



doi <https://doi.org/10.58256/05kxdm72>



Research Article

Section: Digital Humanities



Published in Nairobi, Kenya  
by Royallite Global.

Volume 5, Issue 4, 2024



#### Article Information

Submitted: 1st June 2024

Accepted: 15th September 2024

Published: 16th September 2024

Additional information is  
available at the end of the  
article

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ISSN: 2708-5945 (Print)

ISSN: 2708-5953 (Online)

To read the paper online,  
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#### How to Cite:

Elsadig Hussein Fadlalla Ali,  
Saima Usmani, & Musadhique  
Kottaparamban. (2024). The  
effects of digital texts on readers'  
experience: Teachers' perspectives.  
*Research Journal in Advanced  
Humanities*, 5(4). <https://doi.org/10.58256/05kxdm72>

## The effects of digital texts on readers' experience: Teachers' perspectives

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#### Abstract

This study examines the effect of digital text such as e-books or online articles on the readers' experience from the teachers' point of view. Data was collected through observations, interviews, and questionnaires administered via Google Forms, on the readers' experiences with digital texts. This study aims to determine how the shift from print to digital media has impacted readers' experiences. The study reveals that the individuals participating in the study exhibited a favorable attitude toward engaging with digital texts. They displayed a preference for and heightened interest in digital texts over printed materials. Furthermore, the availability, convenience, and accessibility of digital texts served as motivating factors for their engagement with this medium.

**Key words:** digital text, e-book, online articles, printed texts, readers' experience



## Introduction

“The effects of digital texts on readers’ experience” is a topic that explores how reading digital texts, such as e-books or online articles, affects readers’ engagement, comprehension, and overall experience compared to reading printed materials. This topic has gained significance in recent years, as more and more people are shifting towards digital reading due to its convenience and accessibility. The debate around this topic is ongoing, with some arguing that digital reading can be distracting and reduce comprehension while others argue that it offers unique advantages such as the ability to search for and quickly access information. As technology continues to advance, digital texts have become increasingly prevalent in the publishing industry. It is important to understand the advantages and disadvantages of digital texts compared to their traditional counterparts, as well as the cognitive and emotional responses of readers to both formats. Ultimately, the results of this study can inform the creation of digital texts that enhance the reading experience for today’s readers.

## The Significance of the Study

The importance of this topic comes from the idea that digital texts have revolutionized the way we read. From online newspapers to e-readers, digital texts are a much more common form of reading material than their print counterparts. With the digital text industry beginning to flourish, it is important to understand the implications of changing from print to digital. Print and digital texts have created a revolution in reading that has a profound impact on the reading brain - a bi-literate brain. This generation will be the one that tips the scales in the direction of digital, so it is a good idea to better understand the impacts that this will have on society as a whole.

The effect of digital text on the reading brain is a new field of research with very little data. There is concern that younger generations who are growing up with the internet and computers will not be well-versed in traditional literacy skills such as critical thinking and analysis. Some educators feel that whether online or offline, the nature of reading materials is changing. The medium of reading on the internet has led to a new, more superficial style of reading, whereby users are exposed to a large amount of information but read this information in a non-linear fashion with little depth.

This may be true for many digital text mediums such as web pages and e-books, which often encourage a more active style of reading. Digital reading also incorporates a wide range of multimedia, and it is often difficult to find any empirical data on the effects of this multimedia on the reading process. Cognitive text comprehension can take place using several different modes such as auditory and visual sensory input, and there is a need to assess how differing mediums of digital text affect the comprehension process. All of these issues regarding the effects of digital text on the reading process eventually boil down to one question: “Is comprehension the same in digital texts as in print?” It is important to understand that the impacts of digital text will not all be negative, and much research into the effects of multimedia on learning has shown that multimedia can be a more effective learning tool for people with differing learning needs.

## Research Problem

The present inquiry examines the impact of digital texts on readers’ experience. As technology continues to evolve, the role of digital media has increased significantly in the publishing industry. In this context, it is essential to understand how the transition from traditional to digital texts has affected readers’

experience. The study analyzes the effect of digital texts compared to printed text from the teachers' points of view. Additionally, the investigation seeks to explore the differences in cognitive and emotional responses of readers to digital and traditional texts. This research is crucial for publishers and writers who seek to understand how digital technology has changed readers' reading habits and preferences. The findings of this study can help inform the creation of digital texts that can improve the reading experience of the modern reader.

### Research Questions

The paper tries to answer the following questions:

- How the transition from traditional print to digital formats influences the overall reading experience.
- What are the reader preferences and attitudes towards digital texts, considering factors like accessibility, convenience, and interactive features?
- What is the effect of digital texts on reading habits, retention, and the enjoyment of literary works?

### Objectives

This study aims to examine how the shift from print to digital media has impacted readers' experiences.

It also aims to:

- Explore how the transition from traditional print to digital formats influences the overall reading experience.
- Analyze reader preferences and attitudes towards digital texts, considering factors like accessibility, convenience, and interactive features.
- Examine the effect of digital texts on reading habits, retention, and the enjoyment of literary works.

### Methodology

This study explores the teachers' perceptions and practices of reading digital text. A case study is used as the research design for this study. Merriam & Tisdell (2016) define the term as "qualitative research designed in which phenomena/case(s) are explored in detail and in-depth through multiple sources of information".

An online questionnaire was used for collecting the quantitative data besides an open-ended question at the end of the question for obtaining the qualitative data. 50 teachers from different universities and different countries participated in the study as a population. This study was conducted in April 2024.

The assessment comprises 16 statements addressing the reading of digital and printed texts in four dimensions: efficacy of reading digital texts, challenges in reading digital texts, interest and motivation in reading digital texts, in addition to, preference for reading print or digital texts. Participants responded to the questionnaire questions by choosing from a scale of 1 to 5, where 5 denotes "strongly agree," 4 for "agree," 3 for "neutral," 2 for "disagree," and 1 for "strongly disagree. An open-ended question was added to the end of the questionnaire to validate the data gathered from the questionnaire. The objective was to gain insights into the respondents' perspectives rather than to make generalizations. Descriptive analysis techniques were applied to analyze the quantitative data gathered through the questionnaire.

**Data Analysis**

The data comprised both quantitative and qualitative information. Quantitative responses were analyzed using descriptive statistics, with frequency counts conducted for each questionnaire item. The total frequency of responses was then converted into percentages. The study aimed to assess the effects of transitioning from print to digital media on readers’ experiences.

**Respondents**

Fifty digital text readers from various universities around Saudi Arabia and some other universities in Sudan and India participated in this study. Their genders and ages are shown in Tables 1 and 2 below in addition to the types of digital texts they are using which are shown in Table 3:

**Gender**

**Table 1: Gender**

No.	Gender	Number	Percentage
1.	Male	26	52%
2.	Female	24	48%

Table (1) above shows the number and percentage of the respondents according to their gender.

**Age**

**Table 2: Age distribution**

No.	Age	Number	Percentage
1.	18 -30	8	16%
2.	31 – 40	9	18 %
3.	41 – 50	21	42 %
4.	Above 51	12	24 %
5.	Total	50	100%

Table 2 above shows the distribution of the respondents’ ages and the percentage of each age which extends from 18 to above 51 years old:

**The usage of the types of digital texts and their percentage:**

**Table 3**

No.	Type	Number	Percentage
1.	Movies	16	32 %
2.	Website	37	74 %
3.	E-books	34	68 %
4.	Apps	29	58 %
5.	Other(s)	3	6 %

**Table 4: Universities: (50 responses)**

NO.	Universities	Number	Percentage
1	Saudi Universities	26	52
2	Non-Saudi Universities	24	48

## Literature Review

### Introduction

In recent years, the reading experience has been affected drastically by the onset of digital technologies, including the Internet, cell phones, and handheld computers. However, with the introduction of digital literature and the forms in which it is presented, the question arises as to whether or not the experience and acquisition of reading a text has been changed. Traditional literary forms are being reworked to suit the demands of global, instant technologies, permitting players to engage with fictional worlds on various levels, at any time. There are instances where works of digital literature have no print counterpart, undergoing production as texts in the first instance. “Digital literature” refers to the use of electronic and online versions of a text. Storybooks, educational texts, and literature, including folklore, can now all be accessed by a multitude of digital technologies. The introduction of digital texts and their companion technologies such as search engines, hyperlinks, and cut/paste functions have indeed remodelled how readers read print texts while using these devices.

### What is Digital Text?

Digital texts come in many forms which have exploded in popularity, as a result of vast technological improvement, especially during the last five years, to such an extent that almost everyone has been exposed to it in one way or another. Whether it is reading books at Amazon.com, news from online newspapers, or information from a website, all are forms of digital texts that are becoming more and more commonplace. However, there is a surprising lack of historical or psychological research into the use of digital text in educational contexts which is remarkable given its pervasive importance in educational and social contexts. This means, that even though digital text has become a common part of everyday life, especially for students and younger generations, there has been very little research and insight into digital texts concerning its effects on educational practices and learning experiences. What is known is, that although digital texts provide a quick, diverse, and convenient source of information compared to traditional printed texts, reading digital texts requires a different set of skills and often draws different results. The following parts will discuss some of the points that are related to this topic.

### Digital Reading Theories

There are two primary theories concerning techniques of online reading skills and content: Hypertext Theory and the Information Foraging Theory, as proposed by Pirolli (2007). Information Foraging Theory explains how individuals behave while reading online in everyday casual reading or for specific reading tasks within the web ecosystem. According to Pirolli (2007), “This theory assumes that people are biologically rational, and that reader information-seeking mechanisms and strategies adapt to the structure of the information environments in which they operate.” The word “hypertext” in the second theory means “text composed of blocks of words or images linked electronically by multiple paths, chains, or trails in an open-ended, perpetually unfinished textuality” (Hawkes, Murphy, and Law, 2001). “Hypertext allows readers greater autonomy than printed books, which are arranged in an inescapable order that readers must follow. With this autonomy, readers are more active and less controllable due to the increased input they have into the hypertext. Therefore, they can choose their path throughout the text and even be considered as ‘co-creators’ of the hypertext” (Carusi, as cited in Land and Bayne, 2011).

### **Impact of Digital Reading on Comprehension**

Research examining the impact of reading digital texts contrasted with printed texts on comprehension, accuracy, and reading speed has been conducted since the advent of computers. These investigations have produced varying results. Initially, most studies indicated that reading printed texts outperformed reading digital texts in comprehension, accuracy, and speed. However, some studies reported negligible differences. For example, Dillon (1994), “found that reading performance on the computer screen was about 20% to 30% slower than a paper”. Creed et al. (1987) and Ziefle (1998), “showed that printed texts reading tasks accuracy is higher than computer-based texts reading”. Keenan (1984) observed that “paper-based reading outperformed computer-based reading, although the gaps were not highly significant”. (Askwall. 1985; Gould et al. 1987; Osborne & Holton. 1988) indicated that “there is no significant accuracy difference between the two formats”.

Latest research has demonstrated a range of findings in comparing printed and digital reading formats. While certain studies have indicated a preference for printed material, and others have suggested no substantial variance in comprehension between the two formats, numerous studies have highlighted the advantages of digital reading. Mangen et al. (2013) in a study “involving 72 tenth graders from two different primary schools in Norway showed that the student’s achievement was higher in paper-based reading than screen-based reading”. Research by Aydemir et. al (2013) showed that “the text type caused no significant effect on the averages in both groups”. In a study conducted by Fard and Nabifar (2011), it was found that “the students who read from the computer screen significantly outperformed the students who read printed pages in a conventional classroom”. In 2013, Bhatti examined the impact of a specific intervention on 60 9th-grade students in Pakistan, proving that “CALL was 35% more effective than the traditional instructor-led class”. A study by Huang (2014) determined that “the online reading group outperformed the paper-based group in overall reading comprehension”.

Alexander, Bartlett, Truell, and Ouwenga (2001) conducted a study on the impact of computer-based testing outcomes and found that “the two forms of testing were equivalent”. Currently, “there is limited literature addressing concerns about computerized homework, whether web-based or otherwise. Nevertheless, web-based homework systems offer several advantages, including faster access to student results, the ability to digitize grades, accurate assessment of learning, a focus on student-centered learning environments, and lower costs compared to paper-based exams” (Bartlett, Reynolds, & Alexander, 2000; Dash, 2000; Oregon to Administer, 2001).

### **Perceptions of Digital Texts Among Students and Teachers**

In addition to technological proficiency and digital reading skills, the perceptions of students and teachers regarding digital reading play a crucial role in influencing the implementation of comprehension and digital texts. For instance, Stone and Baker-Eveleth (2013) heightened that “their perceptions affect students and instructors to use or reject the text”.

Several researchers like, Jeong (2012), Lim & Hew (2014), Anuradha & Usha (2006), and Shelburne, (2009) “investigating students and teachers’ perception of digital reading focus on the use of e-books generally revealed that more than 50% of users who had used e-books were satisfied with their experience of using them”. Pardede (2019a) reposed that “pre-service English teachers perceived digital modules use in blended learning positive. However, they expected the modules to be written in ‘easier’ language and accompanied by relevant videos”. An investigation by Jeong (2012) revealed “Korean

students' satisfaction with e-books. The students also admitted the current e-books' usefulness". Lim and Hew's (2014) research demonstrated that "students generally held positive attitudes toward e-book use". Also, Shelburne's (2009) studies showed that "undergraduate students, compared to faculty, tend to have more positive perceptions towards e-books". Anuradha and Usha (2006) indicated that "around 90% of e-book users in an Indian academic environment were very satisfied / somewhat satisfied with their use of e-books, and, compared to faculty, students tend to use e-books more often".

Some researchers have examined the differences in preference between digital texts and traditional printed materials. Abdullah and Gibb (2008) indicated that "users still prefer reading paper books for various reasons: preference of the feel for real books. Disinclination to read on the screen, or difficulty in purchasing the equipment". Nevertheless, Eden and Eshet-Alkalai's (2012) research examined "the reading ability of 93 students in postsecondary education by comparing their active reading abilities using digital versus printed formats showed no significant differences in readers' average scores on the two formats, but participants reading the digital format finished their assignments faster". Stonier's (2012) in Pardede (2019b) reported that "teachers' perceptions increased and were positive toward digital literacy, and integrative texts and the use of tools. Interestingly, the teachers continued to believe that digital text increased reading comprehension strongly".

Numerous researchers have indicated that age significantly influences how users perceive and interact with digital text. There is a commonly held belief that younger users tend to exhibit more positive attitudes toward emerging or innovative technologies. Jung et al. (2012) indicated that "technology-savvy participants (those who were born with technology) have more positive attitudes towards digital reading". Clin (2003) discovered that "respondents without any experience in digital reading tend to have negative attitudes toward digital texts". Croft and Davis' (2010) study confirmed it by showing that "the main reason for not using digital texts is a lack of awareness".

### **Digital Texts Reading Strategies**

A reader must employ suitable reading strategies to comprehensively comprehend and analyze a text by actively engaging with new information and connecting it to existing knowledge. Barnett (1988) described "reading strategies as the comprehension processes used by a reader to make sense of what he reads which may involves skimming, scanning, recognizing cognates and word families, guessing, predicting, activating general knowledge, reading for meaning, inferencing, and differentiating main ideas from supporting ideas. To be proficient in reading comprehension, one should be skillful in applying these reading strategies.

However, one's proficiency in print reading strategies does not guarantee success in digital reading comprehension because digital texts have richer and more complex components or environments than printed texts. Murray and McPherson (2004) found that "print literacy does not automatically transfer to digital literacy". Afflerbach and Cho (2010) confirmed that "digital reading requires traditional prim reading strategies to be employed in a more complex way". Based on her literature review Schmar-Dobler (2003) summed up and compared seven comprehension strategies consistently employed in both printed text reading and online reading: activating prior knowledge, monitoring comprehension, repairing comprehension, determining important ideas, synthesizing, drawing inferences, and asking questions" ... "navigate', an additional strategy to describe the necessary skills in online reading".

Discussion

The findings of the data analysis are presented in association with the research inquiries, followed by a comprehensive discussion. This research aims to explore the perspectives of the teachers regarding the integration of digital text as a contemporary form of literacy in reading. The justification for delving into educators' perceptions stems from its potential portrayal of their attitudes, knowledge, and instructional approaches toward digital text usage in reading. Examining teachers' views on the incorporation of digital text as a modern form of literacy in online reading is paramount, as it may influence their dedication to integrating technological resources into classroom reading practices.

Table 5: Interest and Motivation in Reading Digital Texts

No.	Statement	SD	D	N	A	SA
1	Reading digital texts is motivating.	4	2	11	23	10
		8%	4%	22%	46%	20%
2	More interested in reading digital than printed texts	8	12	9	16	5
		16%	24%	18%	32%	10%
3	The features of digital texts make them exciting to read	2	3	14	21	10
		4%	6%	28%	42%	20%
4	Digital reading emerges positive experience; one will regularly do and learn assignments using digital media	2	0	9	28	11
		4%	0%	18%	56%	22%
5	I feel comfortable when reading or studying using digital texts	3	13	6	21	7
		6%	26%	12%	42%	14%

Table 5 above shows that there is a variation between the respondents. 66% said that reading digital texts is motivating, 42% are more interested in reading digital than printed texts, 62% think that the features of digital texts make them exciting to read, 72% think that Digital reading emerges as a positive experience, and 66% feel comfortable when reading or studying using digital texts.

Table 6: Digital Texts Reading Efficacy

No.	Statement	SD	D	N	A	SA	Total
6	I think that learning with digital text is efficient.	2	6	6	25	11	50
		4%	12%	12%	50%	22%	100%
7	Digital reading makes it easy to improve my comprehension.	1	6	10	28	5	50
		2%	12%	20%	56%	10%	100%
8	Learning through digital media increases achievement.	1	3	10	28	8	50
		2%	6%	20%	56%	16%	100%
9	I can easily comprehend printed text.	0	1	11	29	9	50
		0%	2%	22%	58%	18%	100%

From Table 6 above and according to the respondents' point of view it is clear that digital texts are effective in learning (72%) and make it easy to improve comprehension (66%); and increase achievement (72%), besides that printed texts are easily comprehended.



Table 7: Difficulty in Digital Texts Reading

No.	Statement	SD	D	N	A	SA	Total
10	Technical disruption from the computer decreased my reading comprehension and motivation.	2	11	10	24	3	50
		4%	22%	20%	48%	6%	100%
11	I ensure that digital texts are printed before reading them.	4	20	8	18	0	50
		8%	40%	16%	36%	0%	100%
12	I have a problem getting information when reading through digital media.	3	28	10	7	2	50
		6%	56%	20%	14%	2%	100%
13	The screen's light soon hurts my eyes whilst reading digital text.	1	5	12	23	9	50
		2%	10%	24%	46%	18%	100%

Table 7 above which concerns the ‘Difficulty in digital texts reading’ shows that 54% of the respondents think that technical disruption from the computer decreased their reading comprehension and motivation; while 36% have the digital texts printed before reading them and 62% of them disagree with the statement ‘ I have a problem getting information when reading through digital media.’, and 64% have no problem with the light of screen while reading digital texts.

Table 8 Preference for Reading Print or Digital Texts

No.	Statement	SD	D	N	A	SA	Total
14	I enjoy storing necessary digital documents on my device so that I can read them at any time and in any location.	0	1	7	28	14	50
		0%	2%	14%	56%	28%	100%
15	I tend to read digital texts more frequently than printed ones.	1	15	2	26	6	50
		2%	30%	4%	52%	12%	100%
16	I enjoy exploring the web for pertinent extra readings to analyze.	1	0	2	29	18	50
		2%	0%	4%	58%	36%	100%

Table 8 above shows that despite the difficulties of using digital texts, the respondents prefer reading digital texts, for example, 84% like keeping required digital texts on their gadgets to read anytime and anywhere, 64% tend to read digital texts more frequently than printed ones, and 94% enjoy exploring the web for pertinent extra readings to analyze.

Concerning the open questions, the responses vary to some extent which are summarised below:

- Digital texts motivate reading upon readers and make them more effective and beneficial.
- They have problems is the appearance of advertisements and notifications.
- (Normal) reading is better than digital text reading.
- Digital text is cost-effective and time-sparing.
- Reading printed text develops with the reader and the text which makes more impact as compared to the digital text.

**Summary of Findings**

The current work investigated teachers’ perceptions and practices on reading digital text. After analyzing the responses to the four indicators, the results suggest that teachers have a favourable perception of reading digital texts in terms of preference. More than 94% of the participants expressed their agreement

or strong agreement with the preference for reading digital texts over printed ones, they love searching the internet for relevant additional texts to study and like keeping required digital texts on their gadgets to read anytime. The next most positive perception was related to motivation and interest, for example, 66% think that reading digital text is motivating and 72% said that digital texts make them exciting. The least positive feedback was concerning the difficulty indicator with 26% thinking that technical disruption from the computer decreased their reading comprehension and motivation; and 12% the light of the screen while reading digital texts, but a contrasting point of view appeared concerning this indicator because 62% of the respondents said that they have a problem getting information when reading through digital media.

### **Conclusions and Recommendations**

Based on the preceding analysis and discourse, it can be inferred that the individuals participating in this study exhibited a favourable attitude toward engaging with digital texts within their academic domains. They displayed a preference for and heightened interest in digital texts over printed materials. Furthermore, the availability, convenience, and accessibility of digital texts served as motivating factors for their engagement with this medium.

Given the limited number of participants involved in this study, the generalizability of the findings to populations beyond the scope of the study program is constrained. Future investigations should incorporate a larger and more diverse participant pool from various educational institutions to enhance the precision and comprehensiveness of the conclusions drawn. Additionally, the measures employed in the study encompass statements about the broader use of digital reading. It is recommended that forthcoming research endeavors focus on examining educators' perspectives on the use of digital texts for learning in more targeted areas of language acquisition.

**Funding:** This research was funded by the Deanship of Scientific Research at King Khalid University for funding this work through Small Research Groups under grant number (RGP1/89/45).

**Acknowledgments:** The authors extend their appreciation to the Deanship of Scientific Research at King Khalid University for funding this work through Small Research Groups under grant number (RGP1/89/45).

**Conflicts of Interest:** The authors declare no conflict of interest.

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