CURRENT CHALLENGES AND OPPORTUNITIES IN IMPLEMENTING DIGITAL LEARNING IN SECONDARY EDUCATION

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ABSTRACT: The education system environment is expected to mitigate unforeseen natural and man-made pandemics such as the 2020 COVID-19 pandemic through significant changes associated with the digitization of parts of the system. Across the world, the digital revolution has facilitated open access to information. Digital education has been around in many forms for some time, but it is primarily an innovation of the last few decades. The world faces major challenges, especially in developing countries. Developing country technology is confined to metropolitan areas. Most of these countries are still rural and lack the necessary infrastructure for digital education. This article discusses current challenges and opportunities in the implementation of digital learning in secondary education. This study shows that technology and digital learning are the hallmarks of this generation of students and therefore necessary and relevant for education in the Indonesian context. This article examines the opportunities and challenges faced by the implementation of online mode education (teacher skills in technology and pedagogy, managing technology to meet student needs, etc.) from the perspective of students, teachers and institutions/universities. increase.

KEYWORDS: Digital Learning, Virtual Learning, secondary education, Challenges, Opportunities.

I. INTRODUCTION

Digital Education is internet-based education that relies on the internet and other electronic instruments (Computer, Mobile, Tab, Radio, TV, etc.) for interaction and communication between the teacher and students. It can also be termed e-learning, computer based education, web-based learning, distance education, etc [1].

Information Communication Technology (ICT) is not only a trend in the education sector but also a need for providing qualified teaching and learning activities. Some schools are very enthusiastic and accept the value of using technology because it can improve the quality of teaching and learning. However, some people query the readiness of teachers to use learning technology in terms of their skills and pedagogical orientation [2].

Digital education also referred to as Technology Enhanced Learning (TEL) or e-learning, is the creative use of digital resources and innovations while teaching and learning. Exploring the use of emerging technology offers teachers the ability in the classes they offer to design interactive learning environments, which can take the form of mixed or entirely online programs and courses. Three related items in education are made possible by digital technologies: teaching without physical contact, immersive practice, and contact on-site. Clickers were an early device to improve interaction in class, but now the pervasiveness of smartphones enables students to use these devices as an alternative medium of contact with teachers and between students [3].

The provision of electronic or digital educational facilities is known as e-learning. This involves materials for studying,

preparation, knowledge transfer, etc. The successful implementation of e-learning is achieved with the aid of technology, modern pedagogies, degree of instructor and facilitator participation, quality of the programs, and other demographic factors. This article discusses the opportunities and challenges involved in delivering digital education.

The challenge is how to prepare skilled teachers to use technology and to direct them with pedagogical aspects. Another concern is how to help teachers combine pedagogical competencies with technology skills in learning [4]. This means that teachers must develop their teaching methods and approaches to students and understand how the learning takes place. Students need to be able to collect and use online information in a world that is increasingly adopting digital media as the principal means of communication. To learn to access the web objectively and effectively, they must be acquainted with the text formats encountered online. The typical texts encountered online involve certain processes of reading, such as determining the confidentiality of sources, drawing inferences from multiple texts, and navigating within and across pages, more than conventional printed texts do. Both of these processes can be learned and practiced in school environments.

Curriculum development and teaching design is a necessity because online learning enables students and faculty members conveniently in terms of time, location, and access. The faculty must consider that the role of teaching is to transform and expand knowledge and not just transmit it. We also think that faculty should provide a cultural and situational context for their education.

The faculty must also offer a personal approach to students through its design. With cultural, situational, and personal approaches, teaching and learning will be relevant and contextual. Faculty skills are more complete because they must have the knowledge and know the content but also have technical skills [5]. Faculty technology skills are an essential factor because online classes will not occur if faculty members fail to undertake. This also impacts on the ability to design course content and use the system. The design of course content is very important to provide aspects of pedagogical learning and to provide quality content and delivery. A good system depends on the type of program selected by the school.

This paper aims to see how the challenges and Opportunities of applying technology in learning for secondary education, especially in terms of pedagogy. This research confirms that aspects of pedagogy are essential when schools implement technology in learning. However, schools may overlook the point when teachers concentrate too much on technology.

II. LITERATURE SURVEY

A. Karim, F. H. Shahed, M. M. Rahman, and A. R. Mohamed, et al. [6] states about the emergence of online learning. The era of globalization is driving real alteration with the advent of technology. The delivery of flexible learning materials has been emphasized. Classrooms are no longer the only place to influence education. The current popular way to spread knowledge is online. Online teaching has made teachers passionate about academic change. E-learning is a potential solution for lifelong learning and workforce training in the workplace. Elearning technology in education electronically distributes learning

material to students who live in rural areas through computer networks. Kukulska-Hulme, A., Norris, L. & Donohue, J., et al. [7] propose a new framework for MALL which is "designed to stimulate thinking around key aspects of mobile-enabled language learning" (p.2) and to ensure both the careful use of mobile devices and the effective design of learning activities. The pedagogical framework is based on four connecting concepts and four spheres.

K. Gyabak, A. Ottenbreit-Leftwich, and J. RAY et. al. [8] emphasized that designing is the centre of the teaching process. Therefore, teachers must provide additional responsibility in the design of instruction and incorporate attractive teaching methods, to target the needs of 21st-century students. The old perception perceived that teachers are not important in the content design process because they are only delivering instructions. It must be changed because teachers also apply design and place it in a daily context. They provide a unique perspective and set of knowledge for their instructional design process.

J. Y. Park, et. al. [9] states that online learning must take into account the need to design curriculum and content of delivery format in a pedagogical and technologically effective way. In both cases, the teacher's expectation and commitment are very essential so that the program can be implemented well. Smith, G.G., Passmore, D., and Faught, T., et. al. [10], presents the challenges of online nursing education. It has been found that online nursing exhibits unique challenges, such as providing nursing students with online authentic learning experiences that relate to real world nursing situations.

III. CHALLENGES AND OPPORTUNITIES IN DIGITAL LEARNING

This research utilizes the Neuro research method as a way to collect and analyze data. This method synthesizes qualitative and quantitative ways in procedures, analysis, and conclusions. Using Neuro research, researchers analyzed education technology, curriculum design, and online learning in Indonesia and identified several challenges if online learning was implemented in secondary education.

Challenges in Digital Education:
Diverse researches have been reviewed and it has been found most students and teachers faced the same kind of challenges.

Internet connection: Major challenge faced by both students and teachers is slow and exorbitant internet connection which is the backbone of online education. It has been especially faced in non-urban areas of developing countries which results in longer waiting times and ultimately increases student's frustration and confusion.

Unfamiliar Technology and resistance to change: All the students and teachers are not aware of latest technology. Moreover, technology is changing day by day. Furthermore, there is resistance to change from traditional teaching to online teaching/learning. Online learning requires the ability and skills of teachers. Faculty technology skills are an essential factor because online classes will not occur if faculty members fail to undertake. This also impacts on the ability to design course content and use the system.

Less Social Interaction: Learners have a low level of engagement and interest due to the

passive nature of the online lecture. In traditional classrooms, the participants have the opportunity to collaborate, communicate with each other. They can share experiences, problems, support, and friendship which helps them not only in reallife learning but also improves their mental and physical health. This is required for better personal and professional development. This opportunity is not there in online classes. In nursing/medical education where it is required to have good communication between the staff and patients, Social interaction becomes a mandatory requirement.

Evaluation and credibility of degrees: In online education, it becomes a challenge to evaluate the students as teachers or Educational Institutes have no direct control over them especially in the scenario of Covid -19. Moreover, there are more chances of fake degrees online so it becomes a question on the credibility of degrees.

Computer Literacy: To work effectively in an online environment, both students and intermediaries must possess a basic level of computer literacy. They need to be able to use a range of search engines, for example, and to access the World Wide Web easily, as well as to be familiar with newsgroups, FTP procedures, and e-mail. They cannot excel in an online program if they do not have these technological tools; a student or faculty member who cannot work on the system can pull the whole program down.

Lack of Teacher-Student Physical Interaction: How much teacher contact learners get on a physical campus is easy to underestimate. Then there is the instruction time itself, with the question-and-answer in real-time. Then right before and after

training, once hours, chance encounters in the corridor, there is an opportunity for discussion ... all possibilities that are not accessible for digital education.

Need for Self-Discipline: In a tertiary education classroom environment, many students struggle with self-discipline. They don't have parents and teachers constantly checking in for the remainder of their time. If they miss homework to go socialize, they don't get grounded. It takes time for others, and the intrinsic drive to buckle down and do the job. It's even easier to "skip class" or place an assignment on an online course.

Poor Time Management: This challenge is connected to the aspect of self-discipline, but it deserves its entry. One of the main benefits of this approach is that students can learn at their speed. The profit can also be a liability, however. At the end of the term, there is a point at which "their own pace" becomes "procrastination and a crazy scramble." It is necessary to help students maintain their pace well before the deadline.

Digital Education is not suitable for Practical Courses: For practical activities in tertiary education, digital and e-learning are incompatible. E-learning offers realistic session-related knowledge and preparation, but instead of mastering preparing, the learner does not measure their output or real-time experience. Knowing things and moving them in an unsystematic way is pointless.

Opportunities in Digital Education:
Despite of above mentioned challenges the whole world is adopting digital education. This is because of its opportunities i.e. flexibility in learning, cost effectiveness,

global exposure, better skills and employability.

Innovation Imperative in A Global and Competitive Workplace: Economic indicators, particularly in the United States' high-wage industries, have led towards a decline in jobs and new firm growth. The competitive effect of a working environment compounds these trends. As shown by the life sciences industry, innovation and entrepreneurship are important to driving job creation.

Enhancing Parental and Students Engagement: There is promising evidence that the use of digital equipment and software for direct communication with parents would improve compliance with teacher demands for involvement, behaviour, and learning support among learners.

The flexibility of learning: As online education is accessed from the Web, so it is accessible anytime and everywhere where the internet is available. Students need not to travel from long distance to study a course. Moreover, the students who are working or having other liabilities have the opportunity to continue their studies.

Improved skill and confidence: There are numerous standardized courses available online and taught by knowledgeable and well-known educators. Now everyone has access to them which was not there in the case of traditional education.

Better Employability: Online education act as a medium to bridge the gap between candidates and respective employers. There is an abundance of courses available on advanced technologies in almost every domain i.e. cloud, IoT, Big Data, Software

testing, Hospitality, Nursing, Coding, and many more. Students can maintain their skills as per industry expectations.

Blended Model: Now a day's blended Model is becoming popular in which students can take benefit from Online learning as well as traditional teaching. Both student and teacher need to be present and online teaching methodologies are blended into traditional methods.

More Productive classes: In traditional classrooms teachers spend most of the classroom time in controlling students. Now in digital learning they can concentrate more on teaching.

IV. CONCLUSION

In this paper, presents current challenges and opportunities in implementing Digital Learning in secondary education. Digital learning is considered more creative because it helps students in active learning, creative, and fun way. Digital teaching cannot replace traditional teaching because cannot ignore the importance of traditional teaching for development of physical and mental health. Even after the challenges, Digital education is becoming popular day by day due to the opportunities it is providing to society and it's a need of the hour too. Secondary education in Indonesia has some challenges when technology and online learning in their teachinglearning activities are implemented. In one side, technology and online learning is the part of their student'slives. On that basis, the students need technology. On the other hand, the schools have to consider the skills of teachers and the pedagogy. Teachers should be prepared and motivated has to opt for effective online teaching methodologies i.e., they need to take care of voice modulation as voice is the only media

in online lectures. They need to engage every student. Most importance challenges and Opportunities of Digital Education are described in this paper.

V. REFERENCES

[1] Vasilina Anatol'Evna Kastornova, Oleg Aleksandrovich Kozlov, Iskandar Shamilevich Mukhametzianov, Viktor Pavlovich Poliakov, Irena Veniaminovna Robert, Tamara Shikhgasanovna Shikhnabieva, "International Experience of Digital Technologies Applying in Secondary Education Organizations Activities", 2022 2nd International Conference on Technology Enhanced Learning in Higher Education (TELE), Year: 2022

[2] Galina Nikolayevna Suleymanova, "Information and Communications Technology Integration in Language Education", 2021 International Conference on Information Science and Communications Technologies (ICISCT), Year: 2021

[3] Paulo Alves, Carlos Morais, Luísa Miranda, Maria João V. Pereira, Josiana Vaz, "Digital tools in higher education in the context of Covid-19", 2021 16th Iberian Conference on Information Systems and Technologies (CISTI), Year: 2021

[4] Maria Lazareva, Lyudmila Zvezda, "Digital Technologies in Preschool Education: Risks and Prospect", 2021 1st International Conference on Technology Enhanced Learning in Higher Education (TELE), Year: 2021

[5] Sasithorn Chookaew, Suppachai Howimanporn, Pornjit, Pratumsuwan;Warin Sootkaneung, Charoenchai Wongwatkit, "Improving Pre-Service Engineering Teacher's Teaching Skills with a Blended Micro-Teaching Technique",

2019 International Symposium on Educational Technology (ISET), Year: 2019

[6] A. Karim, F. H. Shahed, M. M. Rahman, and A. R. Mohamed, "Revisiting innovations in ELT through online classes: An evaluation of the approaches of 10-minute school", Turkish Online J. Distance Educ., vol. 20, no. 1, pp. 248266, 2019.

[7] Kukulska-Hulme, A., Norris, L. & Donohue, J., "Mobile pedagogy for English language teaching: a guide for teachers". London: British Council, 2015. Retrieved on 5 February 2016, from http://englishagenda.britishcouncil.org/researchpapers/mobile-pedagogy-english-language-teaching-guideteachers

[8] K. Gyabak, A. Ottenbreit-Leftwich, and J. RAY, "Teachers Using Designerly Thinking in K-12 Online Course Design", J. Online Learn. Res., vol. 1, no. 3, pp. 253274, 2015

[9] J. Y. Park, "Design education online: Learning delivery and evaluation", Int. J. Art Des. Educ., vol. 30, no. 2, pp. 176187, 2011

[10] Smith, G.G., Passmore, D., and Faught, T., 2009. "The challenges of online nursing education", The Internet and Higher Education, 12(2), pp.98-103K Elissa, "Title of paper if known," unpublished.