# Technology Literacy, Computer Self-Efficacy and Digital Training as Correlates of Secondary School Mathematics Teachers' Technology Readiness in Ondo State, Nigeria

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***Abstract***
This study examined the correlation of technology literacy, computer self-efficacy and digital training and technology readiness of Mathematics teachers in Ondo West Local Government Area (LGA) of Ondo State, Nigeria. Participants were 129 secondary school Mathematics teachers purposively selected from 43 secondary schools in Ondo West LGA in Ondo State. The instruments used were Technology Literacy Scale (r = 0.79), Computer Self-efficacy Scale (r = 0.81), Digital Training Scale (r = 0.72) and Technology Readiness Index (r = 0.85). The collected data were processed and analysed using frequency counts, percentages, means, standard deviation, and multiple regression analysis. The hypothesis was tested at a 0.05 level of significance using Pearson Product Moment Correlation and One-Way Analysis of Variance (ANOVA). Secondary school mathematics teachers in Ondo West LGA had average levels of technology literacy. Mathematics teachers had negative perception of their own computer self-efficacy. Furthermore, mathematics teachers had a high level of digital training skills. Also, technology readiness of mathematics teachers was influenced by the teachers' technology literacy and computer self-efficacy but not influenced by the teachers' digital training skills. It is recommended that mathematics teachers should attend workshops in order to provide them with the suitable practical experiences and paradigms that help them understand their new role in the technology era. Technology literacy skills should be incorporated by Teachers Registration Council of Nigeria in its continuous professional development programme to help teachers integrate the newly acquired technological knowledge into their pedagogical practices.

***Keywords:*** Technology readiness, Computer self-efficacy, Digital training Technology readiness, Secondary school mathematics teachers.

## Introduction

The closure of schools due to COVID-19 pandemic was a significant global event that prompted a re-evaluation of how education is delivered

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worldwide. This crisis led to several adjustments, with one of the most notable being the increased reliance on digital tools to mediate teaching and learning activities. Teachers had no choice but to transition their classrooms into online learning environments, fundamentally altering the educational landscape (Assunção & Gago, 2020). As technology has proliferated, digital tools have become more accessible and beneficial, extending their usefulness beyond routine tasks to providing critical support in sectors such as education, healthcare, government, and business. A growing body of research (Assunção & Gago, 2020; Ogundile, et al., 2019; Dockendorff & Solar, 2018; Sinha & Bagarukayo, 2019) continues to analyse and debate the impact of technology on learning outcomes, highlighting its transformative role in education. Consequently, advancements in technology have reshaped the dynamics of teaching and learning, fostering new approaches to educational practices (Sinha & Bagarukayo, 2019).

Despite the applications of technology in teaching and learning, teachers have experienced an exponential increase in obstacles in the 21st century. Today's teachers must deal with a generation of pupils that grew up in a digital world, using a variety of devices and having internet access from childhood (Sánchez; Trujillo & Gómez, 2020). Teachers now go beyond transmitting knowledge to promoting the integral development of their students, including technology and digital literacy. There are different definitions of digital literacy, some of which relate it with other literacies, such as reading literacy, mathematical literacy, media literacy, or data literacy. Research has predominantly concentrated on the training of teachers in various technological tools, the integration of technology into the curriculum and classroom, the effects of technology use on teaching and learning, and teachers' perceptions of technology in secondary school science education, particularly in Mathematics, rather than on other aspects (Dockendorff & Solar, 2018).

Many researches have looked into the factors affecting teacher's readiness to use technology in teaching and learning during pre-pandemic and post-pandemic era. Such factors include those related to lack of equipment, lack of time, technical difficulties, resistance to change, poor administrative support, low levels of computer literacy, technology misaligned with the curriculum, lack of incentives, poor training opportunities, lack of vision as to how to integrate technology into learning processes, and teacher-related factors such as negative attitudes and beliefs towards technology, and unwillingness to engage with technology (Ogundile, et al., 2019).

According to Almanthari, Maulina and Bruce (2020), technology literacy is a significant mediator in the relation between teachers' readiness and technological application in Mathematics teaching and learning. Teachers who were adequately trained in educational uses of technology in and outside the classroom were at an optimal starting point to turn to digital and online teaching. This was evident when the COVID-19 pandemic struck. Technology literacy is the familiarity with digital information and tools, which is becoming more and more important in a contemporary learning environment. A person who is technologically literate is skilled at using technology to communicate and think critically. Teachers will be more equipped to use technology to improve their lives if they are more accustomed to teaching with it as well as learning about it (Ghavifekr, 2015).

Computer self-efficacy is also an important factor to be considered when examining teachers' readiness to use technology in teaching. This is due to the fact that people are more inclined to attempt and complete specific jobs and activities with computers if they believe they are capable of doing so. People are less inclined to attempt and carry out these tasks and activities utilizing computers when they believe they are less capable than others (Ogundile, et al., 2019).

The path to knowledge is also believed to include digital literacy. To keep up with the rapid advancements in technology use in the 21$^{st}$ century, many schools often update their curricula. This frequently entails the use of computers in the classroom, the employment of educational software to teach courses, and the online accessibility of course materials for students. Teachers are changing traditional teaching methods to incorporate course materials on issues connected to digital literacy as a result of the increase in technology use over the previous decade.

The teaching and learning of Mathematics is considered in this study because Mathematics is applied in all aspects of life and in everyday jobs such as internet technology, finance, building, medicine, scientific discoveries, and even in daily activities' planning, amongst many others. In the National Policy on Education (2014), Mathematics is one of the compulsory subjects in the basic education curriculum (Federal Republic of Nigeria, 2014). Also, Mathematics has continued to play significant roles in Nigeria's national development. It is believed that, among other things, there is no other subject that has greater application than Mathematics.

Therefore, the level of technology readiness of secondary schools mathematics teachers in terms of technology literacy, computer self-efficacy and prior digital training was the focus of this study.

**Problem Statement**

In recent times, almost all countries in the world experienced a global pandemic as a result of outspread of Corona Virus Disease (Covid). However, the technology readiness of mathematics teachers in Ondo West Local Government in terms of technology literacy, computer self-efficacy as well as prior digital training of mathematics teachers could not be ascertained because they were not documented. Also, there seems to be no concerted effort to specifically record the level of mathematics teachers' technology readiness in terms of technology literacy, computer self-efficacy and prior digital training; this is evident from an enquiry made at the Teaching Service Commission (TESCOM) in Ondo West Local Government Area, Ondo State. Without getting enough facts about the level of mathematics teachers' technology readiness, there would be a limit as to how to prepare the teachers in case of future occurrence of another pandemic. Also, when their readiness is not ascertained, the teaching of Mathematics could invariably experience a setback especially at this period when technology is taking a leading role in education. Also, mathematics teachers would not be able to know how to effectively utilize available technology to enhance their performance in the discharge of their duties when face-to-face instruction seems to be almost impossible.

Although some researchers have looked into the effects of technology literacy and computer self-efficacy on technology readiness of people in other fields, little research has been done related to mathematics teachers' technological readiness in secondary schools. This is why in this research, the technology readiness of mathematics teachers in secondary schools in Ondo West Local Government Area was ascertained in terms of their technology literacy, computer self-efficacy and prior digital training.

**Research Questions**

The following questions were raised to achieve the objectives of this study;

1. What is the level of technology literacy of secondary school mathematics teachers in Ondo West Local Government Area of Ondo State?
2. What is the perceived self-efficacy of secondary school mathematics teachers in computer usage?

3. What is the level of mathematics teachers' digital literacy?
4. What is the relationship between mathematics teachers' technology literacy, self-efficacy and digital training and their technology readiness in Ondo West Local Government Area of Ondo State?

## Hypothesis

There is no significant relationship among technology readiness, computer self-efficacy, and digital training skills of secondary school mathematics teachers.

## Theoretical Review

### *Technology Acceptance Model (TAM)*

The Technology Acceptance Model (TAM) (fig. 1) is an information systems theory that models how users come to accept and use a technology. TAM is one of the literature's most important applications of Ajzen and Fishbein's theory of reasoned action (TRA). The most generally used model of users' adoption and utilization of technology is Davis' technology acceptance model (Davis, Bagozzi & Warshaw, 1989). TAM replaces many of TRA's attitude measures with the two technology acceptance measures—ease of use, and usefulness.

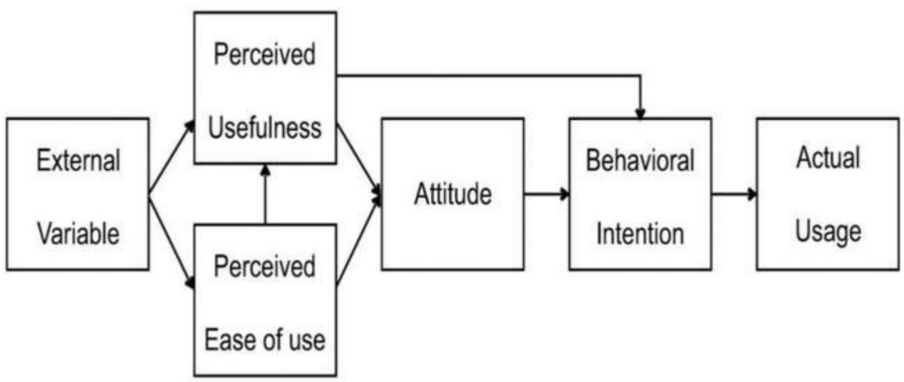


**Fig 1:** Technology acceptance model.

The actual system use is the end-point where people use the technology. Behavioral intention is a factor that leads people to use the technology. The behavioral intention (BI) is influenced by the attitude (A) which is the general impression of the technology. The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it – Perceived Usefulness (PU) and Perceived Ease-of-Use (PEOU). External variables such as social influence are important factors to determine the attitude. When these things (TAM) are in place, people will have the attitude and intention to use the technology. However, the perception may change depending on age and gender because everyone is different.

TAM's core concepts are appropriately linked to this research topic's variables. Technology literacy, for instance, is related to PU, as teachers with higher technology literacy are more likely to perceive technology as useful for their teaching tasks. Computer self-efficacy, on the other hand, is linked to PEOU, as teachers with higher computer self-efficacy are more likely to believe that using technology will be easy and require less effort. Digital training can influence both PU and PEOU, as effective digital training can enhance teachers' perceptions of technology's usefulness and ease of use. The outcome variable, technology readiness, is directly related to TAM's core idea. Teachers who perceive technology as useful and easy to use are more likely to be technology ready.

**Technology Readiness and Acceptance Model (TRAM); An Integrated Model**

TRAM (Technology Readiness and Acceptance Model) is the newest contribution which combines TRI's common personality dimension with TAM's specific dimension system. This explains how the dimensions of personality can affect a person's experience and the way he uses new technology. TRI personality dimensions are antecedent to TAM. In this case, the inclusion of Actual Use will complement the earlier conducted researches.

To measure a person's general beliefs and thoughts towards a technology, the approach used was Technology Readiness Index. TRI was chosen since it could differentiate whether a person was a technology user or not. It could also group users based on positive and negative beliefs to the technology in a more complex way. Parasuraman identifies that someone who is optimistic and innovative as well as has lesser discomfort and insecurity will be more ready to use new technology; the factors are Optimism, Innovativeness, Discomfort and Insecurity. Based on TAM, an individual who has perception that a technology is beneficial and easy to use will develop positive attitude and willingness and as well directs them to receive and use the technology in 5 constructs: Perceived Usefulness, Perceived Ease of Use, Attitude Toward Using, Behavioral Intention and Actual Use (see fig. 2).

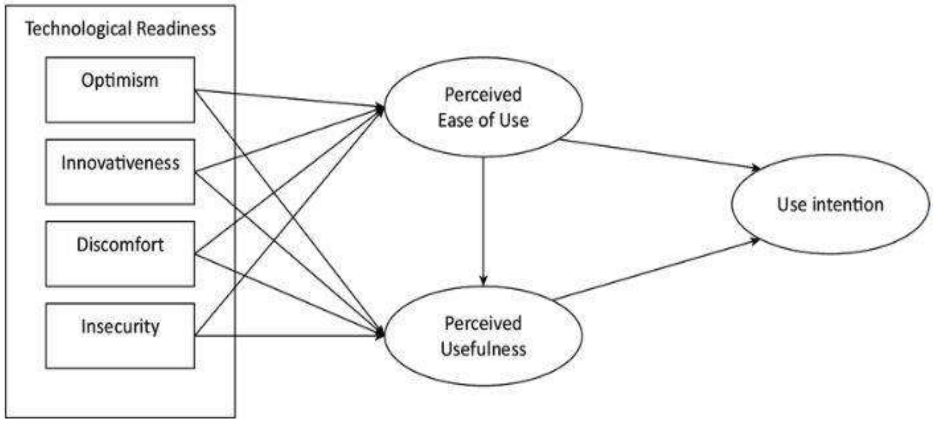


**Fig. 2:** Theoretical model based on TRAM (Lin et al., 2007).

In this study, TRAM is relevant as it provides a theoretical foundation to understand how secondary school mathematics teachers' perceptions of technology (e.g., its usefulness and ease of use) influence their attitudes and willingness to adopt and utilize educational technologies.

**Methodology**

The population of this study comprised all secondary schools in the Ondo West Local Government Area of Ondo State; they are 48 secondary schools—32 public secondary schools and 16 private secondary schools. This population was chosen because the researcher observed that mathematics teachers in the study area have been significantly lagging in their use of technology for teaching, particularly during the recent pandemic lockdown (Ondo State Ministry of Education, 2020). The sample size was statistically determined based on the population size, employing a criteria sampling technique to select the required sample. A total of 32 schools were randomly selected for the study using Slovin's formula. The research instrument used for data collection was titled the Mathematics Teachers' Technology Readiness Questionnaire (MTTRQ). The instrument consisted of four scales with the following reliability coefficients:

1. Technology Literacy Scale (TLS): 0.79
2. Computer Self-Efficacy Scale (CSES): 0.81
3. Digital Training Scale (DTS): 0.72
4. Technology Readiness Index (TRI): 0.85

After administering the instrument, data collected from the field were presented in tables and percentages. Teachers' demographic profiles were analysed using frequency counts and percentages, with results visually represented using graphs. The data collected to answer the research questions were processed and analysed using frequency counts, percentages, means, standard deviations, and Multiple Regression analysis. The hypothesis was tested at a 0.05 level of significance using Pearson Product Moment Correlation and One-Way Analysis of Variance (ANOVA).

**Results**

***Research Question 1:*** What is the level of technology literacy of secondary school mathematics teachers in Ondo West Local Government Area?

The descriptive statistics on the levels of technology literacy of secondary school mathematics teachers in Ondo West Local Government Area is presented in table 1. The results reveal that the mathematics teachers had *acceptable* levels of literacy in the following: ability to use different media to present information to students on Mathematics lesson ( $\bar{x}$ = 2.96, SD = 1.33), ability to use online help and/or other resources to assess and resolve problems ($\bar{x}$ = 3.10, SD = 1.33), ability to identify different computer software ($\bar{x}$ = 3.23, SD = 1.32), ability to choose between several options the best hardware/software for a given task me ($\bar{x}$ = 3.23, SD = 1.25), ability to use a spreadsheet package ( $\bar{x}$ = 3.39, SD = 1.27), ability to surf the web for important information ( $\bar{x}$ = 3.39, SD = 1.21), ability to select the most appropriate search engine and directories for specific research tasks ( $\bar{x}$ = 3.31, SD = 1.25), and ability to install and uninstall software ( $\bar{x}$ = 3.42, SD = 1.25). It is revealed further that the teachers had good level of technology literacy on the following two items: ability to use a word processing program ($\bar{x}$ = 3.45, SD = 1.32) and ability to use various search engines and online directories ($\bar{x}$ = 3.51, SD = 1.17). Meanwhile, to answer the research question, the WA is considered. Using the threshold of 3.0, the value obtained was 3.23. Consequently**,** it can be deduced that the secondary school mathematics teachers in Ondo West Local Government Area have a high level of technology literacy.

**Table 1: Levels of Technology Literacy of Secondary School Mathematics Teachers**

| SN | Items | VP | P | A | G | VG | ($\bar{x}$) | Std. D | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Ability to use different media to present information to students on Mathematics lesson | 25 (19.4) | 19 (14.7) | 43 (33.3) | 20 (15.5) | 22 (17.1) | 2.96 | 1.33 | Acceptable |
| 2 | Ability to use online help and/or other resources to assess and resolve problems problem | 22 (17.1) | 16 (12.4) | 44 (34.1) | 21 (16.3) | 26 (20.2) | 3.10 | 1.33 | Acceptable |
| 3 | Ability to identify different computer software | 20 (15.5) | 16 (12.4) | 31 (24.0) | 38 (29.5) | 24 (18.6) | 3.23 | 1.32 | Acceptable |
| 4 | Ability to choose between several options the best hardware/software for a given task | 19 (14.7) | 16 (12.4) | 27 (20.9) | 51 (39.5) | 16 (12.4) | 3.23 | 1.25 | Acceptable |
| 5 | Ability to use a word processing program | 18 (14.0) | 10 (7.8) | 28 (21.7) | 42 (32.6) | 31 (24.0) | 3.45 | 1.32 | Good |
| 6 | Ability to use a spreadsheet package | 18 (14.0) | 12 (9.3) | 23 (17.8) | 54 (41.9) | 22 (17.1) | 3.39 | 1.27 | Acceptable |
| 7 | Ability to use various search engines and online directories | 13 (10.1) | 11 (8.5) | 23 (17.8) | 61 (47.3) | 21 (16.3) | 3.51 | 1.17 | Good |
| 8 | Ability to surf the web for important information | 17 (13.2) | 9 (7.0) | 28 (21.7) | 57 (44.2) | 18 (14.0) | 3.39 | 1.21 | Acceptable |
| 9 | Ability to select the most appropriate search engine and directories for specific research tasks | 16 (12.4) | 17 (13.2) | 28 (21.7) | 47 (36.4) | 21 (16.3) | 3.31 | 1.25 | Acceptable |
| 10 | Ability to install and uninstall software | 16 (12.4) | 12 (9.3) | 27 (20.9) | 50 (38.8) | 24 (18.6) | 3.42 | 1.25 | Acceptable |
| | | | **Weighted Average (WA)** | | | | **3.23** | | |

***N*** = 129 **Cut-off Point = 3.00** ***Key*:** **5** = Very Good, **4** = Good, **3** = Acceptable, **2** = Poor, **1** = Very Poor

***Research Question 2:*** What is the mathematics teachers' perception of their own computer self-efficacy?

The descriptive statistics on the Mathematics teachers' perception of their own computer self-efficacy is presented in table 2. The results show that the mathematics teachers *agreed* to all the negatively worded items in the table that when students have difficulty with computer, they were usually at a loss as to how to help them ($\bar{x}$ = 2.66, SD = 0.84), they wonder if they have the necessary skills to use computer for instruction ($\bar{x}$ = 2.79, SD = 0.74), they generally employ the computer in their classroom ineffectively ( $\bar{x}$ = 2.81, SD = 0.69), they avoid using computers in their classrooms whenever they can ($\bar{x}$ = 2.79, SD = 0.61), they are not very effective in monitoring students' computer use in their classrooms ($\bar{x}$ = 2.80, SD = 0.63), they do not use the computer as well as they do other instructional resources even when they try hard ($\bar{x}$ = 2.79, SD = 0.62), they do not know what to do to turn students onto computers ( $\bar{x}$ = 2.78, SD = 0.65), they find it difficult to explain to students how to use computer ( $\bar{x}$ = 2.85, SD = 0.63) and they would not invite the principal to evaluate their computer-based instruction if they have the choice ($\bar{x}$ = 2.81, SD = 0.61). To answer the research question, the WA is considered. The value (2.79 out of 4.00 maximum obtainable) falls within the decision value of ***Negative Perception.*** Therefore, it can be inferred that the Mathematics teachers have negative perception of their own computer self-efficacy. In order words, they do not see themselves as being efficient in the use of computer.

**Table 2: Mathematics Teachers' Perception of their Computer Self-efficacy**

| SN | Items | SD | D | A | SA | ($\bar{x}$) | Std. D | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | When students have difficulty with the computer, I am usually at a loss as to how to help them | 18 (14.0) | 21 (16.3) | 77 (59.7) | 13 (10.1) | 2.66 | .84 | Agree |
| 2 | I wonder if I have the necessary skills to use the computer for instruction | 9 (7.0) | 24 (18.6) | 81 (62.8) | 15 (11.6) | 2.79 | .74 | Agree |
| 3 | I generally employ the computer in my classroom ineffectively | 8 (6.2) | 21 (16.3) | 87 (67.4) | 13 (10.1) | 2.81 | .69 | Agree |
| 4 | Whenever I can, I avoid using computers in my classroom | 7 (5.4) | 19 (14.7) | 97 (75.2) | 6 (4.7) | 2.79 | .61 | Agree |
| 5 | I am not very effective in monitoring students' computer use in my classroom | 6 (4.7) | 23 (17.8) | 91 (70.5) | 9 (7.0) | 2.80 | .63 | Agree |
| 6 | Even when I try very hard, I do not use the computer as well as I do other instructional resources | 6 (4.7) | 23 (17.8) | 92 (71.3) | 8 (6.2) | 2.79 | .62 | Agree |
| 7 | I do not know what to do to turn students onto computers | 8 (6.2) | 20 (15.5) | 93 (72.1) | 8 (6.2) | 2.78 | .65 | Agree |
| 8 | I find it difficult to explain to students how to use the computer | 6 (4.7) | 18 (14.0) | 94 (72.9) | 11 (8.5) | 2.85 | .63 | Agree |
| 9 | Given a choice, I would not invite the principal to evaluate my computer-based instruction | 5 (3.9) | 24 (18.6) | 91 (70.5) | 9 (7.0) | 2.81 | .61 | Agree |
| | | **Weighted Average (WA)** | | | | | **2.79** | |

***N*** = 129 ***Cut-off Point*** = 2.50 ***Key***: **1** = Strongly Disagree, **2** = Disagree, **3** = Agree, **4** = Strongly Agree

***Research Question 3:*** What is the level of digital training skill of the secondary school Mathematics teachers?

The descriptive statistics on the levels of digital training skills of the mathematics teachers in Ondo West Local Government Area is presented in table 3. The table indicates that the teacher had an *acceptable* level of digital training skill on typing skill ( $\bar{x}$ = 3.33, SD = 1.05) while they have a good level of digital training skill in web search skill ($\bar{x}$ = 3.51, SD = 1.01), ability to use the computer ( $\bar{x}$ = 3.54, SD = 1.01), ability to use the internet ( $\bar{x}$ = 3.54, SD = 1.03), ability to use digital technologies ( $\bar{x}$ = 3.58, SD = 1.03), understanding of the basic functions of computer hardware components ( $\bar{x}$ = 3.62, SD = 0.70), use of social networking on the computer ($\bar{x}$ = 3.85, SD = 0.58) and use of mobile apps for teaching ( $\bar{x}$ = 3.83, SD = 0.61). The weighted average value of **3.60 out of a maximum obtainable score of 5.00** was calculated and falls within the decision range categorized as *high*. Based on this result, it is inferred that secondary school Mathematics teachers exhibit a high level of digital training skills.

**Table 3: Level of Digital Training Skill of Secondary School mathematics Teachers**

| SN | Items | VP | P | A | G | VG | ($\bar{x}$) | Std. D | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Typing skills | 25 (19.4) | 19 (14.7) | 43 (33.3) | 20 (15.5) | 22 (17.1) | 3.33 | 1.05 | Acceptable |
| 2 | Web search skills | 22 (17.1) | 16 (12.4) | 44 (34.1) | 21 (16.3) | 26 (20.2) | 3.51 | 1.01 | Good |
| 3 | Computer literacy (the ability to use the computer) | 20 (15.5) | 16 (12.4) | 31 (24.0) | 38 (29.5) | 24 (18.6) | 3.54 | 1.01 | Good |
| 4 | Internet literacy (the ability to use the Internet) | 19 (14.7) | 16 (12.4) | 27 (20.9) | 51 (39.5) | 16 (12.4) | 3.54 | 1.03 | Good |
| 5 | Digital literacy (the ability to use digital technologies) | 18 (14.0) | 10 (7.8) | 28 (21.7) | 42 (32.6) | 31 (24.0) | 3.58 | 1.03 | Good |
| 6 | Understanding of the basic functions of computer hardware components | 18 (14.0) | 12 (9.3) | 23 (17.8) | 54 (41.9) | 22 (17.1) | 3.62 | .70 | Good |
| 7 | Use of social networking on the computer | 13 (10.1) | 11 (8.5) | 23 (17.8) | 61 (47.3) | 21 (16.3) | 3.85 | .58 | Good |
| 8 | Use of mobile apps for teaching | 17 (13.2) | 9 (7.0) | 28 (21.7) | 57 (44.2) | 18 (14.0) | 3.83 | .61 | Good |
| | **Weighted Average (WA)** | | | | | | **3.60** | | |

***N*** = 129 **Cut-off Point = 2.50** ***Key:*** **5** = Very Good, **4** = Good, **3** = Acceptable, **2** = Poor, **1** = Very Poor

### *Test of the Hypothesis*

***Ho:*** There is no significant relationship among the technology literacy, computer self-efficacy, digital training skill and technology readiness of secondary school Mathematics teachers.

The results of the relationship that exists among technology literacy, computer self-efficacy, digital training skill and technology readiness is shown in table 4. The results show that a small negative significant relationship exists between technology literacy and technology readiness (N = 129; r = -.21; $p<0.05$) and between computer self-efficacy and technology readiness (N = 129; r = -.22; $p<0.05$). It is shown further that there is a small positive but non-significant relationship between digital training and technology readiness (N = 129; r = .11; $p>0.05$). Moreover, there was a medium positive and significant relationship among the independent variables: technology literacy and computer self-efficacy (N = 129; r = .29; $p<0.05$), technology literacy and digital training (N = 129; r = .34; $p<0.05$) and computer self-efficacy and digital training (N = 129; r = .28; $p<0.05$). Based on this result, it can be inferred that there is significant relationship between technology literacy and technology readiness, between computer self-efficacy and technology readiness while there is no significant relationship between digital training and technology readiness. It is also inferred that there is a significant relationship among the independent variables. Hence, the null hypothesis 1 is rejected for technology literacy and technology readiness, computer self-efficacy and technology readiness while it is accepted for digital training and technology readiness.

**Table 4: Correlation Matrix of Relationship among Technology Literacy, Computer Self-Efficacy, Digital Training Skill and Technology Readiness**

| S/N | Variable | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 1 | Technology Literacy | 1 | | | |
| 2 | Computer Self-efficacy | .29* | 1 | | |
| | | .001 | | | |
| 3 | Digital Training | .34* | .28* | 1 | |
| | | .000 | .001 | | |
| 4 | Technology Readiness | -.21* | -.22* | .11 | 1 |
| | | .02 | .01 | .21 | |
| **Mean** | | 32.99 | 25.09 | 28.80 | 118.19 |
| **Std. Deviation** | | 9.87 | 3.98 | 4.89 | 19.77 |
| **N** | | 129 | 12 | 129 | 129 |

* *denotes significance at $p<0.05$*

## Discussion of Findings

The findings of this study revealed that secondary school mathematics teachers in Ondo West Local Government Area have average level of technology literacy. Research on teachers' technology literacy suggests that there is significant variation in their proficiency in using technology in the classroom. It was observed that while many teachers are comfortable using basic tools like email and word processing software, they may lack the skills necessary to integrate more advanced technologies like educational software and online collaboration tools into their teaching practices. Similarly, a study by Zhao et al. (2015) found that teachers' technology literacy was influenced by a variety of factors, including their access to technology resources, their level of training and support, and their attitudes toward technology. A study by Liu et al. (2016) found that providing teachers with ongoing training and support was key to improving their technology literacy and increasing their use of technology in the classroom. According to the findings of this study, it can be inferred that the mathematics teachers have negative perception of their own computer self-efficacy. In order words, they do not see themselves as being efficient in the use of the computer.

To address the negative perception of teachers' computer self-efficacy, it is important to provide them with training and support to effectively integrate technology into their teaching practices. A study by Lim et al. (2018) found that providing teachers with ongoing professional development and support was key to improving their computer self-efficacy and increasing their use of technology in the classroom.

The findings of this study revealed that secondary school mathematics teachers in Ondo West Local Government Area have high levels of digital training, this is because the teachers have acquired one or more digital training skills. The study also found that ongoing professional development and support were important for teachers to maintain and improve their digital training skills. Other research has also found that teacher education programs have increasingly incorporated technology training and digital competencies into their curricula.

Overall, the research suggests that there has been an improvement in teachers' digital training skills over time, as a result of increased training and professional development opportunities. This has been reflected in the increasing incorporation of technology training into teacher education programs. However, ongoing support and access to technology resources are still important for teachers to maintain and improve their digital competencies and skills. Based on this result, it can be deduced that there is significant relationship between technology literacy and technology readiness, between computer self-efficacy and technology readiness while there is no significant relationship between digital training and technology readiness.

Considering the relationship between technology literacy and technology readiness, the finding of this study shows that there is significant relationship between technology literacy and technology readiness. This implies that technology readiness of mathematics teachers is highly influenced by the teachers’ technology literacy skills. Most teachers have little knowledge about using different media to present information to students on mathematics lesson, using online help and/or other resources to learn about features of hardware and software, as well as to assess and resolve problems; this supports the work of Leendertz, Blignaut, Ellis, and Nieuwoudt (2015) who emphasized the critical need for professional development courses to assist instructors in incorporating ICT into teaching and learning based on their study.

On teachers’ computer self-efficacy, findings revealed that there is significant relationship between mathematics teachers’ computer self-efficacy and technology readiness. This implies that technology readiness of mathematics teachers is highly influenced by the teachers’ perceived self-efficacy in computer usage. It was observed that most teachers are usually at a loss as to how to help their students with computers or other related gadgets. Also, most teachers do not use the computer as well as they do use other instructional resources, this is probably due to their negative mindset about computer usage.

Considering the relationship between digital training and technology readiness, the finding of this study shows that there is no significant relationship between teachers’ digital training and technology readiness. This implies that technology readiness of mathematics teachers is not influenced by the teachers’ digital training skills. The study revealed that most of the teachers are vast in digital skills such as typing skills, web search skills, internet literacy, ability to use digital technologies, mathematics learning mobile apps and so on. This is as a result of their high level of digital training. However, their lack of digital training skills may affect their readiness to use technology in teaching Mathematics. This is inconsistent with the work of Ali (2015) who opined that lack of professional computer training and technical equipment may all contribute to teachers' limited technological proficiency. These studies stressed the necessity for programs that can teach teachers how to use computers effectively while also assisting them in gaining expertise with the tools of technology.

## Conclusion

Results from this study indicated that approximately a quarter of teachers have access to technological resources. The data showed that teachers are generally more familiar with the old traditional teaching method when teaching Mathematics, as compared to using computers or related technologies, which has likely made the teachers not ready to use technology. This indicates that teachers may need training in the integration of technology into the teaching of Mathematics in the classroom. Even though the level of technology integration was low among these teachers, they exhibited a positive view with respect to teaching using technology. It was noted that teachers who reported that they use the internet for instructional purposes held more positive views about the broad goals of Mathematics, and were more technologically ready than those teachers who did not.

In spite of availability of computers in schools, it is not clear whether teachers do not have the necessary skills or are reluctant to use the computers, or whether school management is restricting the teachers' access to the resources. If computers are available but are not being used, the possible reasons for this state of affairs need to be urgently probed. Interventions that seek to increase access to technology will not be successful if the roll-out of computers does not result in a concomitant increase in the teachers' use of the technology.

An important finding of the study is that teachers display different levels of technological readiness and enthusiasm according to their years of teaching experience, length of years of computer usage, technology literacy and their perceived efficacy about computer usage. Older teachers appear to need more support to help them become more confident to take on the technology. Younger teachers are more confident and will not need as much support as their older counterparts.

## Recommendations

The following recommendations are based on the findings of this research:

1. There is an urgent need for teacher education programs to renew instructional approaches and develop courses that address teaching and learning in online environments.
2. This study has provided evidence that teachers who are digitally trained are more likely ready to use technology in their instructional practices than those who are not; hence, interventions that aim to increase the use of technological tools in schools must be accompanied by continuous training and retraining of teachers.

3. In terms of teachers' computer self-efficacy, supports through workshops will enable teachers to develop confidence in using technology and this may lead to more progressive attitudes by school management regarding the mathematics teachers' technology readiness in classrooms.
4. Continuous professional development will also be required to help teachers integrate the newly acquired technological knowledge into their pedagogical knowledge.

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