

The Fate of Deep Reading in the Digital Age

مصير القراءة العميقة في العصر الرقمي

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Abstract:

The digital age has transformed the nature of reading. Due to the proliferation of information available online and through digital devices, students' reading behaviours are increasingly changing from paper reading to reading on screen. This paper aims to review current literature from a variety of disciplines on the effect of the digital age on students' deep reading skills. It also aims to provide teachers with effective strategies to encourage and sustain students' deep reading in the online world. Addressing the issue of deep reading in the digital age would deepen teachers' insights about the benefits and challenges of technology in the reading realm.

Keywords: Digital age, deep reading, students, screen reading, paper reading.

ملخص البحث

غيّر العصر الرقمي طبيعة القراءة، نظرًا لانتشار المعلومات المتاحة عبر الإنترنت، ومن خلال الأجهزة الرقمية، فإن سلوكيات القراءة لدى الطلاب تغيرت بشكل متزايد عبر الانتقال من قراءة الورق النموذجي إلى القراءة على الشاشة. تهدف هذه الدراسة إلى مراجعة الأدبيات الحالية من مجموعة متنوعة من التخصصات حول تأثير العصر الرقمي على مهارات القراءة العميقة لدى الطلاب، كما تهدف أيضًا إلى تزويد المعلمين باستراتيجيات فعالة لتشجيع الطلاب على القراءة العميقة والحفاظ عليها في عالم الإنترنت. من شأن معالجة مسألة القراءة العميقة في العصر الرقمي أن تعمق رؤى المعلمين حول فوائد وتحديات التكنولوجيا في مجال القراءة.

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1.Introduction

The proliferation of the Internet and the advent of digital devices have had a profound impact on the way students read. The exponential growth of electronic information in the online environment has led to a tangible shift from paper-based reading to reading on screen. Today, students spend much time reading on their screen either for entertainment or for learning. This change in the reading paradigm has sparked a new wave of literature on digital reading, often comparing reading on paper to reading electronically. Recent research raises important questions about the effect of digital reading on deep reading skills, such as comprehension and critical thinking (Liu, 2005; Mizrachi, Salaz, Kurbanoglu, & Boustany, 2018; Wolf, 2018). Such research is important for university teachers and authorities alike who aim to produce graduate students who can read deeply and think critically in the globalized world.

Therefore, this article reviews the literature on deep reading, identifying research on how the digital age is affecting the way students read. By reviewing literature from a broad range of sources this paper aims to provide teachers and policymakers with an understanding of the current issue regarding the fate of students' deep reading skills in the electronic era. It also aims to provide insightful data from recent research that would assist teachers to design more effective and innovative approaches to enhance students' deep reading as well as empower students' reading skills in the digital era.

2.The Nature of Deep Reading

Many researchers describe deep reading as continuous, sustained, serious, and focused reading especially when processing longer and more complex texts (Liu, 2005; Miedema, 2009; Mikics, 2013). Baron (2015) acknowledges that deep reading is the true reading that must be done slowly and not in a rush. She invites readers to take enough time for in-depth reading to extract the full meaning of the text. Readers should actively engage in deep attention and prolonged engagement to be immersed and involved in the reading process and uncover the invisible knowledge that resides in written words. In Bikert's view (2004) "the reader who reads without directed concentration who skims, or even just steps hurriedly

across the surface, is missing much of the real point of the work; he is gabbling his foie gras” (as cited in Baron , 2015, p.102)

In a similar vein, Miedema (2009) believes that for deep reading to take place, the reader has to pace the speed of reading to fit his purpose either to understand or to enjoy. He opines that effective reading requires stopping at every word to figure out what sort of information each word is conveying. Thus, a deep examination of words, thoughts, and concepts would inevitably enable readers to attain a deep understanding of the topic at hand. This trend of reading is appropriate when approaching informational or literary texts that require a high level of concentration. As Baron (2015) puts it “if you are trying to work through a complex passage, if you want to reflect on what you have just read, slow is the way to go” (p. 101).

Furthermore, deep reading is recognized as close reading that compels readers to give books the time, patience, and concentration they deserve (Prose, 2006). In her fascinating book ‘*Reading like a Writer*’, Prose (2006) extols the virtue of close reading in helping readers to reveal the implicit meanings of the text. According to her, close reading is about diving into the ocean of words and pausing at every single idea to get the real intention of the writer. She concludes that close reading is about immersing in the reading act: lingering over every word and phrase, visualizing the content, and activation one’s imagination to acquire the feat of reading.

Other researchers go further to note that deep reading is not simply about decoding words and consuming information, it is rather an endeavour to build new knowledge, to live new experiences, and to form new thoughts (Miedema, 2009; Wolf, 2007). Wolf and Barzillai (2009) define deep reading as “the array of sophisticated processes that propel comprehension and that include inferential and deductive reasoning, analogical skills, critical analysis, reflection, and insight” (p. 32). In other words, a deep reader has the ability to make inferences based on his background knowledge to analyze, evaluate, and synthesize the underlying meaning of the text. Deep reading enables a reader to read between the lines, go beyond the text, and transcend the author’s ideas to build his realm of wisdom and knowledge. Having these intellectual skills supports readers to reach the highest and deepest levels of reading which are integral to independent and lifelong learning (Wolf & Barzillai, 2009).

3.Deep Reading and Paper Medium

A considerable body of research finds that paper is the optimal medium to practise deep reading when approaching long and more demanding texts. A systematic literature review of empirical studies (Singer & Alexander, 2017) found that when participants were reading lengthy texts (e.g. research papers or novels) that demand serious and in-depth reading, the print was the more effective processing medium. This finding is confirmed by a recent large international survey (Mizrachi, Salaz, Kurbanoglu, & Boustany, 2018) in over 21 countries with more than 10,000 participants. Most of the participants reported that they remembered their academic materials better when reading in print. Similarly, Baron et al. (2017) investigated undergraduate students' reading behaviours and preferences. Results revealed that nearly 93% of their participants felt they were able to focus and concentrate better when reading in hardcopy, compared when reading digitally.

Another obvious advantage of reading on paper is the practice of rereading. Coming back to read important materials for several times encourages readers to pay attention to the details that might be missed in the first reading. Thus, rereading can lead to deeper learning, reflection and satisfaction. Mikics (2013) states that "rereading is an effective way of making yourself slow down and absorb as fully as possible the rhythms and meanings of what you read" (p. 37). This approach of reading helps the reader to read in a strong and productive way. This can be observed during the process of writing research papers in which the researcher has to reread the relevant journal articles and books to extract and integrate the pertinent information in his work (Harris, 2020).

Deep reading involves annotation and highlighting. Writing notes in the margin and highlighting important information are common activities in the printed environment (Liu, 2005) that "reflect active engagement with a text in an effort to learn and retain information" (Mizrachi, Salaz, Kurbanoglu, & Boustany, 2018, p. 4). Baron (2015) opines that underlying passages, drawing arrows, and doodling are effective reading strategies. These strategies encourage readers to reveal their thoughts and prospects about what authors have said. Furthermore, Baron (2015) notes that students who are writing papers or preparing for their exams would find it "easier to study from annotated text than pristine pages" (p. 30). It is conceivable that highlighting and annotation are an aid to support cognitive skills such as memory and comprehension: the core requirements for better learning.

Many readers embrace the physicality and the sensory dimensions of printed documents. They enjoy the beauty of words when they touch or smell a book (Baron, 2015; Liu, 2005; Mangen, Olivier, & Velay, 2019; Wolf, 2018). Mc Laughlin (2015) in his turn notes how “the feel of the book to the hand, and the smell of the paper, the haptic pleasure of manipulating the [the book] ... reinforce and deepen the habit of reading’ (p. 31). It is important to note that touching the paper offers a sense of ownership for the reader to get engaged in the reading process. Rose (2011) extols this virtue when she states: “To comprehend something fully is to take ownership of it and in order to own a text, I must hold it in my hand, scribble notes in the margins, underline, highlight, and star important bits” (p. 519).

The aforementioned advantages of printed materials imply that the paper medium is still required today when readers have to engage in deep reading. As Miedema (2009) puts it “print persists because it is a superior technology of integrating information of any length, complexity or richness, it is better suited to slow reading” (p. 26).

However, what remains to be explored in the digital era is whether the proliferation of digital media and the advent of technology alter the nature of reading in general and deep reading in particular. To put in other words, will our attention and concentration during reading diminish in a digital culture that values immediacy over accuracy and favours quantity of information to the detriment of quality?

4.The Shift in Reading Paradigm

The arrival of digital technology has brought about significant changes to the way students read. The exponential growth of electronic information on multiple digital devices (computers desktop, e-readers, mobile phones, tablets, etc.) alters the reading paradigm and makes a tangible shift from paper-based reading behaviour to screen reading. This new trend of reading has sparked scholars’ interests from disparate disciplines to study the effect of screen reading on students’ deep reading.

A considerable number of researchers insist that digital reading changes the real nature of reading (Baron, Calixte, & Havewala, 2017; Liu, 2005; Mangen, Olivier, & Velay, 2019; Wolf, 2018). Liu (2005) finds that skimming and browsing are the major characteristics of screen reading. Screen reading encourages reading selectively, spotting the keywords, skipping from one site to another to gather a large amount of information. Digital readers tend to skim and look for the needed information as quickly as possible in an environment whose principle is ‘the faster the better’ (Carr,

2010). However, this new form of reading creates a kind of shallower and superficial reading that takes precedence over deep reading (Mangen, Olivier, & Velay, 2019). From a neuroscientific perspective, Wolf (2018) acknowledges that “human whose brains have adapted to skim reading, without attention to deep reading, may lose the ability to follow a complex written argument, engage in deep and thoughtful analysis, and reflect on what they have read” (p. 64).

5.The Distracted Reader

One of the main challenges that readers face in the digital environment is distraction. When reading on a digital device that has a connection to the Internet, the notifications of Facebook, for instance, or even the notification sound of messenger and emails interrupt a reader’s attempt to read deeply and focus on one single task. This has led today’s readers to lament the fact that their deep reading becomes a struggle in a milieu that rewards multitasking and distraction. This claim is clearly stated by (Carr, 2010, p. 171):

The influx of competing messages that we receive whenever we go online not only overloads our working memory; it makes it much harder for our frontal lobes to concentrate our attention on any one thing. The process of memory consolidation can’t even get started. And, thanks once again to the plasticity of our neuronal pathways, the more we use the Web, the more we train our brain to be distracted—to process information very quickly and very efficiently but without sustained attention

Moreover, in his eloquent article ‘*Is Google Making Us Stupid*’, Carr (2008) opines that Google, as a research engine, puts tremendous sources of relevant information at readers’ disposal. However, that advantage comes at a price when the ubiquity of information encourages non-linear and fragmented reading (e.g. jumping from one site to another and hopping from one link to another) that scatters attention and diminishes concentration (Carr, 2008). Carr (2008) concluded that overreliance on the Internet contributes to producing students who become information consumers rather than meditative thinkers: producing a generation of passive and ‘deluded’ learners whose prime concern is to gather information regardless of their quality and adjudicated sources (Wolf & Barzillai, 2009).

On the other hand, many scholars argue that the arrival of digital technology contributes to a tangible and positive impact on students' reading. For instance, Graff and Birkenstein (2017) opine that exposing readers to a vast amount of information and diverse perspectives deepens their understanding and opens dynamic avenues for them to expand their knowledge. They write, "Thanks to the Internet, our potential knowledge is now thousands of times greater than ever before" (p. 67). Tapscott (2009) further praises the pivotal role of the digital age in creating the 'Net Generation' that is smarter and more literate than its elders. According to him, this generation has much technological savvy that enables it to multitask, get needed information quickly from multiple sources, and synthesize more information than any previous generation. Pardede (2019) points out that the Internet is the primary input for English as a Foreign Language (EFL) learners to boost their reading comprehension and enhance their learning. The Internet offers numerous websites that include rich information with images, audio, and videos that enable learners to be in direct contact with the target language. Undoubtedly, this technological tool helps students to expand their knowledge and improve their understanding through instant access to a variety of sources of information.

While the online environment brings unprecedented freedom for readers to choose their reading paths, there are associated hidden costs. Numerous studies demonstrate that people who engage in multitasking behaviour, such as shifting between two tasks or more online, lose the ability to concentrate on one task and spend more time than required to accomplish the reading assignment. Even though these generations have more experience with online reading, they lack the ability to read critically and build stronger reading skills. For this reason, scholars raise concerns about how today's readers can activate their deep reading processes when encountering a sheer volume of information in a digital society which promotes speed and immediacy. The question that needs an answer is: Is it possible to sustain students 'deep reading in the digital landscape while distraction is omnipresent? The next section will attempt to suggest possible solutions to address this issue.

6. Encouraging Deep Reading in the Digital Age

It is undeniable that deep reading becomes a real challenge in the digital age. Now, more than ever, there is a pressing need to change the pedagogy and design new approaches to fit the demands of the fast-moving twenty-first century, a world in which the ability to read deeply and think

critically is more important than the ability to gather information. Research demonstrates that education plays a crucial role through explicit instructions in encouraging students' deep reading in an online environment.

Fisher, Lapp, and Wood (2011) have suggested important instructional elements to sustain deep reading when reading online. They believe that teachers have to teach their students to establish a purpose for reading from the very beginning. According to them, students should determine if they are reading for specific information, or to get a general idea, reading for learning, or reading for pleasure. Setting a purpose for reading will direct students to avoid irrelevant information that may deviate them from reaching their reading aims.

Further, Fisher, Lapp, and Wood (2011) praise the use of electronic graphic organizers such as Inspiration (<https://www.inspiration-at.com/inspiration-maps/>) that allows students to organize information, visualize the content, and share the information with other students to discuss it critically. It is important to note that providing templates of these graphic organizers enables students to pay attention to the details of the text that contribute to the building of the overall understanding of content.

Wolf and Barzillai (2009) opine that the Center for Applied Special Technology (CAST) has designed a significant programme: Universal Design Learning edition of Edgar Allan Poe's "The Tell-Tale Heart" (http://udleditions.cast.org/INTRO,telltale_heart.html), that helps students answer comprehension questions through the use of effective reading strategies to predict, visualize, and summarize the content of the passage.

Furthermore, reading is a social constructive process, and students tend to learn better when they discuss with others what they have read. Here lies the role of the teacher in creating an environment conducive to discussion. For instance, after reading a passage, teachers may ask their students to answer the comprehensive questions and discuss the ideas of the texts with their peers through instant messages or chat rooms like Facebook or WhatsApp.

Fisher, Lapp, and Wood (2011) further propose that the use of blogs as public platforms supports students' thinking in terms of sharing, synthesizing, and evaluating information. Through these blogs, students receive others' perspectives and critics that draw their attention to the details in their writing and reading.

As mentioned earlier, deep reading demands that students spend enough time to understand the material. According to many scholars,

reading is not about how much faster students can read online. It is rather about understanding, and part of understanding is reading slowly. As Fisher, Lapp, and Wood (2011, p. 62) state, "Reading more slowly provides readers to activate relevant background information, make connections, visualize, infer, predict and even disagree with the author".

7. Conclusion

It is indisputable that the digital age is shaking up the world of reading to a degree not seen for centuries. For better or worse, by force or chance, screen reading becomes the pervasive behaviour among today's readers especially young students who are described as 'digital natives' who grow up in a milieu where the digital devices are proliferating, and where the Internet serves as a major contributor in supplying them with boundless opportunities at any time in any place to satisfy their reading needs. Although the Internet puts enormous sources of information at readers' fingertips, their reading becomes superficial, thereby their knowledge remains at the surface too. One plausible explanation is that digital reading encourages distraction and lacks to some extent the faculty of deep reading, a faculty that is recognized as the gateway toward effective reading and impactful learning. Notwithstanding these limitations, educators should not see technology as a threat to deep reading that must be resisted, but as an invitation to complement the print environment, and as an opportunity to devise innovative approaches to enhance students' deep reading to face the demands of the digital world.

References

1. Baron, N., Calixte, R., & Havewala, M. (2017). The persistence of print among university students: An exploratory Study. *Telematics and Informatics*, 34, 590-604. Retrieved from <http://dx.doi.org/10.1016/j.tele.2016.11.008>
2. Baron, N. (2015). *Words onscreen: the fate of reading in a digital world*. New York: Oxford University Press.
3. Carr, N. (2008, July/August). *Is Google Making Us Stupid?* Retrieved from The Atlantic: <https://www.theatlantic.com/magazine/archive/2008/07/is-google-making-us-stupid/306868/>
4. Carr, N. (2010). *What the internet Is doing to our brain: The shallows*. New York: W. W. Norton & Company, Inc.

5. Fisher, D., Lapp, D., & Wood, K. (2011). Reading for Details in Online and Printed Text: A Prerequisite for Deep Reading. *Middle School Journal*, 42(3), 58-63. doi:10.1080/00940771.2011.11461767
6. Graff, G., & Birkenstein, C. (2017). *They Say I Say: The Moves That Matter in Academic Writing*. New York: Norton & Company, Inc.
7. Harris, D. (2020). *Literature Review and Research Design: A Guide to Effective Research Practice*. New York: Routledge.
8. Liu, Z. (2005). Reading Behavior in the Digital Environment: Changes in reading behavior over the past ten years. *Journal of Documentation*, 700-712. doi:10.1108/00220410510632040
9. Mangen, A., Olivier, G., & Velay, J.-L. (2019). Comparing Comprehension of a Long Text Read in Print and in a Kindle: Where in the Text and When in the Story. *Frontiers in psychology*, 10(38), 1-11. doi:doi: 10.3389/fpsyg.2019.00038
10. Mc Laughlin, T. (2015). *Reading and the body*. New York: Palgrave Macmillan.
11. Miedema, J. (2009). *Slow Reading*. Duluth, Minnesota: Litwin Books, LLC.
12. Mikics, D. (2013). *Slow Reading in a Hurried Age*. USA: The Belknap Press of Harvard University .
13. Mizrachi, D., Salaz, A., Kurbanoglu, S., & Boustany, J. (2018). Academic reading format preferences and behaviors among university students worldwide: A comparative survey analysis. *PLOS ONE*, 13(5), 1-32. doi:https://doi.org/10.1371/journal.pone.0197444
14. Pardede, P. (2019). Print vs Digital Reading Comprehension in EFL. *Journal of English Teaching*, 5(2), 77-90. doi:http://dx.doi.org/10.33541/jet.v5i2.1059
15. Prose, F. (2006). *Reading Like a Writer*. USA: HarperCollins.
16. Rose, E. (2011). The phenomenology of on-screen reading: University students' lived experience of digitised text. *British Journal of Educational Technology*, 42(3), 1-35.
17. Singer, L., & Alexander, P. (2017). Reading on Paper and Digitally: What the Past Decades of Empirical Research Reveal. *Review of Educational Research*, 1-35.
18. Tapscott, D. (2009). *Grown Up Digital: How the Net Generation is Changing Our World*. New York: The McGraw-Hill Company, Inc.

19. Wolf, M. (2007). *Proust and the Squid: The Story and Science of the reading Brain*. New York: HarperCollins.
20. Wolf, M. (2018). *Reader, Come Home: The Reading Brain in a Digital World*. New York: Harper.
21. Wolf, M., & Barzillai, M. (2009). The Importance of Deep Reading. *Educational Leadership*, 66(6), 32-37