

Pakistan is least ready for digital Education

① Introduction

② What is Digital Education?

③ How Pakistan is Ready for Digital Education

a) Various digital education policies formulated to promote digitization of education

b) A number of Online digital learning platforms have been introduced to help students get quality education from distant areas

c) AI-Driven adaptive education initiatives have been taken to improve learning outcomes

d) Making collaboration with various multinational corporation and technology companies to improve access to education and reduce the number of out-of-school children

e) Several steps have been taken to improve digital education infrastructure by providing funds, wifi, devices, and expertise

f) Different digital tools have been used to improve efficiency of educational institutions' management.

g) Short-term e-learning program has been launched by Pakistan Education Task Force to teach the students basic computer literacy skills

h) A number of teacher training programs introduced to equip teachers with the necessary skills of online teaching, remote learning management, and content creation

i) Various social media apps used by teachers and students for communication

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and assignment sharing.

Q How Pakistan is not ready for digital education

a) Slow internet and its widespread unavailability make Pakistan least ready for digital education

b) Teachers and students are not aware of the know-how of the tools and apps used in digital education

③ Conclusion

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Technological advancement has revolutionized almost every sector and field of life bringing ease and prosperity to human being. Education sector is no exception to this. Many countries of the world have digitized their education system. Pakistan has also made efforts to digitize its education system by inculcating various digital practices into it. Digital education refers to the use of digital technologies to enhance and support teaching, learning and assessment. It encompasses various formats, tools and platforms to provide flexible, accessible and personalized learning experiences, consequently bridging the educational access divide between different socioeconomic groups. Pakistan has made significant progress in this regard. Pakistan has formulated various digital education policies to promote digitization of education. It has introduced a number of online digital platforms to help students in getting quality education from distant areas. Similarly, AI-driven adaptive education initiatives have been taken to improve learning outcomes. Moreover, Pakistan is making

(4)

collaboration with various multinational corporation and technology companies to reduce the numbers of out-of-school children. In addition to this, several steps have been taken to improve digital education infrastructure. Additionally, different digital tools have been used to enhance the efficiency of educational institutions management. Likewise, a number of teachers training programs have been initiated to equip teachers with the necessary skills of online learning. However, some argue that Pakistan is not ready for digital education as it has issues related to internet. Similarly, teachers and students are unaware of the know-how of the technology used in education. However, this is not true as of 2024, Pakistan has 189 million cellular mobile connections, accounting for about 71.8% of total population, with a median speed of internet around 16.7Mbps. Hence, Pakistan had made significant progress to digitise education, and is therefore fully ready for digital education.

Digital education is the use of digital technologies to enhance and support teaching, learning, and assessment. It encompasses various formats, tools, and platforms to provide flexible, accessible, and personalized learning experiences. It enhances student engagement and

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motivation, and teacher productivity and efficiency. It includes digital learning, online education, virtual learning and blended learning. There are various technologies such as IoT, blockchain, AI, big data, gamification, VR, and AR that are the backbone of digital education. Digital education is considered the apex of modern education.

To begin with, Pakistan has formulated various policies, both at a center and provinces level, to promote digitization of education. These policies aim to improve access to technology and internet for educational purposes. It will solve the out-of-school children issue by providing education free of cost at homes. It will improve learning outcomes as the traditional education system has many faults. Digital Pakistan Policy 2017 focuses on enhancing public-private partnerships, developing accessible software, and incorporating IT accessibility to boost the use of IT in education. Similarly, Pakistan has also formulated National AI Policy 2023, which aims to invest in Research and Development to propel Pakistan towards advancement in digital learning. Also, Vision 2025 Pakistan aims to extend education to every

household, provide free education to out-of-school children, and link National ID to education.

Therefore, Pakistan has formulated various policies to improve digital education.

Similarly, Pakistan has been taking AI-driven adaptive education initiatives to improve learning outcomes. AI-driven education initiatives will help in personalized learning path, adaptive assessments, real time feedback and AI-powered tutoring. This will improve learning outcome, enhanced engagement and increased accessibility. For this purpose, Pakistan has made significant strides in AI education through President's Initiative on Artificial Intelligence and Computing (PIAIC). This initiative is training a new generation of AI practitioners, and has give equal importance to teaching algorithms, data science and AI in science, Technology, Engineering and Mathematics education.

Similarly, through partnership between The City School Group and the UK-based CENTURY Tech, AI tools have been introduced to over 60,000 students across 153 schools in Pakistan, allowing personalised learning in subjects like English, Science and Maths. This will increase learning outcomes. Thus, Pakistan has introduced AI to its education system for enhancing learning outcomes.

Moreover, Pakistan has introduced a number of online digital learning platforms to help students get quality education from distant areas. An online digital learning platform is a website, application or system that provide educational contents, resources, and tools for learning to access and engage with online. It helps students to attend classes at home with improved learning outcomes. Virtual University is the first online education platform introduced by Pakistan which has benefited thousands of students in getting knowledge. Allama Iqbal Open University's online program is another example of Pakistan's online digital educational platform from where a lot of students have graduated. Similarly, the concept of Teleschool and Takmil are digital learning online platforms that have been introduced by Pakistan to help out-of-school children in getting education. These platforms are cost-effective and easily accessible to students of rural areas where there is lack of standard educational institutions. Therefore, Pakistan has introduced numerous online digital platforms which indicates that Pakistan is ready for digital education.

Furthermore, Pakistan is making

collaboration with various multinational corporation and technology companies to improve access to education and digitize its education system. These collaborations help Pakistan to introduce technology into its education system for better result. It will also help to provide access to digital tools and resources for students and teachers. Teacher will learn how to use technology effectively in classrooms and they will develop and implement effective learning process that leverage technology. Allied, an Australian manufacturer of Google Chromebooks is indeed setting up an assembly line in Pakistan. This will make chromebooks more affordable for education purposes in Pakistan. Also, Google launched its "Google for Education" platform and "Google Cs First" program to introduce coding skills to students in Pakistan. Similarly, Coursera signed a MoU with UoP University of Pakistan to offer online courses to Pakistani students. These collaborations help Pakistan to improve its digital education. Thus, Pakistan is making collaboration with technology companies to digitize its education which shows Pakistan is ready for digital education.

Likewise, Pakistan has taken several steps to improve digital education

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infrastructure by providing funds, devices, internet facility and expertise making itself ready for digital education. Infrastructure that is needed for digital education includes technology, software, devices, internet and resources. Several policies have been formulated on expanding digital access, internet connectivity and allocating separate funds for digital education improvement. Government is collaborating with telecom companies to improve internet access in remote and rural area so that students can easily get education. The PM's Laptop scheme, launched by former PM Nawaz Sharif, aims to provide laptop to deserving students. Similarly, the eLearn Punjab initiative, launched in 2018, is a flagship of the Government of Punjab that aims to improve infrastructure of digital education by providing computers, tablets and internet connectivity. Also, multimedia and smart classrooms have been provided to various schools and colleges. Thus, it shows that Pakistan has made significant progress towards digitizing its education system by improving digital infrastructure.

In addition to this, different digital tools have been used in the management of educational

(b) institutions that indicates Pakistan progress towards digital education. This improves management system of educational institutions like, administrative management, academic management, and students and teachers management. Now, there is no need of keep big sized registers for keeping school records and data like enrollment record of students and their attendance. It is cost saving and improve students and teachers engagement. Educational institutions use biometric machine for staff attendance which addresses the issue of absentism. Under the Punjab first-ever digital policy 2020, digital human resource (HR) management tools have been used to ensure attendance of staff. Similarly, the Punjab Information Technology Board has implemented the Student Information System (SIS) 2017 to digitize student data management like their attendance, enrollment and grade management. Thus, Pakistan is fully ready for digital education as it is using different tools in educational institutions management.

Additionally, Pakistan Education Task Force has launched various short-term e-learning programs to teach the students basic computer literacy skills. These skills refer to the fundamental

Knowledge and abilities required to effectively use computer and technology. This will make the students able to effectively use various technologies and tools used in digital education. These short-term elearning programs have been introduced for implementing Digital Education Programs. Computer literacy skills like Key-boarding and internet navigation are taught to students. Thus, Pakistan Education Task Force has developed short-term elearning courses to teach basic skills related to digital tools used in digital education making itself fully prepare for digital education.

Also, Pakistan has introduced teacher training programs to equip teachers with the necessary skills required for online teaching, remote learning management, and content creation. Through these programs, teachers learn basic computer skills, lesson planning and delivery of online classes, online communication skills, and the use of multimedia and online conferencing tools. They have been introduced after collaborating with various non-profit organization. The Citizen Foundation, a non-profit organization, has introduced teacher training programs focusing on

(12)
in equipping teachers with online teaching skills by offering virtual workshops, training modules, guidance on managing remote classrooms and using digital tools for lesson planning and student assessment. Similarly, Duxbeen, another organization, in 2020, introduced online workshops and crash courses for public and private school teachers to help them transition to online teaching environment. Therefore, Pakistan has introduced various programs for teachers to equip them with skills required for online teaching that indicates that Pakistan is prepared for digital education.

Besides, both students and teachers use various social media apps for communication and assignment sharing. These apps include whatsapp, google classroom, and Telegram. They can be easily used for communication and materials sharing. For this purpose different groups are made on these apps to effectively manage class work and convey message regarding class timing and other planned events. Whatsapp has over 45 million users in Pakistan making it a good source for communication and updates. Similarly, google classroom is used for assignment sharing, quizzes and classroom management. Likewise on facebook, closed groups are created for a class

(13)
for assignment sharing and communication between students and teachers. Another app, Edmo, is used by LUMS for course management. Using these apps enhanced communication, increased accessibility and real-time feedback. According to report, 70% of Pakistani students use social media for educational purposes. Thus, Pakistani teachers and students use social media apps for communication and updates which shows Pakistan's readiness for digital education.

However, some argue that Pakistan is not ready for digital education because of slow internet and its widespread unavailability. For digital education, there is a need of high speed internet and its availability. In Pakistan, internet speed is too low to play live classes or download large pdf files. Also, in many rural areas, internet is not available and students cannot attend online classes. Students of rural areas have to go to cities for attending online classes. However, it is not true as there are 11 million users of internet at present representing 45.7% of the total population. Also, median mobile speed internet connection speed is 16.67 Mbps, sufficient enough to play online videos and downloads.

large files. Therefore, Pakistan has made significant progress to increase its internet speed and availability, making itself ready for digital education.

Similarly, they also argue that teachers and students are unaware of the know-how of the technology and tools used in digital education indicating that Pakistan is least ready for digital education. It is necessary that both teachers and students have the basic skills of how to use the tools and apps used in digital education. However, in Pakistan teachers and students lack these skills making digitization of education a distant dream. However, it is not true as different training programs have introduced for teachers and students to teach them basic computer skills and know-how of the tools used in digital education. Short-term e-learning program, launched Pakistan Education Task Force, for students and teacher training program launched by 'The Citizen Foundation' are examples in this regard. Therefore, students and teachers in Pakistan know the use of tools and apps used in digital education making Pakistan ready for digital education.

To conclude, it can be said that Pakistan is prepared for digital education as shown by various efforts made in this regard. Some argue that Pakistan is not ready for digital education as it has low internet speed. Similarly, they also argue that teachers and students have no knowledge of how to use the tools and apps used in digital education. However, they ignore the fact that there are 11 million active internet users, and internet speed is 16.7 Mbps, which is enough for playing online videos. Pakistan is making significant progress towards digital education. Various digital education policies have been formulated to promote digitization of education. A number of online platforms have been introduced to help students to get quality education from distant areas. Similarly, AI-driven adaptive initiatives have been taken to improve learning outcomes. Likewise, Pakistan is making collaboration with multinational corporation and technology companies to improve access to education and reduce the number of out-of-school children. Moreover, various steps have been taken to improve digital education infrastructure by providing funds, internet and devices used in digital education. Besides,

a number of ⁽¹³⁾ social media apps have been used by teachers and students for communication and assignment sharing. In this digital era where every field of life is getting digitized, digital education is inevitable making education accessible to all. All this is the result of technological advancement, which brings easiness to human in one way or other way.