

A Printed Textbook or E-Book Use? A Lens View of Framework on Facilitating Flexible Learning during COVID 19

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The ongoing Covid-19 pandemic has not only impacted the way teachers-students interaction viceversa, but also contributed to growing concerns around textbook affordability. This crisis forced bookstores and libraries to close across the country, which has ignited a revival in reading electronic books. Taking this into account, this study provides a synthesized overview of a textbook dilemma: digital or paper? This research applied in literature study that uses books and other literature as the main object. The result depicted a synthesis through an unified review of the key literature from journal articles on 2006 to 2020 concern with lens views on material in facilitating flexible learning during pandemic. It starts with an introduction of the definition of textbook in relation to reading activity during COVID-19. Then, this study presents and analyses textbooks for sustainability development. The discussion continues with critiques on the impact of digital materials on usage during the covid-19 pandemic. Finally, the paper suggests a theoretical framework to convey the principal processes on facilitating flexible learning during education disruption. Conclusion and recommendation for further research are also made to best capture the research results relevant to the current topic.

Keywords: printed book, e-book, flexible learning, Covid-19

Introduction

Globally, everything has stopped. Projects have been delayed, workplaces closed and schools shut down during the COVID-19 pandemic (Onyema, E.M et al, 2020; Owusu-Fordjour, C., Koomson, C. K, & Hanson, D. 2020; Radha, R et al. 2020). However, students need to continue their education through alternative as keeping schools open poses a safety risk for students, namely online learning system (Inter-agency Network for Education in Emergencies, 2020). Therefore, many countries have adopted online learning system. Schools in Asia, UK, and United States, prepared for online learning by promoting flexible online learning to their students, ensuring they had access to learning materials.

Undoubtedly, the ongoing Covid-19 pandemic has not only impacted the way school institutions interact with their students, but also contributed to growing concerns around textbook affordability.

Review

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To provide students with the best support some scholars argues that read digital books or e-book more useful rather than printed or paper books (Dabbagh, N., & Kitsantas, A. 2012; Garrison, D. R., & Vaughan, N. D. 2008; Purwanto, A et al. 2020; Sun, L., Tang, Y. & Zuo, W. 2020). They believe that using e-books will be beneficial to the readers due to its practicality as well as the environment, although some researchers believe it comes along with a certain drawbacks.

Based on preliminary observations globally, it was obtained an initial assumption that much of the research mentioned above has been conducted on learning system related a suitable material on facilitating flexible learning during COVID 19 in the world including the behaviors of students, and teachers in use it. However, little is known about how the principal processes on facilitating flexible learning during education disruption and which do students prefer during Covid 19 (Tikhonova, E., & Raitskaya, L., 2018). Thus, the primary purpose of this paper is to synthesize theory and practice of suitable materials (printed or digital) on facilitating flexible learning during educational disruption by:

- 1) Highlighting framework on facilitating flexible learning during COVID 19,
- 2) Synthesizing literature in term of advantages and disadvantages printed book and textbook,
- 3) Discussing material which do students prefer during COVID 19?

Applying Online Learning to Provide Flexible Education

Nowadays, increasing emergency situation of COVID-19 driven several countries adopted various flexible teaching and learning approaches in their education systems (Huang, R.H., Liu, D.J., Tlili, A., Yang, J.F., Wang, H.H., et al. 2020). The term of flexible on teaching and learning has been introduced and used by many scholars for more than twenty years (Collis, B., & Nikolova, I. 1998). The term is often purposely integrated into multiple components of higher education, including course delivery, logistics, entry requirements, time, locations, pedagogies, course content, assessments, and learning outcomes (Wilkinson, Forbes, Bloomfield, & Gee, 2004; Willmot & McLean, 1994). Lee and McLoughlin (2010) defined flexible learning as a “set of educational approaches and systems concerned with providing learners with increased choice, convenience, and personalization to suit their needs. In particular, flexible learning provides learners with choices about where, when, and how learning occurs, by using a range of technologies to support the teaching and learning process.”

In this study, the authors synthesize flexible pedagogy as a freedom learner-centered educational strategy, which provides choices from the main dimensions of study, such as time and location of learning, learning sources for teaching and learning, instructional approaches, learning activities, support for teachers and learners in online educational system. In online learning, the author assumes that learners can interact directly with the learning content that they find in multiple formats such as video, audio, computer conferencing, chats, or virtual world interaction, etc (Holmes, B., & Gardner, J. 2006; Kirshner, B., Gaertner, M., & Pozzoboni, K. 2010; Dhull, I., & Sakshi, M. 2017; Cortes, S. T. 2020. Turcanu, D., Siminiuc, R. and Bostan, V. 2020). Additionally, they can also choose to have their own learning sequenced, directed, and evaluated with the assistance of a teacher by using a variety of internet facilities (Joan, D. R., 2013; Zweig, J. S., & Stafford, E. T., 2016; Esposito, S., & Principi, N, 2020).

Although online learning is no longer a new norm of paradigm in education field, but previous reports reveal several challenges. Not only for learners' readiness and lack of variation in pedagogy, but also lack of infrastructure that facilitates online teaching, and students do not have access to

computer hardware and internet services (Khan, A., Egbue, O., Palkie, B., & Madden, J., 2017). So, how to apply flexible education? One of the keys to ensure effective online education is reliable network infrastructure. It will cover a number of related learning modes, methods, and movements.

Reliable network infrastructure is crucial to support different activities, such as synchronous cyberteaching using video conferencing, asynchronous cyberlearning by accessing or downloading digital learning resources, and collaboration with peers via social software, etc. Schools should test and evaluate the network bandwidth and increase it if necessary (Smart, K., L., & Cappel, J. 2006; Demetriadis, S., & Pombortsis, A. 2007; Connell, C., Bayliss, L., & Farmer, W. 2012; Putri, R. S., et al. 2020). To ensure a reliable network infrastructure that can support millions of students studying at the same time, the following strategies can be applied.

Methodology

This research employed a literature study that uses books and other literature as the main object. According to Creswell, (1996) library research defines as a type of research that produces information consists notes and descriptive data contained in the text delivered. In library research, the method used for collect research data in the form of library data that already selected, searched, presented and analyzed (Nunan, 2008: 76). The sources of data in this research were collected by looking at library data whose substance requires processing philosophically and theoretically.

This research depicted a synthesis through a unified review of the key literature from journal articles on 2006 to 2020 concern with lens views on material in facilitating flexible learning during pandemic. The information in question comes from various scientific articles related to the use of learning materials during the COVID-19 pandemic. The scientific articles in question are articles obtained from trusted journals and international journals indexed credible.

In the process of data collection from the literature, the authors utilized several strategies in finding pointful articles. First and foremost, we reviewed the *Handbook on Facilitating Flexible Learning During Educational Disruption in Chinese* (Huang, R.H., Liu, D.J., Tlili, A., Yang, J.F., Wang, H.H., et al. 2020) to identify key articles on maintaining uninterrupted learning in COVID-19 outbreak in the context of country with a central pandemic. Then, we selected a number of key words and combinations of keywords in order to extend a large number of literature focus on textbook. In this study, the authors selected the term flexible learning, digital book and printed book, explored the critiques on the impact of digital materials on usage during the covid-19 pandemic, which assist learners in facilitating their flexible learning during education disruption.

Last but not least, the authors also put limitation of the search scope to the articles published in English which were discussed about printed book use or e-book use. It is carried out through books, journals, and scientific works on listening skills, learning media, and films. Then selected, presented and analyzed as well processed so that it is concise and systematic. Furthermore, the data were analyzed by using content analysis.

Results and Discussions

Definition of Digital and Printed Book

Digital (e-book)

Digital education is essentially a product of the past several years, the of electronic books, or e-books, area major topic of discussion for experts across the country. E-books have been around since the 1970s with the Gutenberg Project which began making plain text books freely available in the electronic format. This synthesize examines the literature to establish a definition of electronic books and discovers this is currently related more into online learning (Polanka, S. 2011; Weisberg, M. 2011; Vasileiou, M., Rowley, J., & Hartley, R., 2012; Chulkov, D. V., & VanAlstine, J. 2013; Mangen, A., Walgermo, B. R., & Brønnick, K. 2013; Shin, S. 2014; Baker-Eveleth, L., & Stone, R. W. 2015).

Originally, e-book was defined as the contents of a book made available in an electronic form (Hawkins, 2000) and this definition has become the most cited in the literature (Nelson, 2008; Tripathi & Jeevan, 2008; Liaw & Huang, 2014). It was driven by the concept of a text or book that can be read in a digital format using technology devices such as computers, smart phones, tablets or any portable reading machine (Stepanenko, K., & Torosyan, L., 2016). Throughout the literature, e-books also have been defined and described in other ways. Most research on e-books defines them as texts that are digital and accessed via electronic screens.

Hence, e-book has been perceived and translated into practice in several ways, depending on certain purpose. Regardless of all these different views and definitions of e-books, the scholars all seem to agree that an e-book involves the use of technology tools to view and read books (Khalid, A.S, et al. 2017)

Printed Book

Generally, the researcher may be referring to either a print book or an e-book. When they refer to a "print book", they are specifically talking about a physical book, printed on paper. Then, when they refer to an "e-book", automatically they are talking about the digital or electronic version of a book, which is viewed on an electronic device (Lamphear, R, 2015). It is difficult to define textbook in a single definition. There are some definitions of textbook. Tomlison (2011) define the paper book as one the material used to help teachers teach learner. Hutchinson and Torres (1994) say that a textbook is a guide for teacher in teaching and for learner to review knowledge. It is also consider a record for measuring what has been taught by the teachers.

Furthermore, Cunningsworth's (1995) definition is as follows: A paper book is defined as an effective printed resource for self-directed learning, an effective source of presentation of materials, a source of ideas and activities, a reference source for students, a syllabus where they reflect predetermined language objectives, and support for less experienced teachers who have yet to gain confidence. (Cunningsworth, 1995). This definition seems to cover many things (Buzzetto-More, N., Guy, R. & Elobaid, M. 2007; Annand, D. 2008; Cassidy, E. D., Martinez, M., & Shen, L. 2012; Rockinson-Szapkiw, A. J., Courduff, J., Carter, K., & Bennett, D. 2013; Daniel, D. B., & Woody, W. D. 2013; Wiese, M., & du Plessis, G. 2014).

Generally, textbook is defined differently by different writers. It depends on how and in which context printed books are used. In brief, A book paper (or publishing paper) is a paper that is designed specifically for the publication of printed books.

Discussion on theoretical framework to convey the principal processes on facilitating flexible learning during education disruption

The sudden outbreak of the Coronavirus pandemic increased the changes in the education aspects globally. Since physical activity is restricted, there is more opportunity for students-teacher vice versa to spend time to read (Nelson, 2008; Tripathi & Jeevan, 2008; Liaw& Huang, 2014Esposito, S., &Principi, N, 2020). The process of shifting from face-to-face instruction to full online learningor flexible learning then also causes reading habits, accessing resources, and material preferences also change rapidly involves the use of printed book and e-book(Khalid, A.S, et al. 2017; Sun, L., Tang, Y. &Zuo, W. 2020).The summary of the usage both e-book and printed book indicates two important attentionusing of textbook in facilitating flexible learning during Covid 19. The first is related to the areas of advantages, and the second concerns the levelsof disadvantages. It seems that there is a connection between these two components in relation tothestrengths and weaknesses of both textbook. Table 1 represents below:

Table 1. E-Books vs. Print Books: What's the Difference in term of Advantages and disadvantages

TYPES TEXTBOOK	ADVANTAGES	DISADVANTAGES
E-book	Cost-Effective. less expensive than their paper counterparts (Johnson, L., Levine, A., Smith, R., & Stone, S., 2010).	Digital rights management issues (Sadon, 2010)
	Greater flexibility portability avoid physical space and heavy weight since it stored digitally (Woody, W., Daniel, D., & Baker, C. 2010)	Incompatibility with hardware and software of the e-book readers (Anuradha, K., & Usha, H., 2006)
	Multimedia friendly, It can be annotated, copy and paste text, and for some users, they are easier to read (Doering, Pereira &Kuechler, 2012)	Health Problems heavy use of e-books may result headaches and eyestrain (Liaw& Huang, 2014)
Printed Book	No worries about batteries, passwords, viruses or crashes (Jonathan Bunkell& Sharon Dyas-Correia, 2009)	The cost of printed books is more expensive than e-books (Johnson, L., Levine, A., Smith, R., & Stone, S., 2010).
	Health and Multi-sensory experience Memories are closely associated with touching more than just what seeing (Ross, B et al. 2017)	Problems flexibility difficult to carry around (Woody, W., Daniel, D., & Baker, C. 2010)
	Rights management Copyright (Sadon, 2010)	Hardly copied and pasted from the traditional printed books (Doering, Pereira &Kuechler, 2012)

Source: Adapted from (Millar, M. & Schrier, T. 2015; Khalid, A.S, et al. 2017; Ross, B et al. 2017)

A LENS VIEW OF PRINTED TEXTBOOK OR E-BOOK USE DURING COVID 19?

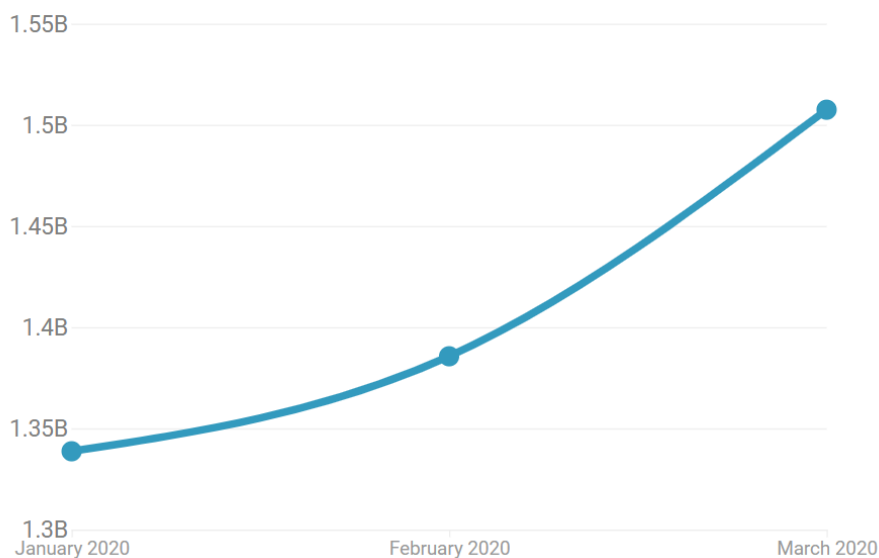
The summary above provides a useful pro and cons both digital and printed book. Advantages and disadvantages in each type of textbook are clearly specified. However, this order of summary is not necessarily true for learners in different contexts. There are several challenges were reported such as internet access, hardware and software, and lack digital skill. Therefore, analysis of the contemporary literature indicates numerous dimensions of e-book and printed book performed by learners in different educational contexts. It also shows that scholars and researchers have used various practices, depending on particular situations, to enable learners to take more control of their learning. They include those with and without the involvement of Internet support

Digital or Printed Textbooks: Which do Students Prefer during COVID 19?

Without doubt, it is quite not surprising that the books and literature category have seen the booming order in the market as a lot of people already have the habit of reading but there is a surge in the demand during this pandemic. According to statistics, overall, e-commerce websites selling books and online reading material have nearly had 1.5 billion visits in March 2020 surging from 1.34 billion visits in January 2020 (Raj, Ved, 2020).

Books & Literature ecommerce websites' traffic

Location: Global | Time range: Jan 2020 - Mar 2020



As the world responds to the COVID-19 pandemic, most nations have temporarily closed all educational institutions. Consequently, there is a transition to distance learning on certain institutions. Institutes are racing to shift their educational system into online learning and use electronic learning materials (e-book). From the graph above, there is a rise in the demand for audio books with Scribd and e-books too. The books and literature selling e-commerce websites have seen a good amount of raise in their website traffic during this pandemic. Therefore, some researcher believe that print out books and articles will be replaced by digital book/e-book (Dobler, E, 2015; Dennis, A. R., et al., 2016; Ross, B et al, 2017). To a certain extent, the authors would agree that the number of printed books will decrease significantly during pandemic, but the authors do believe that printed books will continue to exist in the future.

On one hand, it is a fact that with e-book reading is booming during the coronavirus pandemic (Onyema, E.M et al. 2020; Owusu-Fordjour, C., Koomson, C. K., & Hanson, D. 2020; Radha, R et al. 2020). "The COVID-19 crisis forced bookstores and libraries to close across the country, which has ignited a revival in reading electronic books. The e-book market had been in decline for the past six years, but now that it's one of the easiest ways to get new books during the pandemic, libraries and publishers report a surge of new interest." People would just open the device, connect it to a network and they could search all articles that they need. There are more and more of websites which provide valuable information which can be read in the computer, laptop, note-book, tab or smartphone (Sun, J., Flores, J. & Tanguma, J, 2012). As a result, many people prefer to read the information from the electronic devices rather than to purchase the print out one.

The advance of technology introduces a new way of presenting literature known as an electronic book, which has two main benefits. First and foremost, this method provides readers a more practical way of gathering information from books, allowing them to bring their books more easily. For example, students often find it hard to bring all of the paper resources they need, which is normally large and heavy, to attend the lecture. By using e-books, however, it is possible for them to bring countless books stored in a small electronic device, such as phone (Garrison, D. R., & Vaughan, N. D. 2008; Esposito, S., & Principi, N., 2020). Moreover, the change from paper to digital books will obviously decrease the paper usage and thus saving natural resources and protecting the world ecosystem. In addition, the use of e-book automatically to support reduces risk Corona Virus contact.

On the other hand, the possible influence of a student's personality characteristics in learning styles, along with other factors on the use of printed textbook acceptance may directly or indirectly influence students' perceptions on the use of printed textbook. Students of printed books are able to grasp and retain more of the plot than the readers of e-books. This effect is associated with the multi-sensory sensation of holding a book in their hands (Ross, B et al. 2017). Last but not least, some view that reading an electronic book causes eye problems. The reason behind this is that it has a small display screen and emits a harmful radiation to the eye (Woody, W., Daniel, D., & Baker, C. 2010).

Conclusion

In conclusion, although it is true that the number of e-books and digital paper has increased considerably in the recent years, but the existence of the printed version will be irreplaceable. As some people do not feel comfortable in reading a textbook directly from the computer screen, it will cause bad effects for their eyes. In terms of internet access, for those living in developing and poor countries will experience difficulty to read e-books or any digital materials or even for those who live in the countryside might not have the access to internet network infrastructure although they live in developed and more advanced countries.

We would like to argue that the existence of printed books remains needed by number of people around the world. However, since this paper has portrayed the results of the research in the lens of literature review, it is advised that further research involving different approaches and larger population could be conducted in the future to best capture the phenomenon related to the use of e-books and printed books in providing students' learning with adequate learning resources.

Conflict of Interests

The authors declare that they have no conflict of interest.

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