Exploring the Influence of Digital Literacy Skills, and Functional Skills with ICT Self-Efficacy as A Mediator at Primary School Level: A Need Assessment Analysis

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ABSTRACT

Digital literacy encompasses a wide range of skills, including managing risk and one's online identity, accessing, organising, and presenting information, and interacting and connecting with others through the use of technology and systems. Proficiency in using novel technologies and discernment in selecting the best suitable tool for a given task are essential skills that will prepare students for the swiftly evolving digital workplace [Edith Cowan University]. The study's goals were to find out how teachers feel about their own need for digital knowledge and creativity., as well as which tehsils have training in digital literacy and which tehsils don't. Anyone in that tehsil who doesn't know about digital literacy and its classes will need to be taught about them (JISC (2014).

Functional skills are the transferrable knowledge and abilities in English, math, and ICT (information and communication technology) that enable people to function successfully, self-sufficiently, and with confidence in both their personal and professional lives (lead academy 2022). the capacity of pupils to handle informational problems in an information society by using digital technology, communication tools, and/or networks in an acceptable manner (Rockman, Smith, 2005).

To investigate the relationship between digital literacy and functional skills, while examining the mediating role of ICT self-efficacy.to explore the interplay between digital literacy and functional skills, with a specific focus on understanding how ICT self-efficacy mediates this relationship. Looking into how digital learning tools and personal creativity can work together. The study was quantitative, and a questionnaire was used as the main tool. The population was made up of 1,000 teachers from area Kott Addu's primary schools. A form was used to get quantitative data. The collected data was looked at by figuring out the percentages. In area Kott Addu, tests were done as a pilot. An expert's view and Cronbach alpha were used to judge the questionnaire's validity and reliability.

INTRODUCTION

Digital Literacy

The capacity to use technology and the World Wide Web to locate, assess, use, share, and create material is known as digital literacy. (CPD Twinkl).

Functional skills

In the domains of mathematics, English, and technology for communication and information (ICT), functional skills are essential. Qualifications for functional skills are governed by law. Most people use these talents on a regular basis in both their personal and professional life. People can practically employ these functional abilities to address a range of real-life challenges by taking courses on them (Indeed, editorial team, 2023).

ICT Self-Efficacy

A person's trust in their capacity to finish a task or reach the objective is known as self-efficacy. It involves a person's self-assurance in their ability to manage their conduct, have an impact on what is around them, and maintain motivation while working towards their objective. Persons can possess self-efficacy in a variety of contexts and fields, including interactions, employment, education, and other significant parts (Kendra's Cherry, MSEd 2027).

Key points: digital literacy, internet, functional skills, creativity, effective communication, information and communication technology,

Research Objectives of this study:

(1) "To investigate the relationship between digital literacy and functional skills, while examining the mediating role of ICT self-efficacy."
(2) to explore the interplay between digital literacy and functional skills, with a specific focus on understanding how ICT self-efficacy mediates this relationship.

Research questions of this study:

(1) What is the relationship between ICT self-efficacy and both digital literacy and functional skills?
(2) To what extent does ICT self-efficacy mediate the relationship between digital literacy and functional skills?

LITERATURE REVIEW

One of most potent learning tools of the twenty-first century is technology. The use of technology for communication and information has advanced rapidly, particularly in the context of teaching and learning. Information and communication technology's (ICT) quick development has an impact on teacher preparation programmes as well as the educational system. The goal of the study was to determine how much teacher education contributes to student teachers' overall personal digital competence (PDC) and, in particular, their ability to use ICT responsibly. The ability to assess digital information, ethical concerns, and privacy and copyright concerns are all considered aspects of responsible ICT use (Gudmundsdottir & Hatlevik, 2020).

Digital literacy and importance

The abilities needed to locate, assess, utilise, develop, and communicate with digital technology are referred to as digital literacy. It includes a variety of skills, from simple ones like writing emails and using the World Wide Web to more intricate ones like coding or creating digital material. Education Integrating digital literacy into school curricula from a young age ensures that students are prepared for the digital challenges they will face in adulthood (Mukesh Sharma 2020).

Importance of digital literacy

In the fast-paced and ever-evolving landscape of the 21st century, one skill has emerged as an absolute necessity for success: digital literacy. With the increasing integration of technology into nearly every aspect of our lives, from work and education to social interactions and personal development, being digitally literate is no longer a luxury but a fundamental requirement. This article explores the significance of digital literacy in our modern world and why it's a vital skill to possess (Shashank G 2023).

Functional skills

Functional abilities are those that allow a person to engage in social interactions, communicate, and carry out tasks that are useful in the real world (law insider 2022).

The importance of functional skills

Functional skills are applicable in the majority of employment and are necessary for further education. To effectively work, learn, and contribute to society, the majority of people require these essential talents. Functional skills improve reading and numeracy competency, which is crucial for day-to-day business and service interactions. The learning materials for functional skill certifications are grounded in real-world, applicable scenarios. Gaining practical skills can boost self-esteem and enhance productivity and work performance (Indeed, editorial team 2023).

Examples of functional skills

The three main categories of functional skills are ICT, math, and English. Qualifications in functional skills give people a solid basis in writing, reading, arithmetic, and information and communication technology use (Indeed, editorial team 2023).

Self-Efficacy to use ICT

The field of information and communication technology, or ICT, has evolved into a more dynamic framework with the advent of the internet and mobile devices. While information access and sharing via ICT are fantastic advances for many professional domains, they need also be organised in accordance with the right settings and activities that support the development of ICT skills in the field of schooling. Because many nations invest in hardware and software for their educational systems, it is believed that teachers' successful use of these innovations in the teaching and learning process has a significant role in improving the quality of schooling (Simsek & Sarsar, 2019).

Worldwide, curricula for schools now include computing-related subject, which puts additional demands on instructors' expertise. The development of the abilities and dispositions needed to educate the new material has received less attention. Along with more conventional computer subjects like programming and algorithms, this also touches with issues like morality, security, and integrity as well as the place of technology in society. The material that needs to be taught changes at the same rapid rate as technology. It is by no means sufficient for teachers to acquire computing knowledge through stand-alone in-service training initiatives; instead, they must get the confidence to consistently and independently investigate what is fresh, relevant, and how to integrate digital competence into their teaching. For this reason, teachers' self-efficacy is vital (Mannila, Nordén, & Peaches, 2018).

Self-efficacy is the conviction in one's own competence. ICT, or information and communication technology, self-efficacy in this sense refers to an individual's assessment of their capacity to use ICT, which are the recognisable and useful teaching instruments for schools in the twenty-first century. The relationship between teachers' perceived ICT infrastructure and their level of ICT self-efficacy in government-run secondary schools in India was examined by Kundu, Bej, and Dey (2020). According to Stone's (2020) study, students are comfortable in many of their technological abilities, but there are still gender gaps in both conventional and new domains, such as social media skills and fundamental computing skills. ICT self-efficacy was found to be significantly correlated with ICT exposure, access, and use. Teachers need to be cautious while creating curriculum that prepare students for the skills required in the contemporary and future environments they will encounter, as ICT skill demands in business, academia, and society are always changing.

Musharraf et al. (2019) compared the ICT self-efficacy of students who were bullies, victims of cyberbullying, and those who were involved in the incident, as opposed to those who were not involved.

After controlling for factors such as gender, age, social worth, Internet usage, time spent on the web, gender, age, traditional victimisation, SNS, and Hortelano et al. 2021, multinomial logistic regression analysis showed that ICT self-efficacy greatly increased the likelihood of being a cyberbully and significantly decreased the likelihood of being a cyber-victim.

Statement of the Problem

Given the increasing integration of technology in primary education, there is a pressing need to assess the influence of digital literacy skills and functional skills on ICT self-efficacy among primary school students. This study aims to explore the relationship between these variables and determine the mediating role of ICT self-efficacy in fostering effective digital learning environments at the primary school level.

Purpose of the Study

The purpose of the study is to investigate the interplay between digital literacy skills, functional skills, and ICT self-efficacy among primary school students. By understanding these relationships, the study seeks to inform educators and policymakers on how to enhance digital learning environments and support students in developing essential competencies for success in the digital age. The goal of this study was to find out how digital literacy courses can be used to train government teachers at the primary school level: a need assessment analysis. The study's goals were to find out how teachers feel about the need for digital literacy and its modules, as well as how creative they are personally.

Significant of the study

The significance of the study lies in its potential to contribute to the enhancement of primary education in the digital era. By examining the influence of digital literacy skills, functional skills, and ICT self-efficacy, the study can provide valuable insights into effective teaching strategies, curriculum development, and policy formulation. Understanding these dynamics can help educators better prepare students for the demands of an increasingly technology-driven society, fostering their academic success and future employability. Additionally, the study may contribute to bridging the digital divide by identifying factors that influence digital competency among primary school students, thereby promoting equitable access to educational opportunities.

This study helped policymakers, the education department, teachers, students, trainers, and teachers put together a training programmed for teachers to improve their digital skills. Also, learning digital literacy and how to use technology is important for everyone today, including kids. This study also looks at how well teachers know how to use technology based on their gender.

Design of the research

The focus of this study is to find out the need assessment of teachers' training for digital literacy and functional skills as well as ICT self-efficacy as a mediator. The design of this study was quantitative in nature. The study was based on survey questionnaire.

Population of the study

The people who took part in this study were all the teachers at the government primary school in district Kott Addu. The people who went to four public primary schools in four different tehsils in the area of Kott Addu were the focus of this study. These elementary schools are in the town of Kott Addu. Also, middle school teachers are the main audience for this basic level. So, there are a total of 1000 teachers in these tehsils of district Kott Addu who work in primary schools.

Sample and sampling

All of the teachers at the elementary schools were used as examples. Multistage sampling was used as the method for the sample. Twenty percent of the teachers at the primary school that this study is aimed at were chosen. Using the proportionate random picking method, the researcher chose 56.

Research instrument

To find out what kind of digital literacy teachers need to be trained in is the main goal of this study. The researcher was given one type of tools to use in order to gather information. For quantitative data, the researcher used a form that they had made themselves. With help from their supervisor, the researcher made an instrument to help them read a lot of books. The device that was made by the researcher is used to collect data for this study. The expert made a questionnaire for teachers in elementary schools on their own. The teachers were asked to answer on a five-point Likert scale that included "strongly agree," "agree," "disagree," "neutral disagree," and "strongly disagree."

Reliability and validity

Cronbach's alpha was used to check the instrument's trustworthiness and came back as 0.95. Professionals with the right background helped make sure that the instrument was real. Professionals checked the instrument, and the questionnaire was changed and adapted to make the necessary changes based on their directions.

Data of collection

Self-made needs assessments of primary school teachers were used to gather data for this study. Based on the type of study and the method used, the researcher gathered the data all at once. In the first step, a questionnaire was sent to the researcher.

Analysis and interpretation data

The info that was gathered was looked at in one step. In the first step, the numeric data was split up. SPSS stands for "statistical package for the social sciences." Many types of people use it to analyses difficult statistical data. The SPSS software package was made to help with the organization and statistical examination of data from the social sciences.

Table1. Knowledge of teachers about the e-safety, and knowledge of teachers about the effective communication.

	Kot addu	Ali pur	Jatoi	Chowk munda
Male	13.62%	15.18%	12.09%	12.44%
Female	7.32%	8.65%	10.76%	20.97%
Total	20.94%	25.83%	20.84%	31.39%

It shows that male teachers in Kott Addu Tehsil did 13.62% of the work and female teachers did 7.32%, for a total of 20.94%. In Ali Purr Tehsil, male teachers did 15.18% of the work and female teachers did 8.65%, for a total of 25.83%. In Tehsil Jatoi, male teachers did 12.09% of the work and female teachers did 10.76%, for a total of 20.84%. In the same way, male teachers in Tehsil Chowk Munda did 12.44 percent of the work, while female teachers did 20.9 percent.

Together, they did 31.3 percent. Based on the information gathered, female teachers in Tehsil Chowk Munda did better than male teachers by 20.97%, which is higher than the 12.09% difference in Tehsil Jatoi. This means that the female teachers in Tehsil Chowk Munda did better with the digital literacy courses than the male teachers in Tehsil Ali purr.

Table 2. Integration of digital literacy tools and personal innovativeness.

	Kot addu	Ali pur	Jatoi	Chowk munda
Male	15.44%	15.13%	11.59%	12.42%
Female	9.30%	10.96%	12.00%	23.95%

Total	24.74%	26.07%	23.59%	36.37%

The results show that male teachers in Kott Addu Tehsil did 15.44% of the work and female teachers did 9.30%. Together, they did 24.74%. In Ali purr Tehsil, male teachers did 15.13% of the work and female teachers did 10.96%. Together, they did 26.07%. In Tehsil Jatoi, male teachers did 11.59% of the work and female teachers did 12.00%. Together, they did 23.59%. Similarly, in Tehsil Chowk Munda, male teachers did 12.42% of the work and female teachers did 23.95%.

Together, they did 36.37%. Based on the information gathered, female teachers in Tehsil Chowk Munda did better than male teachers by 23.95%, compared to 11.59% in Tehsil Jatoi. Teachers in Tehsil Chowk Munda who were women did better than teachers in Tehsil Jatoi who were men in this area of digital knowledge.

Table 3. Analysis of teacher's digital literacy for teacher's training comparatively analyze based on gender.

Sr no.	Tehsil	Performance by percentage
1.	Chowk Munda	34.4%
2.	Ali Pur	22.72%
3.	Jatoi	26.00%
4.	Kot Addu	21.08%

One of the four tehsils that were looked at as a whole had teachers do 34.4% better than expected. In tehsil ale purr, teachers did 22.72% better, in tehsil Jatoi, teachers did 26.00% better, and in tehsil kit Addu, teachers did 21.08% worse. Because teachers in tehsil kit Addu didn't do as well as teachers in other tehsils in the district of Muzaffargarh, this tehsil needs to learn how to use technology properly.

FINDINGS AND ANALYSIS

The findings and analysis of this study will offer a comprehensive understanding of the relationships between digital literacy skills, functional skills, and ICT self-efficacy among primary school students. By analyzing the data collected, researchers can identify patterns, correlations, and potential causal relationships between these variables. Moreover, the study will provide insights into the mediating role of ICT self-efficacy in shaping students' digital learning experiences.

Through rigorous analysis, researchers can uncover nuances in how different aspects of digital literacy and functional skills impact students' confidence and competence in using ICT tools. This analysis may reveal areas of strength and weakness in current educational practices and highlight opportunities for improvement. Furthermore, the findings may inform the development of targeted interventions and educational programs aimed at enhancing students' digital literacy and functional skills, ultimately contributing to their academic success and preparedness for the digital future.

Significant

The study helps students, teachers, parents, policymakers, the education department, the government of Pakistan, and other stakeholders learn about how to teach digital literacy. People will also be able to see how this study can be used to improve digital literacy in school, in class, at home, and outside of school. This study will help kids, parents, teachers, groups, the provincial government, the administration, and educational leaders.

RECOMMENDATION

By implementing these recommendations, educational stakeholders can create an environment that empowers primary school students to become proficient digital learners, equipped with the necessary skills and confidence to thrive in the digital age. Integrate Digital Literacy into Curriculum*: Educators should integrate digital literacy

instruction into the primary school curriculum, ensuring that students receive systematic and scaffolded opportunities to develop essential digital skills. Promote Functional Skills Development*: Implement programs and activities that foster the development of functional skills, such as problem-solving, critical thinking, and communication, in conjunction with digital literacy instruction.

Offer Professional Development for Teachers*: Provide ongoing professional development opportunities for teachers to enhance their own digital literacy skills and pedagogical approaches for teaching ICT-related content effectively. Foster Positive ICT Self-Efficacy*: Create a supportive learning environment that fosters positive attitudes and beliefs about students' capabilities to use ICT tools effectively. Encourage risk-taking, experimentation, and reflection to build students' confidence in their ICT abilities. Provide Access to Technology*: Ensure equitable access to technology resources and tools for all students, regardless of socioeconomic background, to mitigate disparities in digital learning opportunities.

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