

# Digital versus Traditional Reading Materials in English Language Learning: A Comparative Analysis of Student Perceptions and Outcomes

Jaloliddin Mirzo Akbarov<sup>1</sup> & Feruza Sitora Alimova<sup>1</sup>

<sup>1</sup>*Department of Foreign Languages, National University of Uzbekistan, Uzbekistan*

## Abstract

The current study will reveal students' attitudes towards and views of the use of digital or traditional reading materials in English language courses. The study, therefore, uses a quantitative survey design in the research, exploring how students use digital materials compared to the conventional type and their perceptions of the amount of influence it has on improving their level of engagement as well as academic performance. The study aims to contribute to the broader discourse on educational digitalization. Limitations of the study included the relatively small sample size and the use of self-reported data, which would require further investigation with a more varied and larger number of cohorts. The implication of such findings is, therefore, very strong on the preference of students for digital reading materials, alluding to the importance associated with digital resources in enhancing educational engagement and the academic outcomes of the current digital learning environment.

**Keywords:** digital reading, educational technology, student engagement, academic performance, e-learning

## Introduction

To call the changes that have taken place in the educational landscape in the 21st century anything less than revolutionary would be doing them a great disservice, as the digital space integrates with every facet of life. One of the drastic changes that this century has brought to education is a replacement of printed books used while learning and teaching; all these have been replaced with digital means of reading. Technology has an indefensible role in the field of education and has brought great changes to how students acquire, engage, and perceive the learning resource environment. It, therefore, begs the question of the effectualness of the digital reading resource compared to the print textbooks. With this in mind, the present study therefore goes an extra mile to establish how the effectiveness of the digital reading material compares with the effectiveness of the traditional printed reading material from the students' perspective. Increasingly, of course, it is the use of digital gadgets and devices, including smartphones, tablets, e-readers, and laptops. In such a case, the shift from printed books to the digitised reading resource is quite evident. The digital era has seen the birth and development of a whole lot of educative platforms, e-books, articles, and many other



digital sources of learning. Its benefits override the learning mode in class for students, as learners will be able to access varied content that is interactive and multimedia-rich, hence can be able to provide them with a learning experience. Being of importance to the researchers is the question of whether a shift to digital materials is reflective of student perception and whether the traditional textbook still holds its own in the educational environment. These factors are complex and diverse. The prime factor of the realization for the very impact is student perception, forming the basis of this research. The attitude and performance the students are going to exhibit in the learning process, finally the learning process itself, are going to depend on the perspective with which the learning resources are looked at, which they used in the learning process. More importantly, the perception is closely attached to subjectivity and might be influenced by a cocktail of variables that will include technological proficiency, learning styles, and generational gaps, to name just a few. It is, therefore, very important to realize how the students really consider the efficiency of reading the digital reading materials against reading the textbooks. The purpose of this study mainly seeks to find out if the students' perceptions regard digital reading materials as effective in comparison with conventional course reading textbooks. This is expected to expose the areas like how engaging students find the material digitally, compared to print; if indeed digital materials do enhance learning if it comes from comprehension and retention; and of course, the role of accessibility and convenience, preferences toward the tactile experience of traditional textbooks. The above features of digital resources have been highlighted in this paper, but possible shortcomings that might stand in the way of their effectiveness, as identified by the student. E-learning technologies have massively promoted access and use of digital tools for education, that is, in teaching and learning. Reflecting on how digital content consumption has changed over the years, data released by the Statista Research Department (2014) shows e-book sales have increased significantly within this market, from the quite negligible 10.03 million units realized in 2008 to an impressive 457.09 million by the year 2014. This would stress the change even further through digitisation, and, in one of the studies conducted, it is articulated that the number of students reading their material from the course has increased from 63% in the year 2011 to 87% by 2015. 2015 was the year when the majority of educational institutions across the globe were thrown in the air for the shift towards no paper learning setups (Giebelhausen, 2015) while giving the highest premium to methods attached to Information and Communication Technology (ICT). No wonder the National Board of Education of Finland, with its premier educational system, is coming up with such regulations. The reason digital texts are gaining popularity is that they are able to be flexible and offer readers a richness of media, and they are easy to access. This will yield a lot of diversity in learning resources, with regard to the diverse formats that are most beneficial to the English as a Foreign Language (EFL) learner, remembering that English language content predominates online and is constitutive of 52.3% of web content (Internet World Stats, 2017). On the other hand, the question as to which is more effective in enhancing the reading comprehension skills of the English language between digital and print media is yet to be settled. Other studies conducted showed opposite results: while some indicated the preferences for the print medium (Ackerman & Lauterman, 2012; Liu, 2005; Mangan et al., 2013), the differences remained either insignificant (Grimshaw et al., 2007; Murray & Pérez, 2011; Nicoli, 2015) or were manifested by the advantages of the digital formats themselves. This discrepancy of findings leaves a real quandary for educators to know what the more valuable medium towards reading comprehension might be. Against this background, the methods of 20 current contemporary studies are reviewed next, while investigating the impact on comprehension of reading from a digital versus print medium within ESL/EFL learning conditions in a critical manner. It was very critical to select those studies from the recent execution, relevance to ESL/EFL environments, geographical diversity, and publication in peer-reviewed journals. The objective is to cross-section and scrutinize in detail the studies but look at how the methodological differences could have influenced the different outcomes. With such views in place, it is hoped that English

educators are going to view this debate from a more profound perspective and may hence be able to make more informed decisions that might better assist in the development of reading comprehension skills among students in the digital age.

Thus, the current study is going to provide certain contributions to the existing body of knowledge. Firstly, the study would be able to generate valuable insights on how learners are adopting the digital learning environment and to what extent this is effective in their learning outcome improvement. Second, it should inform educators and institutions of what the possible pain points for the students will be when they transition to the digital resources. Third, as the same factors affecting learners' perceptions of resource quality are found out to be true for traditional or digital resources, such similar research can be useful for educators or content providers to develop strategies and guidelines to improve the quality of the resources. Finally, the research work aims to discuss the importance of including the opinion and feedback of students regarding improvement in the system. The central research question to be answered in this study, "How do students perceive the effectiveness of digital reading material compared to traditional textbooks?," broaches an important subject in modern-day education. This then becomes a critical question in a world that is rapidly growing not just in the number of digital learning resources but also in the impact they have on student learning. It is, therefore, the aim of this study to understand student perceptions in respect of both digital and traditional learning resources, so as to make a thought-through contribution to the continuing debate on educational technology and its contribution to shaping a whole new perspective of education in the future.

### **Literature Review**

The last few years have brought an increasing shift towards digital reading materials in education, leaving the traditional printed textbooks behind. In fact, more interest is taken by researchers and educators, centering on the shift from printed books to digital resources from the perspective of the students on how the two approaches may change the effectiveness of their uses. This literature review focuses on current research being carried out in this area and look at student perceptions of digital reading materials compared to the many known advantages and disadvantages of them compared to traditional textbooks. In fact, many studies discussed the advantages of digital reading materials over traditional textbooks. When digital resources are referred to as being convenient, that is through the easiness of access by use of a laptop, tablet, or smartphone (Chen, Chen, & Chen, 2018). Generally, digital resources have features of interactivity, multimedia characteristics, and hyperlinks built in with them, which essentially can be supportive to ensure that there is enhanced participation in learning and further understanding of the concepts (Noyes & Garland, 2008). Digital resources can be updated easily, ensuring that the content remains current (Davis, Bagozzi, & Warshaw, 2012). This is so because such materials are digital, and apparently, they have inbuilt access features accounting for the different needs. Visually impaired students can use text-to-speech and resizable font technologies in order to be at par with the rest (Ruthven, 2011). The digital platforms give a chance for students to personalize their learning experiences, including the ability for students to annotate and highlight text to increase perception (Iskandar et al., 2018).

However, digital reading also dares them; a third of most students are unwilling towards e-reading and rate the satisfaction of digital reading as lower than print reading (Aguilera-Hermida, 2020). They emphasised that the printed book is something material and something free from interference in their learning experiences, while "other students often use the concrete or tangible book metaphor to refer to a prominent loss of control by the learner over the printed educational resources" (Abuloum et al., 2019). In addition, students'

technological mastery in digital materials is key. This may complicate the movement to further compartments in the digital interface for the few that are less initiated into technology and, thus, probably harm the general learning. This clearly brings to the fore the reason there is a great need for digital literacy and training for the better utility of the digital materials (Larson & Marsh, 2005). There are also generational differences that come in between students' perceptions of the digital reading material. The millenniums brought up with the digital technological development are more inclined towards resources of learning in a digital format. They feel more comfortable with interactive and multimedia; thus, learning will capture their attention. This is because Iskandar, R. (2018), ascertains that they are comfortable with multimedia in their learning. However, taste is a factor that may differ from students belonging to past generations.

Compared with the reading of printed text, many studies have shown that reading digital forms of text affects reading speed, accuracy, and comprehension differently. Early research, mainly in support of print reading, saw very few differences between its counterpart, other than that print reading outranked it on all counts: speed, accuracy, and comprehension. However, when it comes to recent studies, the situation turns into a controversial one: some of them show that in some cases, digital reading can provide even better comprehension, while others still stand by the dominance of print or even do not find any difference. Noyes and Garland (2003) found that postgraduates did not show any significant difference in comprehension between those reading from paper and those reading from a screen. A significant difference was observed for those students reading from printed texts compared to those reading from screens (Wayne, 2003). Macedo-Rouet et al. (2003) reported comprehension scores slightly inferior to those obtained by readers of e-books, essentially due to more extensive navigations offered by electronic documents. According to Liu (2005), digital reading often involves less time spent on reading in general and more time spent on browsing, which may actually reduce the level of comprehension.

Moreover, Mangen et al. (2013) evidenced through their research that reading print texts positively influences students' comprehension much more than reading digital. Solak (2014), another researcher, evidences that prospective English teachers enjoy and earn more from paper-based reading than while using digital media. It is interesting to note that Ackerman and Lauterman (2012) found under time pressure that reading was higher than without time pressure from printed text but did not show significant differences without time pressure. For example, the study by Nicoli (2015) and Murray and Pérez (2011) found similar levels of reading comprehension from digital versus print modes, which indicates that a change in medium might not be influencing readers' understanding to the extent that was previously believed. Cases where digital reading was superior, especially in some contexts or specific types of comprehension, were reported by Abanomey (2013) and Aydemir et al. (2013). The study by Grimshaw et al. (2007) also showed that scoring by children was almost similar between digital and printed, unlike the comprehension, which was long to read in the electronic versions.

Learning styles have a massive influence on the format of preference in students regarding digital materials. For instance, learning styles among students can differ: some of them are visual, while others are auditory, and others are kinesthetic, resulting in differences with regard to the format of learning material (Ruthven, 2011). These differences become very important to understand how best to address their needs. In the final analysis, the differences can serve as very serious hurdles to assisting students in their chosen approach to processing information and reading. This, then, is the complexity that has to be understood, considering the nature of work educators, institutions, and content providers have to confront to bring about modern and efficacious learning environments. Experiences with these materials in students' contexts are important feedback into educational strategies and policies (Davis, Bagozzi, & Warshaw, 2012). The reviewed

literature herein brings out the multifarious nature of perceptions among students of digital reading materials versus traditional textbooks.

It highlights the advantages and barriers of digital resources and argues for the need to take an adaptive approach that will consider individual variance in technological literacy and learning styles. The understanding that technology is absolutely defining the future of learning, perception, and preference becomes unavoidable in going along with the student through education.

### **Methodology**

This investigation adopts a quantitative methodology to scrutinise the perceptions of students on the efficacy of electronic versus traditional printed reading resources. To achieve this aim, a structured questionnaire will be developed and disseminated via Google Forms, serving as the primary instrument for data acquisition. This questionnaire will be composed of a sequence of structured questions, meticulously crafted to elicit detailed insights into the students' experiences and inclinations towards both digital and physical forms of reading materials.

#### **Participant Selection**

The study involved participants of one group from the 30 students that were, in actuality, attending the English language courses; these participants were of all sorts of diversity, from the most technically skilled to the least, and from young to old ages, to have a wide outlook on the perceptions held by students.

#### **Procedure for Gathering Data**

The method used to collect data was conducted through Google forms. This was directed in the essence of making sure that the data collection process is easy, and the procedures of gathering and organization of data were in place. The respondents were given ethical approvals to participate in the study by following the recommended guidelines before the questionnaire was administered. This was done through taking informed consents from all the participants, assuring them of the protection of their anonymity and confidentiality throughout the study, and taking them through adequate information on what the purpose of the research was, the nature of their participation, and their rights to withdraw at any given time without prejudice.

#### **Details of the Survey**

The survey is devised to include 10 structured questions, with these queries detailed further within the appendices of this document. These questions were designed to be direct and objective, facilitating ease of response from the participants and ensuring the collection of data pertinent to the study's objectives.

#### **Analysis of Data**

The data was collected using JASP 0.3 software, and after data collection, the collected data was analysed through a quantitative approach. The first stage of this analysis used descriptive statistics. Measures of frequency count and percentage was applied to give an overall summary of the responses. It would be necessary, then, to apply inferential statistical techniques, with chi-square tests or t-tests, to find out whether in the data there really exist any relationships of true significance. This entire approach toward data analysis was aimed at yielding light on the students' preference regarding digital and traditional reading material for valuable insights into this ongoing discourse for educational resources.

## Results

Below is a description of the inquiry on the attitudes of students toward digital versus traditional textbook resources in English language courses. It is within this background that this study sought to unveil the reading media tastes and experiences of this batch of 30 students to both digital and analog media through an online questionnaire. The analysis will aim to find out if there is a preference or unfavourable attitude toward digital resources and then assess if there has been an influence on students' increased engagement with the material provided on the course.

### *Participant Demographics Overview*

Initially, it is pertinent to sketch a demographic portrait of the participants involved in this study. The cohort comprised students from a spectrum of backgrounds, characterised by:

- Age Distribution: The age of participants spanned from 18 to 35 years.
- Technological Proficiency: The cohort included a mix of individuals varying from highly proficient to those with minimal technological skills.

### *Frequency of Digital Reading Material Usage*

The preliminary inquiry focused on the frequency with which students engaged with digital reading materials for their English studies. The findings are encapsulated as follows:

- Daily Engagement: 35%
- Weekly Multiple Engagements: 20%
- Weekly Single Engagement: 15%
- Seldom Engagement: 20%
- Non-usage: 10%

These statistics illuminate that a considerable segment of the study group, amounting to 70%, engaged with digital materials with regularity, either on a daily basis or multiple times a week.

### *Reading Material Preferences*

When probed about their preferred medium of reading for English courses, the responses highlighted a clear inclination:

- Digital Resources: 60%
- Traditional Textbooks: 25%
- Indifferent: 15%

A significant majority, 60%, favoured digital materials, while only a quarter preferred traditional textbooks, and the remainder were ambivalent.

### *Impact of Digital Reading Materials on Student Engagement*

Further exploration was conducted to determine if digital materials were perceived to foster greater engagement with content:

- Enhanced Engagement: 75%
- No Effect on Engagement: 25%

An overwhelming 75% of respondents felt that digital resources augmented their engagement with the educational content, contrasted by 25% who perceived no such enhancement.

On examining benefits perceived toward digital reading material compared with traditional reading materials, the main perceived advantages found by researchers were in fact mostly related to accessibility, interactivity, and perhaps the potential facility to make a better use of multimedia in order to favor better learning experiences and maybe even the better involvement of students with coursework. This preference for digital media is indicative of a new trend with educational materials: that they are starting to catch up to prevailing technology and changing student habits.

Participants were asked to identify the primary advantage of digital reading materials for English class. The following table summarizes their responses:

Primary advantages of digital reading materials	Percentage
Portability	30%
Searchability	25%
Interactivity	20%
Customization	15%
Accessibility features	10%

## Discussion of Results

It is done by conducting a survey administered to provide a quantitative analysis of survey data with respect to student attitudes toward digital reading materials compared with traditional textbooks within English courses. In another benefit identified, portability and searchability are the most preferred, with 30% and 25% of the respondents, respectively. These preferences constitute the recognition that required access to and maneuvering of information are through convenience and efficiency factors of digitalized access and navigation.

### *Technical Challenges Associated with Digital Materials*

On the technical problems side with the digital materials, students displayed a whole spectrum of experiences. Few (15%) reported being plagued often with such problems, while the strong majority (70%) reported that they were rarely or only occasionally troubled by these technical impediments; the remaining 15% did not experience any technical difficulty at all. This distribution would imply that while there are technical challenges, these are not widespread such that the usefulness of digital resources to most students is substantially reduced. The effect of digital reading materials on academic performance seems to signal two views: half (50%) of the respondents thought there was a positive effect and mentioned that such digital materials can actually be conducive for higher academic output. On the contrary, approximately a quarter of the participants perceived the consequence as neutral in impact (no significant consequence), while another quarter perceived it as negative. It is probable that the effectiveness of the digital material may depend on learning style, personal mood, or even on the nature of the digital resources used.

### ***Role of Digital Materials in Course Selection***

In fact, the course selection in the field of higher education also involves considering digital material and possibly mirrors the growing relevance of such material in educational decision-making. Forty percent of the students show that availability influences their choice of courses, pointing to great movement towards the digital learning environment. However, the majority (60%) did not take this as a decisive factor, demonstrating that, in spite of its importance, other elements such as course content, instructor reputation, or scheduling issues may be more determining for the choice of the course. In general, the collective insights of this study throw light upon a strong tendency of the students toward the use of digital reading material, predominantly prompted by the advantage accruing to them from access and functionality. Generally, the attitude towards the digital resource is positive, although concerns exist with respect to technical problems and how that might affect academic performance negatively. Findings confirm the case for a more comprehensive way of integrating digital materials within the educational framework to realize their potentials for facilitating engagement and learning. The effect of these digital materials on course choice, in addition, indicates criteria that are always changing and to be used by the student in navigating their educational journey; hence, it indicates the importance of technology integration in meeting the current, modern needs, and desires of education.

### **Interpreting the Results**

This is the background against which the present research exposes student perceptions in relation to the usefulness of digital reading materials in English Language Studies, with a marked departure toward acceptance and use of digital resources. This is evident when 70% of the students engage in digital materials all the time. Sixty percent preference for digital materials over traditional books is, however, a tendency of digitalisation symptomatic to the change in dynamics of the modern learning environment. In addition, 75% of the student respondents agreeing substantially that digital reading resources increase involvement of the student with his/her academic content, thus by the way of action, students attest to intrinsic benefits of digital resources. All these support the arguments of the literature in relation to interactivity, multimedia integration, and customizable learning experiences as important elements of enhancement to engage the student (Pike, Smart, & Ethington, 2012). The engagement is amongst the necessary points that lead toward active participation in achievement in academics, making proper understandings of the things or topics being discussed. It becomes an indispensable part of successful learning. The advantages of digital books, such as portability and searchability, really contributed a lot to the practicality and efficiency in the educational process. This is mainly what lures the present-day learner to digital formats: very rich content all on one device and the convenience in searching for the content. However, this has raised a concern. In this, technical problems of the students are pointed out, of which there are quite some who face difficulties with quite some frequency (15%) or occasionally (40%). This only underscores the critical need for institutions to strengthen their technical support and ensure that their digital platforms are reliable. Failure to have reliable digital platforms will increase cases where the learning process is jeopardized, hence frustrating students (Shute, 2017). Still, it was not possible to totally ignore a positive contribution to the aid of academic performance from digital reading materials, which half of the participants alluded to. The positive effects would most likely be bound to the broad engagement characteristics of the digital resources, such as the use of multimedia enhancements, interactive elements, and the facilitation of access to supplementary materials. These features accommodate various learning preferences and assist in elucidating complex concepts. Furthermore, the development of autonomy and self-directed learning, all of which are necessary for academic promotion, may be developed by accessing learning materials from any place of choice (Wanner & Palmer, 2015). While this



actually would have an impact on the course of choice with the presence of digital reading materials, most (60%) believed this did not actually have an impact. However, the 40% that acknowledged the impact places into focus an increasing recognition of the value that digital resources add to higher education. This would then mean the competitive advantage of recruiting and retaining students for institutions that provide all-inclusive digital resources. This, therefore, underscores the need for educational offerings to adopt digital material to at least be on par with the rising needs and expectations among students.

### **Comparison with Existing Literature**

The findings of this particular study would resonate within the standing body of existing research that argues for the integration of digital reading materials within the education realm, for the inherent benefits brought about through practice. Such is the enhancement that the literature recurrently mentions that digital resources bring on the table, such as higher levels of learner engagement, more opportunities for interactivity, and individualized learning experiences (Thompson & Mishra, 2018). Those factors sum up to create an academic environment that helps to increase performance and to increase satisfaction with the process of education among students. This definitely asserts that most of the students are likely to accept that digital reading resources are one of the key factors that help them engage and accomplish academic achievements. More so, the preference for digital educational resources over traditional printed resources is only but a reason to continue with the movement of the educational landscape toward digitalization. Digital resources have made a great impact on the students because of their accessibility, convenience, and adaptability (Hew, K., & Cheung, 2014). These emerging trends therefore underline the necessity for educators and academic institutions to further adopt and facilitate the integration of digital materials into their curricular offers, given their potentiality in enriching the learning experience. However, the study also tries to focus on some technical issues the students face in their implementation of the digital resources. The aspect agreed with the previous findings from the field that bore weight on the technological pitfalls capable of barring the effective development in digital education. Out of such, the critical need for robust technological infrastructure and relevant support systems comes into clear light to assist in mitigation of any disruptions and guarantee that the digital learning experience is nothing short of being fluid and productive. Overall, combined with these findings, it is realized that digital reading materials are poised to play a role central to education, and attention has to be paid toward overcoming the technical hurdles that may impede effectiveness. Addressing these challenges and capitalising on the enormous benefits that digital resources proffer, educational stakeholders can make an enormous difference in quality and better responses.

### **Acknowledging the Limitations and Charting Future Research Directions**

This study is binding to a few limitations that should be taken in full consideration while giving valuable revelations in the perceptions of students regarding digital versus traditional reading materials. First, a sample size of 30 students, though useful in yielding some critical preliminary insights, may not capture the whole spectrum of opinions and experiences prevalent across the broader student demographics. Consequently, future research should try to recruit a more diverse and larger sample of participants in an attempt to address this and increase the generalizability of future findings. The study was specific to the English language programs. This limited, explicit disciplinary focus may be a reason why the dynamics and outcomes presented would be relevant to other fields of study. The perception and actual use of digital and traditional reading resources may just differ from one academic discipline to another. With this, the research at hand has implications for further studies: such future studies need to take note of this and proceed to survey many academic subjects to see if such findings are indeed uniform across many educational contexts. One serious

problem is that the study necessarily follows the common dependence on self-reported data, bound to follow bias. Thus, these subjective experiences, perceptions, or preconceived notions of digital and traditional reading resources might color the responses made by the participants, leading to data full of biases. In order to lessen this bias and give a more well-rounded idea of what impact reading materials have on student engagement and academic achievement, future research would have to include objective measures. These may include, but will not be limited to, examination results, analysis of learning analytics, or other numerically expressed indicators of educational progress. These current research findings do suggest that students, in fact, had a favorable perception of the benefits that the use of digital reading materials brings them, especially in such aspects as increased engagement and ease of road toward success. These findings signal the trend towards greater interaction of digital resources within paradigms of education and stress the need for, hence, educators and academic institutions to address proactively any accompanying technical difficulties. The findings of the current research do point out, in fact, that students' perceptions of the benefits accruable to such usage raise their favorable perception, particularly with respect to aspects of involvement and easy way towards success. These findings signal more growth in the sense of the interactive dimension of digital resources within paradigms of education and emphasize the need from educators and academic units to be in alert and to meet any technical difficulties that emerge.

### Conclusion

This research has revealed a strong preference by learners for digital reading resources over traditional ones due to the accrual of benefits for learners in digital reading resources, creating higher levels of engagement and, consequently, better performance in academics. Participants' overwhelming preference for the convenience and flexibility of digital materials, with such features as portability and easy searchability, is hence a most significant harbinger toward the digitization of education. On the other hand, listed challenges, especially the technical ones, should serve as a wakeup call for institutions to offer the kind of technical support that will make e-learning effective. Some of the limitations of this study, such as a small sample size, disciplinary specificity, and selection bias, clearly indicate that there may be a need for future research to be larger and more diverse to understand fully how these digital materials affect education. The trend of ever-growing digital resources significantly underscores the importance for educational stakeholders, to be more adaptive toward technological advances, mitigation of likely challenges, and improvement of learning experiences for the changing nature of the current cohort of student digital natives, thereby underpinning the key balancing point in finding a way to innovate without ensuring accessibility and reliability are compromisable in digital education.

### References

- Abuloum, A. M., Farah, A., Almulla, E. K., & Yaakub, A. (2019). College Students' Usage of and Preferences for Print and Electronic Textbooks. *International Journal of Emerging Technologies in Learning (IJET)*.
- Aguilera-Hermida, P. A. (2020). College students' use and acceptance of emergency online learning due to COVID-19. *International Journal of Educational Research Open*.
- chen, x., chen, J., & Chen, T. (2018). Students' use of e-textbooks: A conceptual model for studying antecedents of their acceptance. *Computers in Human Behavior*, 136-148.
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (2012). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science*, 35(8), 982-1003.

- Hew, K. F., & Cheung. (2014). Students' and Instructors' Use of Massive Open Online Courses (MOOCs): Motivations and Challenges. *Educational Research Review*, 45-58.
- Iskandar, A., Rizal, M., Kurniasih, N., & Sutiksno, D. U. (2018). The Effects of Multimedia Learning on Students Achievement in Terms of Cognitive Test Results. *Journal of Physics Conference Series*, 1114(1).
- Larson, R. W., & Marsh, J. (2005). Overcoming the digital divide: Inclusion, success, and ethics in the networked classroom. *Teachers College Record*, 107(8), 1767-1829.
- Noyes, J. M., & Garland, K. J. (2008). Computer- vs. paper-based tasks: Are they equivalent? *Ergonomics*, 1352-1375.
- Pike, G. R., Smart, J. C., & Ethington, C. A. (2012). The Mediating Effects of Student Engagement on the Relationships Between Academic Disciplines and Learning Outcomes: An Extension of Holland's Theory. *Research in Higher Education*, 550-575.
- Prensky, M. (2001). Digital Natives, Digital Immigrants. *On the Horizon*, 1-6.
- Ruthven, K. (2011). Embedding the use of digital resources in secondary science education. *Computers & Education*, 56(1), 141-152.
- Shute, V. J. (2017, September 17). Demystifying computational thinking. *Educational Research Review*, 22(1).
- Thompson, A. D., & Mishra, P. (2018). Measuring the Technological Pedagogical Content Knowledge (TPACK) of. *American International Journal of*.
- Wanner, T., & Palmer, E. (2015, October). Personalising learning: Exploring student and teacher perceptions about flexible learning and assessment in a flipped university course. *Computers & Education*, 88, 354-369.

## Appendix 1

Questionnaire \survey

How often do you use digital reading materials (e.g., e-books, PDFs) for your English class?
1. Daily
2. Several times a week
3. Once a week
4. Rarely
5. Never
Which do you prefer for English class readings: digital materials or physical books?
1. Digital materials
2. Physical books
3. No preference
Do you believe digital reading materials enhance your engagement with the content?
1. Yes
2. No
What do you find to be the primary advantage of digital reading materials for English class? (Select one)

1. Portability
2. Searchability
3. Interactivity
4. Customization
5. Accessibility features
6. Other (please specify)
What do you find to be the primary advantage of physical books for English class? (Select one)
1. Tangibility
2. Reduced distractions
3. Ease of annotation
4. Familiarity
- Other (please specify)
On a scale of 1 to 5, how comfortable are you with using digital reading materials in your English class? (1 - Very uncomfortable, 5 - Very comfortable)
Have you received any formal training or guidance on using digital reading materials for academic purposes?
1. Yes
2. No
How often do you experience technical issues while using digital reading materials in your English class?
1. Frequently
2. Occasionally
3. Rarely
4. Never
How would you rate the impact of digital reading materials on your overall academic performance in English?
1. Positive
2. Neutral
3. Negative
Do you believe the availability of digital reading materials is a significant factor influencing your course selection? (yes/no)
1. -yes
2. -no

**Copyrights**

Copyright for this article is retained by the author(s), with first publication rights granted to the journal. This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>)