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A Study on the Attitude of Secondary School Teachers towards Technological Advancements in Education

Dr. Chitra S.

Assistant Professor, Sree Narayana Training College, Nedunganda, Kerala, India

ABSTRACT: Owing to the widespread usage of technology in all spheres of life, it is being used more and more in education. Teachers' perspectives regarding new technological advancements is one of the elements that influence the effective usage of technology in the classroom. The current paper investigates the attitude of secondary school teachers towards technological advancements in education. The paper will contribute to the body of knowledge regarding the application of technology in education and also, concerning the importance of teachers' attitudes towards the use of technology for educational purposes. The data for the study were collected from secondary school teachers using a structured rating scale. The findings of the study, which were obtained by analyzing the data collected from the teachers revealed that, teachers hold positive attitudes towards technological advancements in education. The result of the study revealed that modern technologies have increased motivation of the students in education. On the whole, the results were consistent with those previously reported in studies related to the attitude of teachers towards the technological developments in education.

KEYWORDS: Attitude, Technological Advancements

I. INTRODUCTION

The usage of technology in our daily life is becoming increasingly common in the modern era. Owing to the widespread usage of technology in all spheres of life, educational institutions are likewise required to provide their faculty and students with a knowledge of technology that promises to enhance learning experiences and outcomes. Because of this, technology is being used more and more in classrooms and schools overall on a daily basis. Teachers can create a better future where everyone has access to high-quality education and can realize their full potential by embracing the innovations in technology. The support and attitudes of teachers play a major role in how they employ technology in their classrooms and in education overall.

Teachers' perspectives regarding new technological advancements are one of the elements that influence the effective usage of technology in the classroom. Dimensions like perceived usefulness, computer confidence, training, gender, understanding of technical advancements, anxiety, confidence, etc. of teachers determine how they harness technology and use it to best support the needs of their students.

Need and Significance of the Study

Technology-enabled classrooms offer a wealth of new opportunities for teaching and learning by integrating technology. By providing information on new technological developments and opportunity of application periodically to teachers can make them develop more positive attitudes towards technology and thus increase the quality of education through more active and effective use of technologies concerning education and training. Technology has reshaped the education sector globally and it becomes necessary to understand the perceptions and attitudes of teachers towards the new technological advancements in educational scenario. For this reason, the goal of the current study is to investigate how teachers feel about using technology in the classroom for teaching and learning.

STATEMENT OF THE PROBLEM

The problem under investigation is titled as **A Study on the Attitude of Secondary School Teachers towards Technological Advancements in Education.**

OBJECTIVES

* To findout the attitude of teachers towards the new technological advancements in education.
* To identify the preferences for new technological advancements among secondary teachers.

II. METHODOLOGY

METHOD
Survey method was adopted for the conduct of the present study.

SAMPLE
Data were collected from a sample of 42 secondary school teachers in Kerala. Simple random sampling technique was applied for the selection of the study sample.

TOOL
 A well designed rating scale was used as the tool for conducting the survey. The tool included 40 statements. 5-point scale was used for rating. The rating scale was prepared with the help of Google form and the link has been send to the sample teachers. The items in the tool included personal data and different areas related to application of technology in education.

STATISTICALANALYSIS
        The obtained data were computed to get the results of the study. Percentage analysis was applied for the calculation of data.

III. ANALYSIS AND INTERPRETATION OF THE DATA COLLECTED

        Rating Scale is used by the researcher for the purpose of data collection of the present study. This scale comprised of 40 statements with 5 point rating. The positive statements were scored as Strongly agree =5, Agree = 4, Undecided = 3, Disagree =2, Strongly disagree = 1 and vice versa for the negative statements. The overall score yields the teachers attitude towards the technological advancements in education. The resulting data were analysed using percentage analysis . The following tables and discussions illustrated the results of the study.

Table 1
Age wise distribution

Age Group	Frequency	Percentage
24 – 30	6	14.3%
31 – 35	7	16.7%
36 – 40	17	40.5%
41 – 45	4	9.5%
46 – 50	4	9.5%
51 – 55	3	7.1%
56 – 60	1	2.4%
Total	42	100%

From the above table it could find out that out of 42 teachers, 14.3% of them belonged to the age group of 24 – 30 , 16.7% of them belonged to the age group of 31-35, 40.5% of belonged to the age group of 36 – 40 , 9.5% of them are of 41 – 45 years of age, 9.5% of them are of 46 – 50 years of age, 7.1% of them are of 51 – 55 years of age and 2.4% of them are of 56 – 60 years of age.

Table 2
Gender wise distribution

Gender	Frequency	Percentage
Female	33	78.6%
Male	9	21.4%
Grand Total	42	100%

From the above table it can be seen that majority (78.6%) of sample teachers were female and only 21.4% of them were male.

Table 3
Experience wise distribution

Year of Experience	Frequency	Percentage
Less than 1 Year	1	2.4%
1 - 5 Years	16	38.1%
6 - 10 Years	11	26.2%
11 - 15 Years	9	21.4%
16 - 20 Years	1	2.4%
21 - 25 Years	2	4.8%
Above 25 Years	2	4.8%
Total	42	100%

From the above table it was clear that out of 42 teachers 2.4% of them are of less than 1 year of experience, 38.1% of them are of 1-5 years of experience, 26.2% of them are of 6 – 10 years of experience, 21.4% of them are of 11– 15 years of experience, 2.4% of them are of 16 –20 years of experience, 4.8% of them are of 21 – 25 years of experience and 4.8% of them are of above 25 years of experience.

Table 4
Use of Technology

			Total
Use of technology	Strongly Disagree	Frequency	0
		Percentage	0.0%
	Disagree	Frequency	2
		Percentage	4.8%
	Neutral	Frequency	2
		Percentage	4.8%
	Agree	Frequency	26
		Percentage	61.9%
	Strongly agree	Frequency	12
		Percentage	28.6%
	Total	Frequency	42
		Percentage	100.0%

From the above table it is clear that out of 42 teachers 28.6% of them strongly agreed, 61.9% of them agreed , 4.8% of them were neutral and 4.8% of them strongly disagreed with the statement that the use of technology has increased in education.

Table 5
Positive impact on students

			Total
Positive Impact	Strongly Disagree	Frequency	1
		Percentage	2.4%
	Disagree	Frequency	0
		Percentage	0.0%
	Neutral	Frequency	0
		Percentage	0.0%
	Agree	Frequency	16
		Percentage	38.1%
	Strongly Agree	Frequency	25
		Percentage	59.5%
	Total	Frequency	42
		Percentage	100.0%

From the above table it is clear that out of 42 teachers 59.5% of them strongly agreed, 38.1% of them agreed and 2.4% of them strongly disagreed with the statement that technology has a positive impact on students.

Table 6
Familiarity with new techniques and teaching methods

			Total
Familiarity with new Techniques and teaching method	Strongly Disagree	Frequency	0
		Percentage	0.0%
	Disagree	Frequency	1
		Percentage	2.4%
	Neutral	Frequency	3
		Percentage	7.1%
	Agree	Frequency	25
		Percentage	59.5%
	Strongly Agree	Frequency	13
		Percentage	31.0%
	Total	Frequency	42
		Percentage	100.0%

From the above table it is clear that out of 42 teachers 31% of them strongly agreed, 59.5% of them agreed, 7.1% of them were neutral and 2.4% of them   disagreed with the statement that teachers have familiarity with the new techniques and teaching methods.

Table 7

Us of e Social Media for Educational Communication

			Total
Use of Social Media for educational Communication	Strongly Disagree	Frequency	0
		Percentage	0.0%
	Disagree	Frequency	0
		Percentage	0.0%
	Neutral	Frequency	0
		Percentage	0.0%
	Agree	Frequency	27
		Percentage	64.3%
	Strongly Agree	Frequency	15
		Percentage	35.7%
	Total	Frequency	42
		Percentage	100.0%

From the above table it is clear that out of 42 teachers 35. 7% of them strongly agreed and 64.3% of them agreed with the statement that teachers use social media for educational communication.

Table 8

Need to learn new technology

			Total
Need to learn new technology	Strongly Disagree	Frequency	0
		Percentage	0.0%
	Disagree	Frequency	1
		Percentage	2.4%
	Neutral	Frequency	2
		Percentage	4.8%
	Agree	Frequency	20
		Percentage	47.6%
	Strongly Agree	Frequency	19
		Percentage	45.2%
	Total	Frequency	42
		Percentage	100.0%

From the above table it's clear that out of 42 teachers 45.2% of them strongly agreed, 47.6% of them agreed, 4.8% of them are neutral and 2.4% of them disagreed with the statement that teachers need to learn new technology.

Table 9
Necessity of computer-based lessons

			Total
Computer-based lesson necessary	Strongly Disagree	Frequency	0
		Percentage	0.0%
	Disagree	Frequency	1
		Percentage	2.4%
	Neutral	Frequency	3
		Percentage	7.1%
	Agree	Frequency	22
		Percentage	52.4%
	Strongly Agree	Frequency	16
		Percentage	38.1%
	Total	Frequency	42
		Percentage	100.0%

From the above table it's clear that out of 42 teachers 38.1% of them strongly agreed, 52.4% of them agreed, 7.1% of them are neutral and 2.4% of them disagreed with the statement that Computer-based lesson are necessary.

Table 10
Technology adoption

			Total
Technology adaption	Strongly Disagree	Frequency	2
		Percentage	4.8%
	Disagree	Frequency	0
		Percentage	0.0%
	Neutral	Frequency	0
		Percentage	0.0%
	Agree	Frequency	12
		Percentage	28.6%
	Strongly Agree	Frequency	28
		Percentage	66.7%
	Total	Frequency	42
		Percentage	100.0%

From the above table it's clear that out of 42 teachers 66.7% of them strongly agreed, 28.6% of them agreed and 2.4% of them a strongly disagreed with the Technology adoption in education

Table 11

Technologies are expensive and very complicated

			Total
Technologies are expensive and very complicated	Strongly Disagree	Frequency	5
		Percentage	11.9%
	Disagree	Frequency	11
		Percentage	26.2%
	Neutral	Frequency	12
		Percentage	28.6%
	Agree	Frequency	10
		Percentage	23.8%
	Strongly Agree	Frequency	4
		Percentage	9.5%
	Total	Frequency	42
		Percentage	100.0%

From the above table it's clear that out of 42 teachers 9.5% of them strongly agreed, 23.8% of them agreed, 28.6% of them are neutral , 26.2% of them disagreed and 11.9% of them strongly disagreed with the statement that Technologies are expensive and very complicated.

Table 12

Incorporating technological aids in teaching

			Total
Incorporating technological aid for teaching	Strongly Disagree	Frequency	0
		Percentage	0.0%
	Disagree	Frequency	3
		Percentage	7.1%
	Neutral	Frequency	3
		Percentage	7.1%
	Agree	Frequency	25
		Percentage	59.5%
	Strongly Agree	Frequency	11
		Percentage	26.2%
	Total	Frequency	42
		Percentage	100.0%

From the above table it's clear that out of 42 teachers 26.2% of them strongly agreed, 59.5% of them agreed, 7.1% of them are neutral and 7.1% of them disagreed with the incorporation of technological aids in teaching.

Table 13
Using online portfolios

			Total
Using online portfolios	Strongly Disagree	Frequency	0
		Percentage	0.0%
	Disagree	Frequency	2
		Percentage	4.8%
	Neutral	Frequency	7
		Percentage	16.7%
	Agree	Frequency	16
		Percentage	38.1%
	Strongly Agree	Frequency	17
		Percentage	40.5%
	Total	Frequency	42
		Percentage	100.0%

From the above table it's clear that out of 42 teachers 40.5% of them strongly agreed, 38.1% of them agreed, 16.7% of them are neutral and 4.8% of them disagreed with the use of online portfolios in education.

Table 14
Positive Mentality towards technological developments

			Total
Positive Mentality towards technological developments	Strongly Disagree	Frequency	0
		Percentage	0.0%
	Disagree	Frequency	0
		Percentage	0.0%
	Neutral	Frequency	4
		Percentage	9.5%
	Agree	Frequency	14
		Percentage	33.3%
	Strongly Agree	Frequency	24
		Percentage	57.1%
	Total	Frequency	42
		Percentage	100.0%

From the above table it's clear that out of 42 teachers 57.1% of them strongly agreed, 33.3% of them agreed and 9.5% of them are neutral with the statement that teachers have positive mentality towards technological developments in education.

Table 15
Increased teaching productivity

			Total
Increasing the teaching productivity	Strongly Disagree	Frequency	1
		Percentage	2.4%
	Disagree	Frequency	0
		Percentage	0.0%
	Neutral	Frequency	2
		Percentage	4.8%
	Agree	Frequency	26
		Percentage	61.9%
	Strongly Agree	Frequency	13
		Percentage	31.0%
	Total	Frequency	42
		Percentage	100.0%

From the above table it's clear that out of 42 teachers 40.5% of them strongly agreed, 38.1% of them agreed, 16.7% of them are neutral and 4.8% of them disagreed with the statement that technology have increased the teaching productivity.

Table 16
Motivation of the student

			Total
Motivation of the student	Strongly Disagree	Frequency	0
		Percentage	0.0%
	Disagree	Frequency	0
		Percentage	0.0%
	Neutral	Frequency	2
		Percentage	4.8%
	Agree	Frequency	27
		Percentage	64.3%
	Strongly Agree	Frequency	13
		Percentage	31.0%
	Total	Frequency	42
		Percentage	100.0%

From the above table it's clear that out of 42 teachers 31% of them strongly agreed, 64.3% of them agreed and 4.8% of them are neutral with the statement that technology have increased the motivation of the student.

Discussion

The result of the study revealed that most of the teachers have a positive attitude towards the new technological developments in the education. This result is in compliance with the findings of Al-Zaidiyeen, Mei and Fook (2010) who conducted a study to determine the attitude of teachers towards the use of ICT.Majority of teachers opined that the use of technology has a positive impact on students'education. They also agreed that they have familiarity with new technologies and teaching methods. Most of them also agreed that they use social media for educational communication. Majority of teachers believed that they need to learn new technologies for their better performance.

Most of them agreed that computer based lesson are necessary in school education.Majority of them agreed that teachers need technology adoption in education. Only few of them said that technologies are expensive and very complicated. Majority of the teachers agreed with the incorporation of technological aids in teaching(Banas,2009). They also supported the use of online portfolios in education. Most of the teachers possessed a positive mentality towards technological developments. This is in line with the findings of other studies conducted by Ramakrishnan (2016) and Teo (2014). Majority of the teachers remarked that technology has increased the teaching productivity. Most of the teachers agreed that technology has increased motivation of the students in education.

MAJOR FINDINGS

➢ Most of the teachers have a positive attitude towards the new technological advancements in the education.
➢ Majority of teachers opined that use of technology has a positive impact on students' education.
➢ Teachers also agreed that they have familiarity with new technologies and teaching methods.
➢ Most of them reported that they use social media for educational communication.
➢ Majority of teachers believed that they need to learn new technologies for their better performance.
➢ Most of them agreed that computer based lesson are necessary.
➢ Majority of them considered that teachers need technology adoption in education.
➢ Only few of them said that technologies are expensive and very complicated. Most of them opposed to this.
➢ Majority of the teachers agreed with the incorporation of technological aids in teaching. They also supported the use of online portfolios in education.
➢ Most of the teachers have a positive mentality towards technological developments and considered that technology has increased the teaching productivity.
➢ Majority of teachers agreed that technologies have increased motivation and interest of the students in education.

IV. CONCLUSION

Education is always concerned with the development of the potential of individuals for the future, not only among students but also among teachers. Therefore, teachers must understand that learning new technological developments does not play a part only in accumulating knowledge and new skills, but also that a greater part of learning is the result of trial-and-error endeavors in normal life. Therefore, teachers ought to have the courage and willingness to try new skills without apprehension, so that they are able to act as agents of change to fulfill the new objectives of teaching in the digital era.By providing information on new technological developments and opportunities for application periodically to teachers, we can help them develop more positive attitudes towards technology and thus increase the quality of education through more active and engaging technological applications.

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editor.ijarety@gmail.com