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I N T E R N A T I O N A L
VIRTUAL INNOVATION CHALLENGE
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CREATIVE INNOVATION CARNIVAL
(CIC) 2021

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OPTIMISING EBOOK TO OVERCOME STUDENTS' ONLINE LEARNING CHALLENGES

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Highlights: The impact of the COVID-19 pandemic has been one of the major concerns not only to health but also towards education. Students are experiencing a drastic change in learning whereby physical interaction is replaced with virtual interaction. The sudden change in the learning environment has caused the full implementation of online learning, and students are forced to be away from their learning institutions. Consequently, online learning has intensified the occurrence of digital divide during the pandemic. This study aims to examine how the use of ebooks (electronic books) and their optimisation can overcome these problems in the current learning environment.

Keywords: COVID-19 pandemic, education, online learning, digital divide, ebooks

Introduction

The COVID-19 pandemic has had a substantial impact on education and research in universities throughout the world. In order to avoid the spread of COVID-19 infection among the locals, many countries have to take precautionary measures by closing the academic institutions. Since many institutional libraries have been closed, students are obliged to use electronic materials such as ebooks from their respective university libraries when seeking academic information. Recent research conducted in a national university in Japan reveals an increasing number of access to ebooks during the pandemic period (Kodama et al., 2021). In Malaysia, ebooks are not commonly used and popular as most reference books are available in libraries in the form of printed versions or so-called 'hardcopies'. Although there are some publishers who did provide the PDF (portable document format) version of their books, they are still considered as not interactive enough, especially in catering to the need of courses or subjects that requires simulation or demonstration of activities. Therefore, it is suggested that ebooks could be one of the alternative ways to replace the existing printed books, particularly during this time of crisis.

Problem Statement

The closure of most educational institutions as a result of COVID-19 outbreak has changed the conventional teaching and learning style from face-to-face to online mode. The drastic change in the teaching and learning mode has caused many to be unprepared. Some common challenges in the aspect of education include the digital divide, uncertainty regarding student's participation in the online activities, and the increase in effort of the teachers to make the rapid transition to a new online mode of teaching and learning (Majumdar et al., 2020). The main concern during this hard time is that fully online learning has caused deprivation in student's learning qualities in which mostly prompted by digital divide. Poor network connectivity, power cuts, broadband issue, poor audio and video quality, problems with the app, getting disconnected in between the classes and finding it hard to log in again are among of the implications of online learning during the pandemic (Nambiar, 2020). Therefore, it is essential to introduce ebooks in teaching and learning as an alternative way to cope with the issues of internet and data usage problems especially during this pandemic period where many people have been impacted economically. Ebooks can be used offline and less data usage are required to download ebooks into digital devices.

Ebooks

Ebooks can be described as "the electronic version of printed books which can be read on a personal computer or a handheld device designed specifically for the purpose" (Anuradha & Usha, 2006; Öztürk, 2021). Some special features that distinguish ebooks from the PDF version of books are the addition of multimedia features such as pictures, animation, sound, music and video which can be viewed on any electronic devices such as laptop or desktop computers, as well as other portable gadgets (Öztürk, 2021). One example of an ebook that contains all features coined by Öztürk (2021) is 21st Century Communication: Listening Speaking and Critical Thinking by Lynn Bonesteel. This book is currently utilised by the instructors of Intensive Communication Skills in Universiti Malaysia Kelantan (UMK). Figure 1 shows some of the features offered by the ebook:

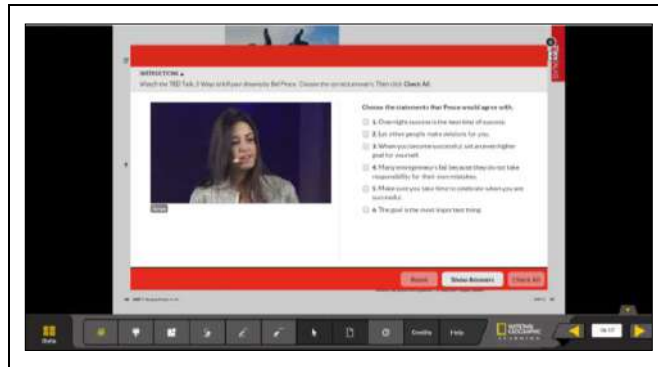


Figure 1: Example of the ebook interface utilised by instructors in UMK

Based on the sample of ebooks displayed in Figure 1, the interface of this version (before the quiz section appeared) is of the same interface shown in the actual physical book. However, it transferred into an ebook with the extensions of pictures, audio and video and interactive quizzes, without even having to be connected to the internet. Such wonders work with the help of a full package of materials such as audio, video and the ebook application that need to be copied and saved in the device that users are using. In the case of this sample, a laptop or desktop computer is much preferable as users can save the folder containing the application and the materials provided by the publisher in the hard drive and it can be opened at any desirable time. In teaching Intensive Communication Skills course, students will be exposed with pronunciation and the utilisation of tones in their speech. The sample ebook is very helpful throughout the process due to its ability to display videos, play audio and help students to practice their speech through imitation and self-reflection, without even having to go online. Nevertheless, not many subjects generally have their own ebook or got an electronic version of the book that they have been using before the pandemic struck. Such situation has cause instructors to rely on students not only to get physical book, but also to search online for supplementary materials such as videos, audio and exercises, which can be in a way deviating from their subjects. By having the same content integrated with interactive features, ebooks could help in facing the challenges of online learning. Other than that, by slowly introducing and encouraging local publishers to produce ebooks, it means more trees on earth will be saved. Thus, producing ebooks will reduce the usage of papers in the manufacturing process.

Confronting Digital Divide using Ebooks in the Era of COVID-19 Pandemic

Prior to the strike of COVID-19 outbreak, digital divide is commonly referring to a sharp divide between two distinct groups in terms of physical access to technology (Azubuike et al., 2021). However, the term digital divide also broadly refers to the "inequalities of internet access" (Büchi, 2017). Recently, the outbreak of COVID-19 pandemic has intensified the occurrence of digital divide particularly towards education. Students who live in rural area and those with low socioeconomic background often faced bad experience in online learning. Thus, it has enforced educators to come out with various teaching styles to overcome these challenges.

Meanwhile, some approaches have been taken to deliver better solution towards online learning challenges such as providing free internet data and digital devices for low income students. Yet, the approaches seem to be inadequate as the pandemic has been striking for over a long time of period. Thus, by enhancing the utilisation of ebooks in teaching and learning, it perhaps offers a solution towards online learning challenges. In addition, distributing ebooks will not require high bandwidth as compared to the conventional materials such as videos and website links (Majumdar et al., 2020). As ebooks can be used offline, it will not only benefit those who have financial problem regarding online learning (eg. insufficient internet facilities at home), but it will also help them to sustain in the long run.

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References

- Anuradha, K. T., & Usha, H. S. (2006). Use of e-books in an academic and research environment: A case study from the Indian institute of science. *Program: Electronic Library and Information Systems*, 40(1), 48–62.
- Azubuike, O. B., Adegboye, O., & Quadri, H. (2021). Who Gets to Learn in a Pandemic? Exploring the Digital Divide in Remote Learning During the COVID-19 Pandemic in Nigeria, *International Journal of Educational Research Open*, Vol. 2–2. <https://doi.org/10.1016/j.ijedro.2020.100022>.
- Büchi, M. (2017). Digital Inequalities: Differentiated Internet Use and Social Implications (Doctoral Dissertation University of Zurich https://www.zora.uzh.ch/id/eprint/148989/1/Buchi_2017_DigitalInequalities.pdf
- Kodama, M., Ishita, E., Watanabe, Y., & Tomiura, Y. (2021). Usage of E-books During the COVID-19 Pandemic: A Case Study of Kyushu University Library, Japan. In: Toeppe K., Yan H., Chu S.K.W. (eds) Diversity, Divergence, Dialogue. iConference 2021. Lecture Notes in Computer Science, vol 12646. Springer, Cham. https://doi.org/10.1007/978-3-030-71305-8_40
- Majumdar, R., Chen, M. -. A., Flanagan, B., & Ogata, H. (2020). E-book based learning in times of pandemic. Paper presented at the ICCE 2020 - 28th International Conference on Computers in Education, Proceedings Vol. 1: 680-682.
- Nambiar, D. (2020). The Impact of Online Learning During COVID-19: Students' and Teachers' Perspective. *The International Journal of Indian Psychology*. Vol. 8 (2): 783-793.
- Öztürk, B.K. (2021). Digital reading and the concept of ebook: Metaphorical and analysis of preservice teachers' perceptions regarding the concept of ebook. *SAGE Open*. Vol. 11: 1-12.