

A STUDY ON TECHNOLOGICAL SELF-EFFICACY OF HIGH SCHOOL TEACHERS

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Abstract

Technological self-efficacy has come to play a vital role in the preparation and implementation of teachers who can successfully use educational technology to enhance learning activities of the students. In this study, the investigators have attempted to examine the level of technological self-efficacy of high school teachers with respect to the gender, type of school and medium of instruction. A survey method research design was adopted for this study. Among simple random sampling methods was used to select participants. The sample of the study consists of 120 high school teachers who are working in at sankarankovil and kadayanallur taluks in the 2021–2022 academic year. The technological self-efficacy scale was used for collecting data in this study. T-test and one-way analysis of variance (ANOVA) was employed to analyze data. According to the obtained results, the level of technological self-efficacy can be considered moderate with respect to the gender, type of school and medium of instruction. No significant different were found between the high school teachers with respect to gender. On the other hand, this research found that, private school teachers are having better technological self-efficacy than the aided and government school teachers. It also found that, English medium teachers are better than the Tamil medium teachers in their technological self-efficacy. Implications of the study are discussed based on the findings.

Keywords: *Technological self-efficacy, High school teachers*

Introduction

The development and the improvements in technology have prominently provided the development of technologies that supported learning and teaching. But integrating technology into teaching is among the greatest challenges facing today's teachers. With promote in technology, the need for equipping and organizing teaching environments with technology is increasing. Therefore, it has become more important for teachers who use technology-supported teaching use in their classes to have digital efficacy (Yanpar Yelken, 2019). Technology-supported teaching practices include built up reality, mobile learning, social media and products evolve on various platforms. These applications mainly influence information technology courses directly; on the other hand, teachers of other regulation use them in their classrooms or utilize technological tools or practices in their lessons (Tekin, 2021). Successful use of technology in the classroom has the potential to engage students and promote conceptual comprehension. Technology use is critical to charming in the global society; thus, using technology for learning is necessary for the population of students found in schools today.

Self-efficacy has frequently been reported as a major component in understanding the frequency and success with which individuals use technology. It can be postulated that

teachers' beliefs concerning their capacity to work successfully with technology in general are directly related to their combination of technology in teaching. Consequently, the evaluation of technology self-efficacy is a useful standard of teacher education programs' success in preparing graduates to use instructional technology.

Need and Significance of the Study

Today we are living in the modern world which was fully controlled and occupied by technology. Everything becomes comfort and easier by the advent of technology in this modern era. Technology integration in learning is much more importance because we able to get connect to the students everywhere in the world like remote areas where we can offer courses while integrating technology, it promotes motivation and enthusiastic in learning. So students could able to get an idea more on practical than theoretical.

Technology self-efficacy, for purposes of this study, referred to teachers 'belief in their ability to integrate technology into their classroom successfully. Also, note that technology integration for purposes of this study involved going beyond using technology for administrative or housekeeping tasks such as record keeping, taking attendance, sending emails, or presenting information via a Power Point presentation. Technology integration referred to the actual and deliberate fusing of technology tools into both teaching and learning aspects of the classroom. Teachers may integrate technology through online blogging activities, creating websites for interactive use with their students, creating original products through the medium of various computer software programs, etc. Finally, factors influencing technology referred to specifically identified reasons or aspects that played a role in developing a teacher's level of technology self-efficacy. Therefore the investigator undertakes a study on technological self-efficacy of high school teachers.

Objectives of the Study

The researcher has framed the following objectives for the present study.

1. To find out the level of technological self-efficacy of high school teachers.
2. To find whether there is any significant difference between male and female teachers in their technological self-efficacy.
3. To find whether there is any significant difference among government, aided and private school teachers in their technological self-efficacy.
4. To find whether there is any significant difference between Tamil and English medium school teachers in their technological self-efficacy.

Null Hypotheses

1. There is no significant difference between male and female teachers in their technological self-efficacy.
2. There is no significant difference among government, aided and private school teachers in their technological self-efficacy.
3. There is no significant difference between Tamil and English medium school teachers in their technological self-efficacy.

Methodology

The researcher used the survey method for the present study. For data collection, the investigator used “The technological self-efficacy scale” which comprised 34 statements, which was developed and validated by Muthulakshmi (investigator) and Anandaraj (Research supervisor) in 2021. The population for the study includes all the high school teachers who are working in government, aided, and private schools of sankarankovil and kadayanallur taluks, Tamil Nadu. From the population, the investigator selected 120 school teachers as sample from 16 high and higher secondary schools in sankarankovil and kadayanallur Taluks by using simple random sampling technique. The data were analyzed using Mean, Standard Deviation, 't' test, and 'F' test.

Analysis of the Data

The data were subjected to statistical treatment leading to the findings, which may satisfy the requirements of the objectives of the study.

Table 1: Level of Technological Self-Efficacy of High School Teachers with Respect to Gender, Type of School and Medium of Instruction

Variable			Low	Moderate	High
Gender	Male	No	3	40	8
		%	5.9	78.4	15.7
	Female	No	7	53	9
		%	10.1	76.8	13.0
Type of school	Government	No	5	31	1
		%	13.5	83.8	2.7
	Aided	No	4	53	3
		%	6.7	88.3	5.0
	Private	No	1	9	13
		%	4.3	39.1	56.5
Medium of instruction	Tamil medium	No	10	92	5
		%	9.3	86.0	4.7
	English medium	No	0	1	12
		%	0.0	7.7	92.3

It is deduce from the above table that, 5.9% of male teachers have low, 78.4% of them have moderate and 15.7% of them have high level of technological self-efficacy. 10.1% of female teachers have low, 76.8% of them have moderate and 13.0% of them have high level of technological self-efficacy.

13.5% of government school teachers have low, 83.8% of them have moderate and 2.7% of them have high level of technological self-efficacy. 6.7% aided schoolteachers have low, 88.3% of them have moderate and 5.0% of them have high level of technological self-efficacy. 4.3% of private school teachers have low, 39.1% of them have moderate and 56.5% of them high level of technological self-efficacy.

9.3% of Tamil medium school teachers have low, 86.0% of them have moderate and 4.7% of them high level of technological self-efficacy. 0.0% of English medium school teachers have low, 7.7% of them have moderate and 92.3% of them high level of technological self-efficacy.

Ho1: There is no significant difference between male and female teachers in their technological self-efficacy.

Table 2: Difference Between Male and Female Teachers in their Technological Self-Efficacy

Gender	N	Mean	SD	Calculated 't' value	Remarks
Male	51	57.45	3.568	1.406	NS
Female	69	56.45	4.217		

(at 5% level of significance the table value of 't' is 1.97, NS - Not Significant)

It is inferred from the above table that, there is no significant difference between male and female teachers in their technological self-efficacy.

Ho2: There is no significant difference among government, aided and private school teachers in their technological self-efficacy.

Table 3: Difference Among Government, Aided and Private School Teachers in their Technological Self-Efficacy

Source of Variation	Sum of Squares	Degrees of freedom	Variance estimated	Calculated 'F' value	Remarks
Between	415.380	2	207.690	16.647	S
Within	1459.745	117	12.476		

(at 5% level of significance, for (2,117) df the table value of 'F' is 3.06, S -Significant)

It is inferred from the above table that, there is significant difference among government, aided and private high school teachers in their technological self-efficacy.

The Tukey test result shows that, the private school teachers (mean = 60.70) are having better technological self-efficacy than the aided (mean = 55.98) and government school teachers (mean = 55.95).

Ho3: There is no significant difference between Tamil and English medium school teachers in their technological self-efficacy.

Table 3: Difference Between Tamil and English Medium School Teachers in their Technological Self-Efficacy

Medium of Instruction	N	Mean	SD	Calculated 't' value	Remarks
Tamil	107	55.97	3.036	10.103	S
English	13	64.31	2.780		

(at 5% level of significance the table value of 't' is 1.97, S -Significant)

It is inferred from the above table that, there is significant difference between Tamil and English medium school teachers in their technological self-efficacy. While comparing the mean scores of Tamil and English medium teachers, English medium teachers (mean = 64.31) are better than the Tamil medium teachers (mean = 55.97) in their technological self-efficacy.

Findings of the Study

The findings derived from the study are:

1. The level of technological self-efficacy of high school teachers is found to be moderate with respect to the gender, type of school and Medium of instruction.
2. There is no significant difference between male and female teachers in their technological self-efficacy
3. Private school teachers are having better technological self-efficacy than the aided and government school teachers.
4. English medium teachers are better than the Tamil medium teachers in their technological self-efficacy.

Educational Implications

Technological developments have prominently supported the teaching-learning process in an effective manner. Hence, integrating technology in all the subjects has offered a potential to revive and change process of education. In this research, the investigators found that, private school teachers have better technological self-efficacy than aided and government school teachers. This may be due to the fact that private school teachers are provided training and continued supports after training have significantly higher self-efficacy and confidence to integrate technology for learning. This research also found that English medium teachers are better than the Tamil medium teachers in their technological self-efficacy. This may be due to the fact that English medium teachers are able to understand the terms and conditions used in the applications at the same time as able to handle the technology very easily. So, teachers should use computer and smart phone based teaching methodologies like online learning platforms, augmented reality, online tutorial systems and virtual classrooms for their academic subject activities. These activities will also be helpful to improve the technological self-efficacy of the teachers. Hence, this research suggests teachers should equip themselves by learning the online courses through a reputed platform, so that they can acquire and update their technological knowledge.

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