

# Digital Illiteracy of Teachers and its Impact in Online Learning

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## Abstract

The following study revolves around critical evaluation of the aspects of digital illiteracy and thereby identification of the impact of digital illiteracy of teachers during online learning. Digitalisation has drastically changed the contemporary world and all the aspects have been thus reshaped due to digitalisation. During recent times, the COVID-19 pandemic situation has been the major challenge that made the global people understands about the necessity of digitalisation and incorporation of various digital technologies in education in order to overcome the challenge of the pandemic. Considering all these aspects, the following study has been conducted by evaluating the aspects of digital illiteracy and its impact in online education. While conducting this study, a set of methodological tools have been identified as the best suited through which secondary qualitative data have been collected from authentic journals and articles published after 2014. All the collected information has been evaluated by designing themes through thematic analysis in order to attain the objectives. From the analysis, it has been found that lack of digital efficiency of the educators result in hampering the outcome of quality education and additionally creating disturbances for sharing materials. Hence, considering this, a set of effective strategies have been suggested as well that would be further supportive for enhancing digital literacy of teachers.

## Keywords

Digital illiteracy, digital tools, e-learning, technological developments.

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## INTRODUCTION AND BRIEF OVERVIEW OF TOPIC

Digital illiteracy signifies lack of skills and ability in learning, evaluating and finding information through digital platforms and online media through effective usage of technology. In the contemporary period, digital gap in some specific social groups has emerged as one of the most crucial problems in adopting technology usage and thereby resulted in maladjustment in new technological developments. In recent times, the COVID-19 pandemic has emerged as one of the most specific problems that drastically reduced social interaction and all the schools and offices were bound to depend on online media and technology while continuing their respective operation. In this regard, digital illiteracy of the teachers has been the most challenging that emerged as an inhibitor in the continuation of the education process during the period [1].

Technology has drastically changed the dimension of education within learning and teaching that almost made a standstill to physical talks, lectures, physical objects and offline classes. Now, the students and teachers have a **digital toolbox** that provides them support in continuing their education in an effective manner. The E-learning market of the global world has been expected to reach up to 243 billion US dollars by 2022 [2]. On this note, digital illiteracy of the teachers has become the most crucial problem in online education in the contemporary days. Considering these aspects, the following study is emphasising on identification of the aspects related to digital illiteracy of teachers and its impact in online education.

## PURPOSE OF THE STUDY

Through critically evaluating the aspects of digital illiteracy of the teachers, the following study also showcased the impact of it in continuing online education and some potential solutions have been suggested that can provide support to the teachers in enhancing their skills. The main objectives can thus be identified as:

- To identify the concept and aspects of digital illiteracy
- To explore the impact of digital illiteracy in continuing online education
- To recommend some effective strategies that can support in overcoming the problem in an effective manner

## SIGNIFICANCE AND RELEVANCE IN THE CONTEMPORARY PERIOD

Digitalisation has reshaped the contemporary world in such a manner that impacted every sphere of life. Not only the business organisations, but also the schools and colleges are now emphasising on online education in order to save time and resources. The recent pandemic has been the most challenging aspect in recent time that not only imposed a major challenge for the students and educators, but also made them realise how important digital media is. Considering this, digital illiteracy of the teachers can be identified as the most challenging issue while continuing online education. The following study thus bears significance in exploring this crucial issue of recent times by collecting reliable and relevant data and thereby providing potential solutions for overcoming this.

**MATERIALS AND METHODS**

Identifying the proper methodological tools provides support in conducting research with utmost effectiveness [3]. The set of methods and materials for preparing an article supports the scholar in gathering data with proper methods and thereby evaluating it for attaining the objectives. In this section, a set of methodological tools have been enlisted that have been used for gathering data regarding digital illiteracy and its impact in online education.

**Research design**

Identifying a proper research design supports the researchers in sharpening the research methods that are suitable for a specific subject matter and thereby setting up the studies for further success. An effective research design can be illustrated as the techniques and methods by following the effective elements of the study [4]. The major two types of research design are classified into qualitative and quantitative depending on which more subsections are followed for a particular research. In this regard, collecting descriptive as well as numeric data regarding digital illiteracy has been the most effective through reliable journals, websites, newspaper articles and other authentic sites. Therefore, a *qualitative design in a descriptive composition* has been followed for conducting this particular article.

**Research type**

Research type is signified as establishing proper methods while investigating a problem or answering a research question towards attaining the objectives of a study. Considering the depth of scope of the research, various types of research are conducted by the scholars. In this regard, exploratory research is the most suitable when the main purpose of the study is to investigate a subject that has not been well researched in the contemporary scenario but bears significance effectively [5]. Considering the grievance of digital illiteracy in the contemporary period, an *exploratory* type of research has been conducted for this particular topic.

**Research duration**

Research duration is the overall time for conducting a specific research on a particular topic. In this regard, considering the effectiveness of online education in the contemporary period, the title has been developed by the scholar first by identifying the aim and objectives that would be incorporated throughout the study. After that, the methodological tools have been elected that have supported in collecting data and illustrating it. However, for conducting this particular article, the total duration has been 25 days that supported in conducting it in a systematic manner.

**Inclusion and exclusion criteria**

Considering the *inclusion criteria*, mainly articles and journals in English language published after 2014 have been selected where selection of sources have been strictly through keywords of the topic  
Through *exclusion criteria*, articles published before

2014 have been excluded from collecting data. Along with that, doctoral dissertations and conference papers have also been excluded while collecting reliable information regarding digital illiteracy.

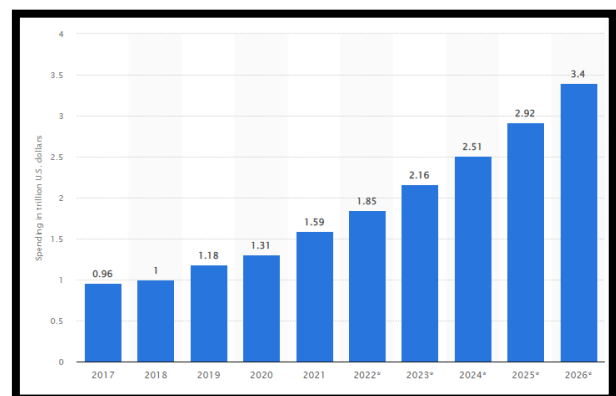
**Choice of subjects**

The choice of subjects for developing a paper is basically dependent on the scholar. In this regard, while conducting this paper, “digital illiteracy” has been mainly focused on while collecting reliable and authentic qualitative data. Through secondary qualitative data collection procedure, a significant amount of secondary data has been collected through keywords. However, the objectives of this study have always been focused on collecting data that would be supportive for explaining the topic with utmost effectiveness. The overall secondary qualitative data have been analysed through designing themes as it is the most effective procedure in describing a phenomenon and evaluating the data. The mentioned aspects have been thus most supportive for attaining the objectives effectively.

**FINDINGS AND RESULT**

**Evaluation of digital illiteracy**

In the contemporary digitalised world, digital knowledge is regarded as one of the most crucial elements for the individuals. On this note, digital illiteracy is regarded as the phenomenon signifying inability to use digital tools [6]. Digital illiteracy and digital divide are thus broadening and deepening the aspects of inequalities in terms of reinforcing vulnerability. Usage of digital tools has drastically increased in the contemporary days where every person is depending on using digital media for multidisciplinary usage. In recent times, the COVID-19 pandemic crisis has drastically imposed major challenges to every aspect of life where the educators and students were major victims. During this period, every aspect of continuing traditional education was closed and as a result, online learning has emerged as a potential solution for minimising the impact of the pandemic on students. It has been identified that 4.9 billion people of the global world (approximately two third of the global population) used the internet during 2021 [7].

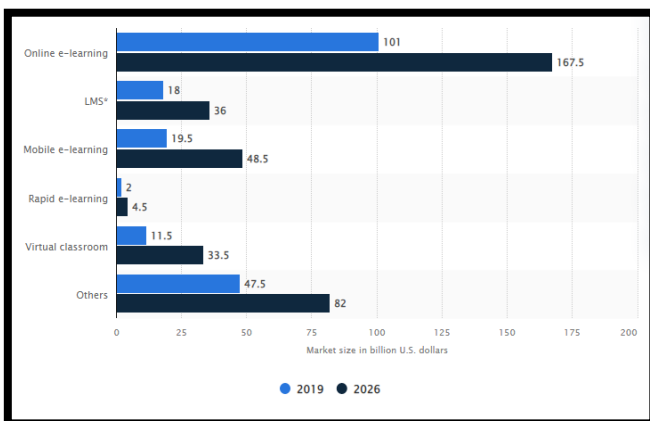


**Figure 1:** Global spending on digital transformation technologies and services worldwide (2017 to 2026) [8]

In addition to that, spending on digital transformation has been identified to attain growth from 1.6 trillion US dollars to 3.4 trillion US dollars within 2022 to 2026 [8]. Hence, it can be seen that the drastic growth of digitalisation in every aspect of life has been paving a path for increasing digital literacy. Most developed countries of the global world have focused on expanding overall expenses on digitalisation and thereby achieved effective digital literacy rate. Digital illiteracy and inability of using digital tools have emerged as the most crucial issues for the teachers in the contemporary days that dramatically impact the e-learning process adversely. Hence, there is a significant requirement to adopt effective strategies and invest in enhancing the rate of digital literacy in order to foster the outcome of the country.

**Impact of digital technologies in e-learning for enhancing learning benefits**

The nature of technology has drastically changed during the recent few years. In accordance with various new changes within the society, new technologies have been implemented in order to improve the aspects of learning as well as enhance engagement and effectiveness of teaching with a view to ensure better results. All the educational organisations have been focusing on implementing new digitised devices by accepting the fact that digitalisation is the paramount of providing effective learning experiences to the students, enhancing innovation and most importantly providing an opportunity to make education as a global service. In 2019, the global e-learning market was overall 200 billion US dollars that has been significantly increasing in the contemporary period. On this note, the global e-learning market is forecasted to achieve a growth up to 400 billion US dollars as of 2026 [9].



**Figure 2:** Overall size of the global e-learning market in 2019 and 2026, by segment [9]

Online learning and incorporation of digital devices in education bears multidimensional benefits for not only the educators and educational institutions but also the students. Internet technologies play a vital role in online education for enhancing collaboration and communication, and providing multidimensional pedagogical opportunities [10]. While incorporating digital learning in education, there is a

significant opportunity that the students get *full time access to learning materials* that support them in enhancing their learning. Through this aspect, the students tend to get flexibility of getting 24/7 access to the materials that also provides opportunities in identifying the best time for study without any barrier and accessing global community. *Collaboration* is another crucial aspect on this note that gets fostered by bringing educators and students together through audio or video conferencing and sharing documents effectively [11]. Another most crucial opportunity of e-learning and incorporation of digitalised devices are getting and sharing resources and recorded classes anytime and anywhere.

Better engagement in study is also possible by incorporating digital education through online media. Digital analysis provides support to all the educational institutions and the educators to get a better understanding with the students and thereby foster the overall educational process. Various new learning strategies can also be applied while studying through e-learning. This effective method of learning also helps in personalised learning while enhancing the educational procedure [12]. Students also get more comfortable with their peers online while getting beneficial support from them while boosting accountability. By getting more accountability, students can also have an opportunity for measuring their progress throughout their study and additionally the peers also get support in tracking progress of students. Therefore, the overall benefits of digital media in e-Learning specifically emphasises on the fact that not only student engagement gets enhanced but also the outcome of the study also gets boosted.

**Digital illiteracy of teachers and its impact in online learning**

In modern society, it is virtually impossible for any individual to excel in absence with two things such as computer literacy and education. On this note, education is regarded as the great equaliser as well as the proverbial door for providing any opportunity [13]. However, not having any access or ability to use innovative technologies in the present times are mainly considered as digital illiteracy. The lack of digital literacy mainly includes inability of the individuals in performing simple functions of the internet and thereby performing any task through digital media. In this regard, digital literacy of teachers is one of the most crucial in the contemporary days that provide them support in teaching students through online media in an effective manner. During the COVID-19 pandemic, all the opportunities of face-to-face education have closed that resulted in adopting online education in order to continue education. Considering this, teacher’s digital illiteracy resulted in not being able to conduct classes effectively and thereby hampering the quality of education.

On the other hand, innovative technologies provide support to the educators in going beyond the limitation of "text chat" and thereby adopting various software tools that

support indulging in audio as well as video conferencing. Lack of ability of teachers in this regard results in hampering collaboration and interaction and “live learning” [14]. The innovative tools and digital technologies provide optimum opportunity to the learners and educators to communicate with each other with utmost effectiveness by going beyond the barrier of time and place. In order to cope up with these needs, the teachers are thus significantly required to keep themselves updated for using basic tools such as Google meet, emails, Microsoft word and PowerPoint and various other platforms. Considering this, the inability of teachers to use digital tools and their inefficiency in teaching students through online media result in hampering the overall process. Of education.

In recent times, the global pandemic has showcased the human kind that there is a significant requirement to enhance skills with a view to cope up with any challenging situations. Digital media during this time saved the human race from many adverse challenges that could have completely stopped due to social distancing. However, this period has mainly opened up the possibilities of online education for continuing education. The inefficiency to use “communication media in learning” and learn how to deliver all the learning materials to the students have emerged as one of the major challenges for the teachers due to digital illiteracy [15]. Digital illiteracy of teachers in this regard has also enabled them in facing many adverse situations such as learning up new skills while conducting the audio or video conferencing and preparing the learning materials for sharing with students. Along with that, exploring and navigating in this digital and online environment also emerges as a major challenge for the teachers due to their lack of digital literacy. Therefore, all the challenges are required to be overcome by advancing the digital skill of teachers that would be further supportive for conducting online classes in an effective manner.

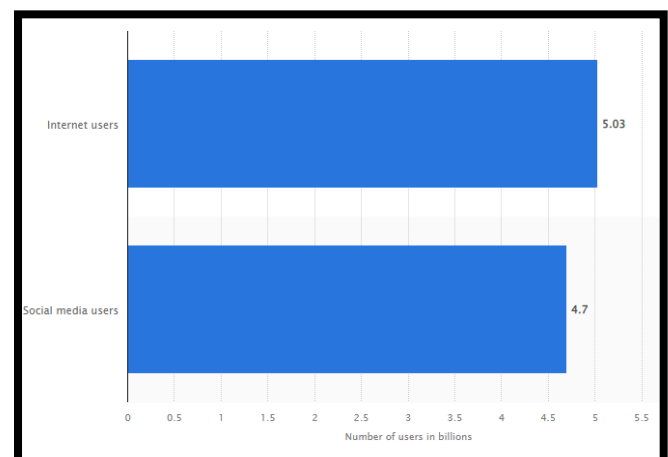
**Strategies for enhancing digital skills of teachers for improving online education**

Teachers are considered as the constant promoters of innovation in every school. In tandem with enriching the overall learning experience of the student and teachers, digital technology has emerged as potential solutions for provisioning quality educational content, motivating and engaging learners, tailoring various effective approaches and most importantly ensuring education is relevant to the contemporary world [16]. However, by integrating ICT technologies and online education, many educators have been identified to be not possessing necessary competency and skills for academic usage that emerge as potential challenge for them while teaching students. Hence, there is a significant requirement to adapt effective strategies for enhancing key skills of teachers towards fostering online education and thereby overcoming the existing issues of digital illiteracy.

**Investing in teacher’s tech education:** Tech education for the educators provides support to them in using various tools

and thereby enhancing their skills. Development of skills through effective resources emerges as one of the most crucial for the individuals. On this note, getting various resources through tech education provides support to the educators in developing better understanding of the devices that can further support in fostering online education [17]. Usage of computer, laptop and tablet can be the effective instruments for getting scripted plans of education that can also support in enhancing knowledge of teachers.

**Emphasising on using internet and social media:** Usage of internet and social media is one of the most emerging things in the contemporary world. However, the usage of social media rate in the global world has been identified to be 4.7 billion as of July 2022 that signifies approximately 59% of the global population uses social media. In accordance with that, the rate of internet users has been identified to be 63.1% of the total global population during the same time period [18]. Hence, using social media and the internet can not only be an effective option for the teachers in enhancing their digital knowledge but also be a key solution for overcoming digital illiteracy.



**Figure 3:** Number of social media and internet users worldwide (July 2022) [18]

**Increasing number of digital competency academics:** Digital competency academics are one of the best options for the teachers that can provide them support in indulging in using various effective and innovative technologies and thereby enhancing their key skills while overcoming digital illiteracy. Getting attached with such academics can also be supportive for cooperating and collaborating with other learners and thereby applying their skills that can be further supportive for enhancing skills. Government initiatives are another major crucial aspect for this aspect that can provide vocational training to the teachers for enhancing their skills.

**Sharing best practices:** Through this procedure, teachers can get opportunities for sharing their best practices with each other as well as uploading the scenarios regarding implementing ICT testing in the classroom. The overall aspect of sharing skill can emerge as supportive for them, in enhancing their technical skills and thereby overcoming the existing issues in an effective manner. Therefore, all these

aspects can be the best possible options for the teachers in improving digital literacy for enhancing their teaching ability through online education.

### DISCUSSION

Teachers, with their effective skills and academic knowledge, always perform with their best possible ways for delivering socio emotional and educational skills in terms of enhancing long term life outcomes of students. Following this, the efficiency of teachers is crucial for continuing the educational procedure irrespective of any disruptive situation. However, digital illiteracy has been identified to be the inefficiency of an individual in using various digital media that emerge as potential challenge for the educators while conducting online education. Considering the overall benefits of time efficiencies and availability of resources in any place, online education has emerged as one of the most effective solutions for conducting educational procedures [19]. Although usage of digital media has drastically increased during recent times, the COVID-19 pandemic has been the most challenging situation for enhancing the rate of online education. On this note, digital literacy of the teachers has always been one of the core challenges resulting in minimising the success rate of the process and hampering various essential tasks.

Along with that, inefficiency of digital skills can result in facing many adverse situations such as identifying the best media for audio or video conferencing while teaching. Digital illiteracy can thus result in advocating various challenging situations in terms of conducting online education. There is also a chance of minimising the cooperation and collaboration and facing issues in sharing teaching materials. COVID-19 pandemic has forced approximately 1.4 billion students to stay home and thereby disrupting their education [20]. Therefore, there is a significant requirement to adopt various measures such as indulging the teachers in tech education through various digital competency academies and most importantly using the internet and social media with a view to overcome the issues of conventional education. Besides this, government initiatives for providing training and enhancing their skills can be another effective option. All the mentioned aspects can provide support to the educators in not only overcoming their existing issues in conducting online classes but also enhancing their key skills as well.

### CONCLUSION

Digitalisation and its impact have dramatically reshaped every sphere of life in terms of overcoming various existing issues of traditional methods for enhancing its success rate. In this regard, through the following study, the overall aspects of digital illiteracy and its impact in online education of the teachers have been identified. It can be seen that the global rate of internet and social media consumption has been increasing day by day and helping in enhancing the success rate of various aspects. Digital illiteracy of teachers because

of using conventional methods in many cases emerge as a potential challenge for them in managing online classes efficiently resulting in disrupting the overall aspects. Hence, in order to overcome various challenging situations such as the recent pandemic, there is a significant requirement to adopt a wide range of digital technologies for minimising the rate of inequality. Considering this, countries, policymakers as well as global citizens are required to work collaboratively on behalf of the teachers for enhancing and ensuring their digital skills and technology to educate the creators of tomorrow and thereby ensure a better future.

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