

# Exploring The Application of Digital Tools in Teaching and Learning

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**Abstract**—A study is done on the title, ‘Exploring the application of Digital Tools in Teaching and Learning’. The major objective of the study is to explore the application of digital tools in teaching and learning in Sri Lanka schools. A study is conducted among school students of selected schools from Negombo, Sri Lanka. Quantitative research method is used in this study. Data are collected from the school students using a well-structured questionnaire with several elements. Further, descriptive analysis method was used in the study. The study finds out that 100% of the students are being happy to use digital tools in their classrooms. Moreover, 99.4% and 99.8% of the students responded that they have general facility related to digital tools in their schools and are interested in using digital tools in their classrooms respectively. The study concludes that students are interested to learn with digital tools, but the application is less in the classrooms. The study recommends to utilising the digital tools in all the schools so that students can also travel with the technology.

**Keywords:** teaching-learning, digital tools, Sri Lanka, applications, classrooms

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## I. INTRODUCTION

Teaching and learning process is essential and it is organized through educational institutions throughout the world. It is defined as a transformation process of knowledge from teachers to students. Moreover, it can be referred as the combination of elements within the process where an educator identifies and establish the learning objectives and develop teaching resources from available sources and implement it in the classroom through teaching and learning. Teaching is a set of events. The events include various elements like, principles, methods, approaches, models, materials, learners, etc. Learning is internal to learners. Learning is about a change and the change is brought by developing a new skill, understanding a scientific law, changing an attitude and many more. Teaching and learning occurs with the education system. Though the education system is common throughout the globe, the implementation differs country to country and this purely depends upon the government policies of the respective countries. Asian countries like India, Sri Lanka, etc. have almost similar education system with little differences.

## II. SRI LANKA

Sri Lanka is an island in South Asia. Two main languages are spoken in the country known as Sinhala and Tamil. English in Sri Lanka has colonial roots and it was made the official administrative language of the country in 1833 (Sittarage, 2018). When Sri Lanka was under colonial rule, a standard education system of state schools was established. Even now, there is a strong education administration system for teaching and learning including in-service training provision. Although it is necessary to pay attention to increasing teacher language proficiency in Sri Lanka, overall it is relatively high in comparison to the other countries in the region. Further, Sri Lanka has very high levels of literacy and the levels in school education enrolment are high. There is a strong administration system for in-service training provision through which cascading training is quick and efficient (Indrarathne, B and Mcculloch, Sharon; 2022). The number of state schools in 2020 is 10,155. Of these, 373 are national schools directly governed by the central government while the rest (9,782) are provincial schools governed by the provincial councils of the nine provinces (Ministry of Education, 2020). Teaching and learning through digital tech also started in Sri Lanka. After the Pandemic, many institutions came forward to use digital tools in their teaching and learning process.

## III. DIGITAL TOOLS

Digital technologies are increasingly changing our daily life practices. Digital skills are inevitable for individuals in the present age of digitalization in order to accommodate rapidly developing digital demands. Thus, fostering digital education has

become an essential need in the current era. The higher education institutions in Sri Lanka had to deliver education services online at the onset of the pandemic and it continued as hybrid learning which includes online and face to face learning.

#### **IV. PREVIOUS STUDIES**

Though there are few studies carried out in language teaching with digital tools, studies related to the present topic is not done and this proposed study will be pioneer.

Dancsa, Daniel and et.al (2023) conducted a study on digital tools in education. The major aim of this study is to present the digital tools that have been introduced into education that require the development of digital competences by students and teachers. Their study mentions that in the past decades, the demands placed on education systems have changed. Like the workers in the labour field need certain competences such as technical, methodological, social and personal competences. The education today creates many new educational paradigm that prepares the workforce for the new challenges due to the development of technology. This change is accompanied in education by various new didactic concepts like, blended learning, online learning, and learning through MOOC, etc. with the use of digital teaching tools. These digital tools help to develop the desired competences. The finding of the study enables teachers and managers of educational institutions to take advantage of the use of digital tools in the post-pandemic renewed situation and suggests that all the education institutions can use digital tools.

Another study is carried out by Bajuzova, M. and Hrmo R. (2024) about the digital tools. Through this study, the researchers have observed, digitisation has remained a consistently debated topic in education. The aims of the study are to use digital tools in teaching at a vocational school and to identify their impact on the creativity. A set of students are selected from vocational school as the sample of this study. Special attention needs to be given to the students' digital skills in schools. With the digital skills, the students can use digital tools in teaching, the development of creativity, and other soft skills expected of upcoming students in the future. These skills are becoming gradually critical. The definition of creativity and the specifics of a creative personality are also provided in this study. Moreover, concepts such as imagination, originality, intelligence, and critical thinking are discussed. The study also highlights the importance of digitisation, the use of ICT in teaching and essential digital tools. The findings of the study are evaluation of the creativity scores of the selected research sample of students are high and the use of digital tools are existing in the selected schools.

Lohr, Anne and et.al. (2024) have conducted another study on technology related teaching skills. Through this study, the researchers investigate the factors that are potentially associated with teaching and learning with digital technology, by replicating and extending. A sample of 407 German secondary school teachers is involved in this study. The findings of the study are, the essentials for teaching and learning like replicated study, technology-related teaching skills among the students are well established and less importance is provided to the digital technology equipments available in the schools. Moreover, the support in the school regarding digital teaching and learning at schools are successful.

#### **V. PROBLEM STATEMENT**

The survey held among Sri Lanka students says about the stress of students as, stressors are predominantly financial constraints, remote online learning, and uncertainty related to their academic performance, and future career prospects (Hayashi, et.al, 2022). Moreover, the students' percentage dropped in learning in schools dues to various reasons like lack of knowledge in using digital skills. Indrarathne, B and Mcculloch, Sharon (2022) in their study on English language teaching, learning and assessment are currently situated within school-level education in Sri Lanka found out that, the language teaching should not take a purely academic approach and instead should enable learners to use language as a tool when and where appropriate. And there are issues in the usage of language tool. Another study conducted by Priyadarshini, D (2020) says that most of the Sri Lankan students who have poor digital skills and the least access to the hardware and connectivity required for distance learning. Hence, they find difficult in accessing digital tools. These are certain issues among the students.

#### **VI. OBJECTIVES**

The study is based on the objective:

To explore the application of digital tools in teaching and learning in Sri Lanka schools

#### **VII. METHOD**

The proposed study is carried out in interview method of research. Quantitative research method is also used. The study is 10 to schools in Negombo Education zone, Gampaha district, Sri Lanka. The Schramm model theory is implemented in this study. This model was introduced by Wilbur Schramm in 1954. Data are collected through online interview. A set of elements through a questionnaire are framed. This is used to collect data from the students. Moreover, the usage of web tools in teaching and learning are identified through interviews with the structured questionnaire. The study focused on the students of Negombo Education zone, Gampaha district, Sri Lanka which is the limitation of the study. Moreover, the study focuses on students comments. The impact of the study is to find out the effectiveness of using Web tools in teaching and learning.

## VIII. FINDINGS AND DISCUSSIONS

The results of the study are discussed in this section. To achieve the objective, to explore the application of digital tools in teaching and learning in Sri Lanka schools, the collected data are analysed. From the 10 schools selected, 530 participants are involved in this study. Interviews are conducted with the elements of the questionnaire among the participants. Only 528 participants responded to the interview and remaining two participants didn't complete it. Hence, they are not involved in the analysis. The details are given below. The percentage, standard deviation and mean are provided.

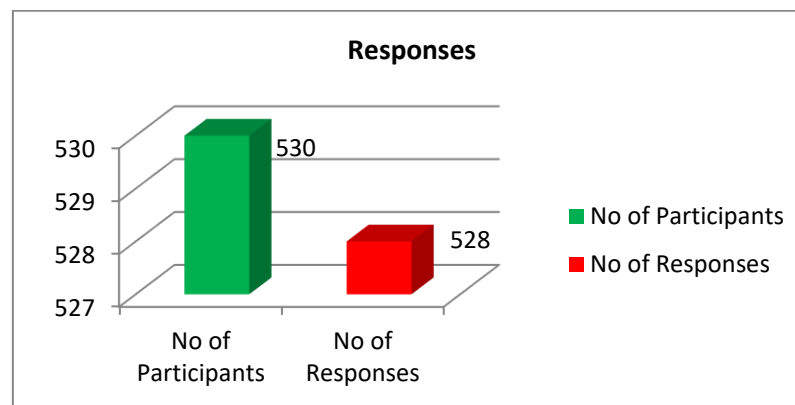


Chart-1 Responses

The chart-1 provides the information of total number of participants selected for the study and number of responses received. In the above chart, green color indicates that 530 participants are involved in this study and the red color indicates that 528 participants responded.

Sl. No.	Elements	Percentage (%)	Mean (x)	Standard Deviation (s)
1	General facility	99.4%	526.5	2.1213203
2	Use of digital technology in class	18.5%	313	304.05592
3	Interest in using digital tool	99.8%	527.5	0.70710678
4	Knowledge about digital tool	96.5%	519	12.727922
5	How to use digital tool	60.6%	424	147.07821
6	Teaching / learning with digital tool	52.6%	403	176.7767
7	Enthusiasm in using digital tool	100%	528	0.00
8	Feeling comfortable with digital tool	67.6%	442.5	120.91526
9	Want to know more about digital tools	24.4%	328.5	282.13561
10	Support from teachers	73.6%	458.5	98.287843

Table-1 Percentage, Standard Deviation and Mean

The percentage, mean and standard variation are calculated for the elements in the questionnaire which is designed to explore the application of digital tools in teaching and learning. The responses of the elements are shown in table-1.

**Element-1**

99.4% percentage, 526.5 means and 2.1213203 standard deviations are calculated for the responses of element-1. This shows that almost all the respondents (99.4%) have stated that the general digital facility is available in their schools.

**Element-2**

The second is related to the use of digital technology in classrooms. For this, 18.5% percentage, 313 means and 304.05592 standard deviations are calculated. This statistics shows that only a few classrooms or schools are using digital technology.

**Element-3**

99.8% percentage, 527.5 mean and 0.70710678 standard deviations are measured for the responses of element-3. This shows that 99.8 respondents have stated that they are interested in using digital tools in their schools. It is to be noted that students are interested if facility is provided in their classrooms.

**Element-4**

Next element is based on the knowledge about digital tool. For this, 96.5% percentage, 519 mean and 12.727922 standard deviations are intended. 96.5% students have mentioned that they have knowledge about the digital tools.

**Element-5**

When the element, how to use digital tools is asked. 60.6% percentage, 424 mean and 147.07821 standard deviations are calculated for this response. Many students don't know how to use digital tools in their classrooms. The study recommends to show and to teach the students about the usage of digital tools.

**Element-6**

52.6% percentage, 403 mean and 176.7767 standard deviations are calculated for the responses of element-6. Many schools are stilling now teaching or students are not learning with digital tools. This situation has to be changed as the globe is heading towards technology.

**Element-7**

All the students responded positively to this element. The element is about the enthusiasm in using digital tools. 100% percentage results are found. This shows that all the respondents are happy to use digital tools their schools. Hence, schools should come forward to implement digital tools in their schools.

**Element-8**

'Feeling comfortable with digital tool' is element-8. The calculations are, 67.6% percentage, 442.5 mean and 120.91526 standard deviation. This shows that many students are feeling comfortable in using digital tools in their classrooms.

**Element-9**

24.4% percentage, 328.5 mean and 282.13561 standard deviations are received for the responses of element-9. Many students are unwilling to know more about digital tools. The reason may be their mind set is different and they may feel that digital tools are difficult to learn.

Support from teachers	73.6%	458.5	98.287843
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**Element-10**

Element-10 is based on the support from the teacher to utilise digital tools in their classrooms. 73.6% percentage, 458.5 mean and 98.287843 standard s are intended for the responses.

**IX. CONCLUSION**

This study is carried out to explore the application of the digital tools in teaching and learning process held the schools of Sri Lanka. This study reveals that respondents from the selected schools of Negombo Education zone, Gampaha district, Sri Lanka are utilizing less digital tools in their classes. The study finds out that all (100%) the students are being glad in using digital tools in their classrooms. Moreover, 99.4% of the students responded that they have general facility related to digital tools in their schools. Also, 99.8% of the students are interested in using digital tools in their classrooms. But, 18.5%

students responded that the use of digital technology in the classrooms is limited. The study concludes that students are interested to learn with digital tools, but the application is less in the classrooms. The study recommends to utilise the digital tools in all the schools so that students can also move with the technology.

## X. ACKNOWLEDGEMENT

This research is carried out under the International grant entitled, 'Exploring the application of Digital Tools in Teaching and Learning' funded by U. Ve. Sa. Tamil research Centre, India. The researcher and co-researchers would like to extend their gratitude to the Research Management and Innovation Centre (RMIC) of Universiti Pendidikan Sultan Idris, Malaysia and U. Ve. Sa. Tamil research Centre, India for approving to do this study and for providing fund to complete this research work. The research code is 2022-0212-107-11.

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