionnaires developed based on the existing literature. Independent t-test, analysis of variance, Kruskal-Wallis and Dunnett T3 Post-hoc test were used to study the technophobia based on background characteristics. The Spearman Correlation coefficient was also used to examine the relationship between technological skills and technophobia.

The findings of the study revealed that the technophobia rate of nursing students was 33.18 ± 6.95. The level of technophobia was high in the females students who had lower education ($p < 0.05$). Nursing students' skills in using information systems and medical

equipment were less than their computer skills. Students with low computer skills had a high level of technophobia ($p < 0.05$). Nurses' technophobia often occurs due to insufficient knowledge, poor experience and skills and lack of a mentor when using technologies.

Vikram Sharma & Rajwinder Kaur (2022) made an attempt to investigate Computer Phobia among Secondary School Teachers in relation to their attitude towards using new Technology. The Study was conducted on 100 teachers (50 from Rural and 50 from Urban) from Taran-Taran District. Computer Phobia Scale (2012) by Rajasekar and Vijaypuri and Attitude towards using New Technology Scale (2009) by Rajasekar was utilized to collect data from the respondents. Result of the study revealed that there exists no significant relationships between Computer Phobia and attitude towards using New Technology among secondary school teachers. The study also revealed that male teachers have exhibited a higher level of computer phobia as compared to their female counterparts. Further, there exists a higher level of computer phobia among rural teachers as compared to their counterparts working in urban secondary schools

Khasawneh, O. Y. (2022) conducted a study to examine the impact of technophobia on technology acceptance and the moderating influence of students' learning styles and online class preference on that relationship. Findings of this study suggest that, with the right resource and support, technophobia would have a positive impact on the ease-of-use dimension of technology acceptance. In addition, learning style and online class preference might not be as good a fit as moderating variables in an online environment. These findings can help universities and instructors to design classes that are better suited for online students.

Aseel Ajlouni & Saleh Rawadieh (2022) conducted a study to assess technophobia and technophilia levels according to countries among Jordanian, Egyptian, and Qatari undergraduates. The quantitative research approach and a cross-national research design, with a web-based questionnaire, are adopted to explore the technophobia and technophilia levels of Arabian undergraduates and investigate them concerning the country. Additionally, A stratified multistage clustered random sampling is recruited. The study sample comprised 1081 undergraduates; from Egypt (400), Jordan (375), and Qatar (301). The data were collected in September of the academic year 2021–2022 using the Technophobia and Technophilia Questionnaire. The results demonstrated a moderate level of technophilia among Arabian undergraduates. Moreover, according to country, the ANCOVA test confirmed a non-significant ($p>.05$) difference in technophilia levels. Notably, a significant ($p<.05$) difference exists in technophobia levels according to country. The results of the Scheffe test demonstrated that Qatari undergraduates were less technophobic than Jordanian and Egyptian undergraduates. This study's implications can inform the government, especially policy-makers in education and sustainable development planners, to pay attention to undergraduates' technophilia and technophobia concerns and plan strategies and policies for encouraging technology adaptation and managing technophobia and technophilia constructs.

Pankajbhai Suvera and Priteshkumar R. Tailor (2020) investigated to study the effect of sex, area and caste on Computer phobia of Male and Female B.Ed. trainees of Navsari district in Gujarat state. The sample consisted of 360 B.Ed. College trainees. The sample was selected in terms of Gender (male and female), Area (rural and urban) and Type of Students (Arts, Commerce and Science) in equal proportions, using random sampling

method. Computer phobia was measured by 'Computer Phobia Scale' developed by Rajasekar & Vaiyapuri Raja. (2005). Mean, Standard Deviation and 't' test were used for analysis of the data. The findings of the study revealed that there is significant difference between Computer phobia of Male and Female B.Ed. trainees. Further, significant differences were observed in the Computer phobia of rural and urban B.Ed. trainees and also with Arts, Commerce and Science B.Ed. trainees.

NEED FOR THE PRESENT INVESTIGATION

Information and Communication technology (ICT) has made a considerable impact on almost every aspect of society. A working familiarity with ICT is becoming increasingly important in every field in general and in the field of education in particular. Computers now have become an integral part of our daily life. Considering current trends in education, a modern classroom would not be complete without computer software, internet connectivity, projectors and a variety of other hi-tech devices. The teachers find themselves wandering in a situation where they have to make use of technology in order to make learning more effective. On the other side of the picture, majority of teachers agree that tools of ICT are very useful for them in the classroom; but due to their anxiety, they hardly use them in the classroom. Further they pass on their anxiety and negative attitudes onto their students. Researches indicate low adoption of computer technology in schools, though the institutions provide necessary hardware and software for their users. This kind of situation is very dangerous in the Indian classrooms where teachers have anxiety or phobia to integrate technology in teaching. So there is need to investigate the attitude of teachers towards the use of technology in their classroom teaching, to know the causes for their technophobia; and suggest measures to overcome this problem. The present investigation is an attempt in this direction.

OBJECTIVES OF THE STUDY

The main objective of the present study is to find out the factors influencing technophobia among teachers working in secondary schools.

The study also aims at finding out the causes of technophobia among secondary school teachers; and know the differences, if any existing in the technophobia of teachers with regard to certain demographic variables such as gender, age, teaching experience, location of the institution and medium of instruction offered by the school.

HYPOTHESES OF THE STUDY

The following hypotheses have been formulated for the present investigation:

(i) There is no significant difference in the technophobia of male and female teachers working in secondary schools.
(ii) There is no significant difference in the technophobia of secondary school teachers aged below 40 years and those aged 40 years and above
(iii) There is no significant difference in the technophobia of secondary school teachers with an experience of less than 10 years and those with 10 years and above.
(iv) There is no significant difference in the technophobia of teachers working in rural and urban secondary schools.

(v) There is no significant difference in the technophobia of teachers working in English and Telugu medium secondary schools.

LIMITATIONS OF THE STUDY

The study is limited to find out the influence of four demographic variables, viz., gender, age, teaching experience, location of the institution and medium of instruction offered by the school on the technophobia of teachers working in secondary schools. Further, the study is confined to 600 secondary school teachers (80 Headmasters and 520 School Assistants) working in 80 secondary schools located in Vizianagaram district of Andhra Pradesh.

METHODOLOGY

(a) Method of Research

The investigators used Descriptive survey method for the present investigation as it involves collecting data from the respondents with the help of a survey.

(b) Sample

The sample of the study consists of 600 teachers (80 Headmasters and 520 School Assistants) has been selected from 80 secondary schools located in Vizianagaram district of Andhra Pradesh using Stratified Random Sampling technique. In this method, no significant group is left unrepresented and this gives a greater control over the sample. Here, in addition to randomness, stratification introduces a secondary element of control as a means of increasing precision and representativeness.

(c) .Research Tool

The researchers used a well developed questionnaire consisting of 35 items as the tool of research for the present investigation.

(d) Administration of the tool

The tool was initially administered to 60 teachers (10 Headmasters and 50 School Assistants) under Pilot study. The measures of reliability, validity and objectivity of the tool have been calculated. Further, the researchers conducted item analysis for the items included in the tool. Out of 35 items selected for the tool, the discriminating power of 30 items has been found positive and is negative in respect of 5 items. The items whose discriminating power is negative have been removed; and the final tool consists of 30 items, which are foolproof in all respects. The final tool has been administered to 600 teachers (80 Headmasters and 520 School Assistants) working in 80 Secondary Schools located in the rural as well as urban areas in Vizianagaram district of Andhra Pradesh.

The data collected has been analyzed and interpreted using different statistical techniques such as Mean score values, Standard Deviations and t-ratios; and are presented in the following table.

Table showing t-values of different variables relating to the attitude of teachers working in Secondary schools towards technophobia

S. No.	Variable		N	Mean	S.D.	t-ratio	Result
1	Gender	Male Female	240 360	100.08 100.39	29.46 27.32	0.13*	*Not Significant at 0.05 and 0.01 levels
2	Age	Below 40 years 40 years & above	390 210	96.91 101.45	28.38 28.87	1.85*	*Not Significant at 0.05 and 0.01 levels
3	Teaching Experience	Less than 10 yrs 10 yrs. & above	410 190	96.01 101.76	27.99 28.03	2.34*	*Significant at 0.05 level
4	Location of the institution	Rural Urban	370 230	103.09 92.07	23.89 27.29	4.92*	*Significant at 0.05 and 0.01 levels
5	Medium of Instruction	English Telugu	260 340	100.96 99.09	28.61 26.37	0.82*	*Not Significant at 0.05 and 0.01 levels

FINDINGS OF THE STUDY

On the basis of the analysis and interpretation of data, the researchers have arrived at the following findings and drawn the conclusions.

1. There is no significant difference in the technophobia of male and female teachers working in secondary schools.
2. There is no significant difference in the technophobia of secondary school teachers aged below 40 years and those aged 40 years and above
3. There is significant difference in the technophobia of secondary school teachers with an experience of less than 10 years and those with 10 years and above.
   Secondary school teachers with an experience of 10 years and above have exhibited a higher level of technophobia as compared to their counterparts with an experience of less than 10 years.
4. There is significant difference in the technophobia of teachers working in rural and urban secondary schools.
   Secondary school teachers working in rural areas have exhibited higher levels of technophobia as compared to their counterparts working in urban areas.
5. There is no significant difference in the technophobia of teachers working in English and Telugu medium secondary schools.

CONCLUSIONS

From the findings of the study, it is concluded that:

(i) Gender, Age and Medium of instruction offered by the school have no influence on the technophobia of teachers working in secondary schools.
(ii) Teachers with an experience of 10 years and above exhibited a higher level of technophobia as compared to their counterparts with an experience of less than 10 years.
(iii) Teachers working in rural secondary schools exhibited a higher level of technophobia as compared to their counterparts working in urban secondary schools.

EDUCATIONAL IMPLICATIONS

(i) The study would help the teachers identify the difficulties faced by them in the use of ICT tools effectively in classroom teaching.
(ii) The present study helps the teachers working in secondary schools to get rid of their technophobia in using electronic devices.
(iii) The study would help the secondary school students to have a better understanding of the school subjects when their teachers integrate technology in school curriculum.
(iv) The study would help the government and policy makers to take necessary steps for the effective integration of ICT in school curriculum.
(v) The study would help the Academic Organizations like SCERTs, IASEs and the State Departments of Education to take necessary steps to conduct in-service training to the teachers working in secondary schools in the effective use of ICT tools in classroom teaching.

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