

Availability and Functionality of ICT Tools and Digital Literacy Skills of Teachers

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ABSTRACT: The study investigated the extent of usage of the ICT tools in terms of availability and functionality and the digital literacy skills of the teachers among the National High Schools of the Northern Cluster District of the Province of Bukidnon. The tested variables supported the importance of going digitalized in the 21st century given that it is considered as the age of information and digitalization. The study used a descriptive-correlational research design that utilized descriptive and inferential statistics such as Mean and Standard Deviation and also Pearson Product Moment Correlation Coefficient. Results revealed a high availability and moderate functionality of ICT tools. Additionally, respondents' digital literacy skills, including basic digital skills, information literacy skills, and internet literacy skills, are all rated as high. Lastly, the tested relationship between the extent of usage of the ICT tools and the level of digital and information skills showed a weak positive significant correlation. Most schools are now provided by the government with ICT tools, in return, the schools need proper maintenance on its functionality to ensure that these tools are not only available but also functional. Moreover, teachers need to upskill and reskill in order to level up with the digital skills of their students.

KEYWORDS: digital skills, ICT tools, information literacy

I. INTRODUCTION

Information and communication technology (ICT) has significantly influenced modern lifestyles. Educational institutions are among the sectors impacted by these developmental consequences. Students encounter technology at present, require the provision of lifetime skills to foster their development as productive citizens.

Hence, it is generally believed that ICT can empower teachers and learners, promote change, and foster the development of 21st-century skills, but the data to support these beliefs is still limited. Ainley et al. (2018) claim that integrating technological tools will allow educators to meet the global requirement for employing technology-driven teaching and learning methods instead of traditional instructional methods. Technological advancement has greatly helped the people's way of living. It is widely used in different fields of society whether in hospitals, business sectors, tourism, government, and schools. Most of the schools, technology has been widely used and incorporated into the lessons discussed by teachers that made lessons more interesting and more exciting for students. The use of technology ignited students' critical thinking and increased classroom participation since teachers are not limited to using blackboards and whiteboards in delivering their lessons but can easily convey them to students with the help of technology.

Baterna et al. (2020) assert that digital literacy will provide a competitive edge to pupils when they enter the workforce in the new industrial era. They underscored the need for educators to use digital gadgets and information proficiently and ethically to cultivate digitally literate individuals. Students are expected to benefit from the implementation of technology in the classroom. The range of technology available to students and their application of it greatly affect teachers' views on technology integration. The children were being prepared to become globally competitive individuals through digital literacy. The aim of utilizing technology in the teaching and learning process is to enhance productivity, improve the effectiveness of existing methods, and introduce pedagogical changes that positively contribute to the advancement of education. We examine the existing theoretical literature regarding the impact of technology and its efficacy within the education sector. In the process of teaching and learning, the application of technological tools enhances interaction between teachers and learners.

Digital literacy and competency are essential abilities for full and active participation in contemporary information society and economy. The extent to which a teacher believes that using technology will significantly enhance their work performance greatly influences their digital literacy and competency, which is seen as beneficial. The attitudes of teachers need particular

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attention since they are crucial to their literacy and competency. It is essential to emphasize that these measures must start early during the pre-service term of the teachers. The teacher's favorable emotional response to technology use in the classroom might motivate a commitment to integrating digital technologies in instruction (McGrath et al., 2019).

In the Philippines, the Department of Education (DepEd) also put down projects to make quality education more accessible to all Filipino learners. According to its mission, learners should learn in a motivating environment wherein ICT Tools could help through engaging lessons. Also, teachers facilitate learning by being equipped with digital literacy skills of this generation. The advancement of ICT utilization is expected to widen the access to basic education and upgrade the methodology of teaching. The availability and functionality of these ICT tools inside the school could help to ensure an enabling and supportive environment for effective learning to happen.

Numerous DepEd Orders were promulgated to bolster ICT initiatives, including DepEd Memo 137, s. 2007, which mandates ICT literacy training for public secondary school educators; DepEd Order No. 125, s. 2008, concerning the execution of the 2003, 2004, and 2006 DepEd Computerization Program; and DepEd Order No. 78, s. 2010, titled Guidelines for the Implementation of the DepEd Computerization Program. These directives seek to promote the information and communication technology proficiency of educators, enlighten them about the use of technology in classroom management, and improve their abilities as facilitators of learning.

This study aimed to explain the correlation between the availability and functionality of ICT tools and the cultivation of fundamental digital literacy skills among teachers, encompassing basic computer skills, information literacy, and internet literacy. The study dealt on the level of digital literacy of teachers in using selected computer applications; and application of their knowledge with respect to their teaching related jobs such as preparation and presentation of lessons, recording of students' outputs, and doing school reports. The research aspired also to contribute valuable knowledge that educators, policymakers, and stakeholders can refer to make informed decisions. Ultimately, aspire to contribute to the body of knowledge that fosters a generation of digitally literate and empowered teachers to be prepared for the challenges of the 21st century.

The study used the constructivist framework emphasizing how teachers actively construct knowledge and understanding through interactions with their environment. The Community of Inquiry framework provides a dynamic model for an institutional approach to move away from a passive lecture that fundamentally reshaped the educational experience based on thinking and learning collaboratively (Garrison, 2018). Technology integration focuses on how teachers engage with ICT tools, explore digital content, and develop digital literacy skills through hands-on experiences. In the realm of ICT tools, the accessibility and capability of these resources are essential for promoting collaborative learning experiences. When educators can utilize a range of functional ICT tools, they are able to participate in interactive tasks, access resources, and collaborate with their colleagues more efficiently. This aligns with the constructivist principle of creating a conducive learning environment.

II. METHODOLOGY

The study employed a descriptive correlational research design to investigate the relationship between the availability and functionality of ICT tools and the development of digital literacy skills among teachers. This design investigated the extent to which one factor corresponds with variations in one or more factors based on the correlational coefficient (Samosa et al., 2023). This allows for the comprehensive examination of the current landscape of technological integration in classrooms while exploring the correlations between the availability and functionality of ICT tools used and teachers' digital literacy proficiency. By employing this method, the study aimed to provide a detailed description of the prevailing practices in classrooms and uncover any statistically significant associations between the availability and functionality of ICT tools and teachers' digital literacy skills.

The statistical tools used to analyze and interpret data were Mean, Standard Deviation, and Pearson Product Moment Correlation Coefficient. In Problem 1, the statistical tools employed to examine and explain the data included the use of weighted Mean and Standard Deviation to portray the extent of level of ICT tools usage. In Problem 2, the statistical methods applied to examine and interpret data included were similar to problem one, to characterize the extent of teachers' digital literacy skills. Problem 3 employed the Pearson Product Moment Correlation Coefficient to examine the association between the level of usage of ICT tools and the digital literacy competencies of educators.

III. RESULTS AND DISCUSSION

Problem 1. What is the extent of the usage of ICT tools as to their:

- 1.1. availability; and
- 1.2. functionality?

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Table 1. Overall Extent of Usage of ICT Tools

Indicators	Mean	SD	Description	Interpretation
1. Availability of ICT Tools	3.39	0.53	Strongly Agree	Highly Available
2. Functionality of ICT Tools	3.21	0.52	Agree	Moderately Functional
Overall	3.30	0.49	Strongly Agree	Highly Available and Functional

Note: 3.26-4.00 Highly functional; 2.51-3.25 Moderately Functional; 1.76-2.50 Slightly Functional; 1.00-1.75 Not Functional

Table 1 displays the extent of usage of ICT tools. In this table the overall Mean is 3.30 with SD = 0.49, described as Strongly Agree and interpreted as Highly Available and Functional. This result means that the schools had sufficient ICT tools that are functional and accessible to teachers. Teachers can effectively incorporate these tools into their teaching practices, resulting in enhanced instructional delivery and improved learning outcomes for students. According to Marta, (2019), teachers are required to be able to take advantage of the learning media that have been integrated with technology as an innovation in creating conditions and a learning environment that are conducive to achieving learning goals.

In the same table, indicator 1, *Availability of ICT tools* got the highest Mean of 3.39 with SD=0.53 described as Strongly Agree and interpreted as Highly Available. This means that the availability of ICT tools greatly influenced teachers' level of usage of the said tools. The available tools encouraged them to become productive efficient. As mentioned by Shatri, (2020) the success of the implementation of learning is influenced by several factors, including students' activity, the availability of learning facilities and teacher management, in the learning process, and the use of learning media.

On the other hand, indicator 2, functionality of ICT tools got the lowest mean score of 3.21 with SD=0.52, described as agree and interpreted as Moderately Functional. This means that problems on functionality of ICT tools are encountered by some teachers. This may be caused by irregular maintenance of tools that lessen its productivity and performance. According to Rajandiran (2021) The availability and effectiveness of training and professional development programs differ among countries. This might affect the functionality of ICT tools if no maintenance program is implemented. A trained teacher could secure highly functional ICT tools.

Problem 2. What is the level of teachers' digital literacy skills in terms of:

- 2.1. basic digital skills;
- 2.2. information literacy skills; and
- 2.3. internet literacy skills?

Table 2. Overall Digital Literacy Skills of Teachers

Indicators	Mean	SD	Description	Interpretation
1. Basic Digital Skills	3.56	0.44	Very Good	Very High
2. Information Literacy Skills	3.39	0.50	Very Good	Very High
3. Internet Literacy Skills	3.40	0.48	Very Good	Very High
Overall	3.45	0.43	Very Good	Very High

Note: 3.26-4.00 Very High; 2.51-3.25 High; 1.76-2.50 Low; 1.00-1.75 Very low

Table 2 displays the digital literacy skills of teachers. In this table the overall Mean score is 3.45 with SD=0.43, described as Very Good and interpreted as Very High. This means that teachers are proficient in using technology effectively in their teaching practices. Teachers' digital literacy skills reflected their readiness to adapt to new technologies, collaborate with colleagues, and continuously enhance their professional development in the digital age. With digital literacy, teachers can improve the quality of learning. The learning carried out by the teacher will determine the quality of the learning outcomes that will be obtained by the students (Sánchez-Cruzado et al., 2021).

In the same table, indicator 1, *Basic Digital Skills* got the highest Mean of 3.56 with SD=0.44, described as Very Good and interpreted as Very High. This means that teachers are knowledgeable in using basic digital tools and technologies, which helped them effectively integrate technology into their teaching practices. According to Baber et al. (2022) digital inequalities have grown larger and in time when digital skills are required their employability is at stake. It is an advantage for teachers to know the basic digital skills in seeking a teaching position.

Meanwhile on the same table, indicator 2, *information literacy skills* got the lowest Mean score of 3.39 with SD=0.50, described as Very Good and interpreted as Very High. This means that teachers may lack the abilities to discern essential and

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reliable information useful in the teaching-learning process. As a result of the availability in information resources, teachers' responsibility which embraces rigorous academic activities that involves sorting of numerous information becomes easier. However, the problem of unavailability of information resources have been surmounted by places like the library and the internet (Eravwoke, 2021).

Problem 3. Is there a significant relationship between the extent of usage of ICT tools and teachers' digital literacy skills?

Table 3. Test of Correlation Between Extent of Usage of ICT Tools and Teachers' Digital Literacy Skills

Independent Variables	r-value	p-value	Description	Decision	Interpretation
Availability	0.282**	0.00	Weak Positive Correlation	Reject Ho	Significant
Functionality	0.260**	0.01	Weak Positive Correlation	Reject Ho	Significant

Table 8 displays the analysis of the relationship between extent of usage of ICT tools and teachers' digital literacy skills. The availability of ICT tools and digital literacy skills $r = .282$, $p < 0.00$ described as weak positive correlation and interpreted as significant. This means that teachers who are constantly using the available ICT tools tended to enhance more their digital literacy skills. Meanwhile, functionality of ICT tools was positively correlated with digital literacy skills of teachers ($r = .260$, $p < 0.01$), indicating that teachers who frequently using functional ICT Tools were also more likely to learn more digital literacy skills in school. This signifies that if the variable one increases, the variable two also increases. This means that as the extent of usage of the ICT tools' availability and functionality increases, the level of digital literacy skills also increases and vice versa. It enhances the quality of teaching-learning process considering the availability and functionality of ICT tools paired with teacher high level of digital literacy skills. According to Gadzama (2019) the absence of ICT tool integration poses a challenge to the development of digital information and literacy skills. Further, the development of information and literacy skills and individual competence is reliant on the availability and functionality of the ICT essential software and hardware.

IV. CONCLUSIONS

The following conclusions are made considering the findings presented:

1. There is adequate access to available and functional ICT tools for teachers' utilization in the schools.
2. Teachers are proficient in using computers, internet tools, and digital communication effectively for teaching purposes.
3. Availability and functionality of ICT tools can encourage teachers to learn the skill to utilize those provided to them.

V. RECOMMENDATIONS

Presented below are some recommendations based on the study's conclusions.

1. Most schools are now provided by the government with ICT tools, in return, the schools need proper maintenance on its functionality ensuring that these tools are not only available but also functional.
2. Teachers' information literacy skills, though they already have the skill, they still need to upskill and reskill in order to level up with the skills of their students.
3. Ensure that ICT tools are available and functional to all teachers with regular maintenance to have more skillful teachers to support their proficiency and teaching effectiveness.

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