

Digital Literacy: From Embodied to E-bodied Reading Experience

Krisztina Szabó, Budapest University of Technology and Economics, Hungary

The European Conference on Education 2023
Official Conference Proceedings

Abstract

According to the approach of Embodied Reading (Malafouris, 2013; Mangen & Schilhab, 2012) the reading body and the reading brain get into a dynamic interaction with the pure materiality of the medium. During reading, this interaction of the Body-Brain-Medium Triad creates a complex reading experience, which “depends on direct experiences in the moment as well as in the past” (Schilhab, Balling & Kuzmičová, 2018). It could lead to reading engagement or even to Flow (Csíkszentmihályi, 2022). What are the consequences concerning the reading experience if we change one component or feature of the Triad, as we have been doing for a while in the case of the medium? Presumably, changing the reading platform from hardcopies to screens requires different physical interactions with the medium and, consequently, with the brain. Could this change result in the same Multisensory Experience (Sanchez, Dingler, Gu & Kunze, 2016), the same Embodied Reading, engagement, or Flow as in the case of traditional reading, and must it result in them at all? Some researchers warn of “the danger of superficiality and shallowness” (Nyíri, 2022, p.1) of screen reading that goes against a complex reading experience. Others suggest going further in screen reading and creating the digital embodied reading experience with the genre of video essays (Sabatino & Pisapia, 2022). In my paper, I take a stand in this debate and show how critical it is to understand the effect of the medium and the E-bodied Reading Experience in the future of reading.

Keywords: Embodied Reading, Body-Brain-Medium Triad, Reading Experience, Multisensory Reading Experience, Reading Engagement, Digital Literacy, Screen Reading

iafor

The International Academic Forum
www.iafor.org

Introduction

In this paper, based on the relevant literature listed in the References, I will (1) describe the notions of three different types of experience: reading; articulated and multisensory experience. Then I will (2) present the concept of Embodied Reading, which is not a new approach; however, because of the emerging trend of digital reading, should gain attention again. Following this track of thoughts, I will (3) explain the Body-Brain-Medium Triad along with the consequences of changing the Medium, that (4) cause an essential change in the reading experience, and that which I call the “E-bodied” Reading Experience. Then (5), based on the previous, I will also give some thoughts to the Reading Debate and present my stance. Finally, I give some concluding remarks and opportunities for further discussion.

The significance of the topics is striking if we consider the trends of the reading industry, particularly those technical improvements and connected research that try to capture, find, reserve, or transform traditional reading experience into screen and digital devices (Yulbarsova1 & Topvoldieva, 2021). In the era of emerging digital contents – reading, learning, and studying material – engaging children and adults to read and give them not just information but experience is a tough one. Especially, if the already massive amount of screentime people spend with their devices – and which is beyond dispute unhealthy – seems to contradict the wish for stronger digital engagement. Thus, what I argue for is not about increasing screentime but improving quality reading with the tools are available to go beyond simple information seeking, skipping, and scrolling, and find joy again in reading both on print and digital platforms.

1. Types of Reading Experience

A reading experience can be understood as a process that is consciously influenced by its cultural, psychological, and historical contexts. Reading experience can mean “[...] being absorbed in a good story, when we forget about time and place, forget to eat or even to go to bed. A good read is when we learn about the world, learn about the human mind, and learn about ourselves. It is pleasure and entertainment, excitement and having a good time, but it is also self-realization and mind expansion” (Balling, 2016, p. 37). In other words, as they phrased in the framework of the RED Project: “a ‘reading experience’ means a recorded engagement with a written or printed text – beyond the mere fact of possession” (RED Project, para. 1).

Since reading happens in our head – no matter whether we are talking about silent reading or reading aloud – the reading experience is both physical and mental phenomenon that is difficult to verbalize or articulate. (Balling, 2009; Berntsen & Larsen, 1993). Even readers with a high degree of reflexivity express difficulties with putting their reading experiences into words (Balling, 2009). Some researchers, based on their examination, tried to capture the essence of good reading experience which allows reader to:

- Gain knowledge about the world and oneself.
- Experience recognition and identification with the characters.
- Become emotionally involved.
- Forget time and place.
- Enjoy a book that is well written.
- Activate the reader’s imagination (Balling, 2009; Toyne & Usherwood, 2001; Ross, McKechnie & Rothbauer, 2006).

One can see from the above list, that we are discussing some hidden and very subjective phenomena here, where getting information (i.e., learning something new), stepping out of reality (i.e., activate imaginary mind games), feeling familiar and unfamiliar emotions (thus practicing empathy), and receive some kind of value (i.e., quality content) are highly important.

2. The Embodied Reading Experience

Reading is also physical in the sense that it involves the whole body, not just the mind, and this is what the concept of Embodied Reading Experience refers to. “Reading fiction is a silent activity, where readers come to know imaginary worlds and characters from the book’s pages. However, we perceive the natural world with more than our eyes, and literature should be no different. Thus, an embodied reading experience is proposed, adding sound effects and haptic feedback to allow readers to listen and feel the narrative text” (Sanchez, Dingler, Gu & Kunze, 2016, p. 1). Here, in other words, we are discussing a kind of multisensory reading experience in which aspects beyond the brain – such as smell, touch, sense, hear, see, body posture and moves – play a significant role in the cognitive processing.

3. The Body-Brain-Medium Triad

During process of reading, the reading body and the reading brain get into a dynamic interaction with the pure materiality of the medium (the book, the paper, and, eventually, the text itself). Concerning the body, readers choose various postures to read: hold the book or the reading device in their hands; lay it on the table or lean it on to a pillow; sitting, standing or laying on something; holding the text close to the eyes; flipping the pages with one hand or scrolling up and down the page by one finger, etc. Finding the right posture that is comfortable for the reader as much as they can nearly forget about the physicality of the situation influences the reading process and quality, therefore on the reading experience as well.

The brain has also an essential part and hard work in the reading process. When we read, the left occipito-temporal cortex of our brain instantly associates each written word with its spoken equivalent. One part of our brain analyses the meaning of a word, while another part allows it to recognize words automatically. (Eden, n. d.) Interestingly, the brain does not differentiate much between reading about an experience and practicing or witnessing it in real life. In both cases, the same nerve regions are stimulated. Rich detail, fictional metaphors, accurate descriptions of people and their actions: rich picture that approximates reality. As Keith Oatley (professor of cognitive psychology, University of Toronto, Canada) phrased: “when literature affects the brain, it works like simulation programs run by computers” (The Scientific World, 2021, para. 28). Thus, in reading, you can physically change the structure of your brain, and even trick your brain into thinking you have experienced what you have only read in novels.

The third element of the Triad is the medium, that can be nearly everything that can contain readable content. Handwritten messages, paper and pencil or pen texts, printed newspapers and books or digital files, e-books, online newspapers, e-mails, digital textbooks, etc. Even a billboard can fulfil the role of medium if it has something to do read. At first it seems, that the medium is just the carrier or container of the information; however, since Marshall McLuhan’s (1964) well-known phrase: “The medium is the message,” the power and effect of the medium on the other two elements of the Triad is kind of trivial. The brain must

cooperate with the actual medium according to different strategies, while the body also must arrange itself into the most efficient and comfortable posture and make moves that the medium requires in order to progress in the text.

4. Changing the Medium – Changing the Game?

Now, what are the consequences for the reading experience if we change one component or feature of the Triad, as we have been doing it for a while in the case of the medium? During the history of reading, many medium changes happened; however, by shifting from hardcopies to screens and the emergence of the New Medium the whole process of reading has been changed. Interestingly, according to research, our brain adapts to reading e-books in seven days, “[...] while our biology (brain, perceptual apparatus etc.) is not *per se* well-suited, let alone designed, for reading, our reading materials (and, one should add, reading practices) have developed and adapted to our biology – i.e., the cultural evolution of reading has been constrained by the architecture of our cortical areas [...]” (Benne, 2021, p. 101-357).

Nevertheless, digital texts, such as E-books lack spatial navigability: distractions, eye strain, inadequate navigation features, a lack of overview, and insufficient annotation and highlighting functionality. For these reasons – or for others – the National Endowment for the Arts (NEA) study claimed that reading digital contents or learning online are “not reading,” but “activities that distract one from reading” (Coyle, 2008, p. 3-4). Furthermore, they claimed that digitalism will give us new experience, “which is not exactly »reading«” (Badulescu, 2016, p. 148; Szabó, 2019; Szabó, 2020).

5. The E-bodied Reading Experience

Now what is this “new experience,” which can even question the quality of the process itself and stretches the boundaries of the well-known concept of reading? The tap, the hyperlink, the zoom through the pinch, the lightness and portability of the object, the practicality in pinning, highlighting, referring to something else with external links constitute a new reading experience, between euphoria and distraction. (Sabatino & Pisapia, 2022) This great interactivity between reader and text is changing the texts to the point of leading them to be other than themselves, to be increasingly complex, annexing within them images, audiovisuals and interactive sections. I call this almost intangible phenomenon “E-bodied” Reading Experience, referring to the medium (e.g., e-book), to the quality of the content to be read (e.g., digital text), the new strategies that the brain must adapt in order to cooperate with the content (e.g., decode, comprehend, memorise), and the body which must learn how to manage the medium, and should place itself into postures that are comfortable and effective enough to read.

6. The Missing Experience?

While I consider digital reading real reading and discuss the e-bodied reading experience, debates about the nature, quality, attributes, and legitimacy of digital reading are still going on.

Some researchers warn of “the danger of superficiality and shallowness” (Nyíri, 2022, p. 1). Others say that e-books do not provide external indicators to memory in the way that printed books do (Morineau, Blanche, Tobin & Gueguen, 2005), therefore print reading and paper as

a medium is much better than screen reading. Some results of reading assessments and other researchers also express cautions concerning the quality of reading literacy and text comprehension, stating that “the more we read online, the more likely we were to move quickly, without stopping to ponder any one thought” (Konnikova, 2014, para. 3) and “good reading in print doesn’t necessarily translate to good reading on-screen” (Konnikova, 2014, para. 8).

There are concerns about the reading experience as well and considerations that advocates to return to the paper as soon as possible, while others motivate to going further in screen reading. “Do we care about how children and teenagers enjoy reading, or are we more interested in them meeting our ideal of what a reader is [...]?” (Gatward, 2017, paras. 4-5) A highly new concept, for instance, is the format of video essays, which is highly engaging, it mixes verbal and audiovisual language, virtually very interactive, and it seems to be a possible direction in which to think about reading and learning in the screen age we are living (Sabatino & Pisapia, 2022).

According to my point of view, we should not want the impossible. We cannot reach the same reading experience of traditional reading in a completely different technological guise and with different methods. It cannot be the same, because the brain and the body do things differently and the nature of the text is also different. In fact, we don’t want the same thing: we want to surpass it. The extended reading, of course, rises questions, such as the limitations of the extension. Will digital reading cross the line as far as we cannot call it reading anymore, but VR reality or simulation? Is the story really the essence, the experience, and not the technological exploitation? I claim that it depends on the genre, what is needed. But if we get used to overwhelming digital experience in entertainment literature, then the obligatory reading for information will not be enough.

Thus:

1. We must decide when we want an experience. Do we want an experience at all?
2. The medium must be adapted to the genre, and not the genre to the medium.
3. The answer to the question of how to engage the reader with digital content should not be the device but the quality; it should be as analogue as possible.

Concluding Remarks and Directions of Possible Further Research

In this paper, I (1) described the notions of three different types of experience: reading; articulated and multisensory experience. Then I (2) presented the concept of Embodied Reading, and (3) explained the Body-Brain-Medium Triad along with the consequences of changing the Medium, that (4) cause an essential change in the reading experience, and that which I call the “E-bodied” Reading Experience. Then (5), based on the previous, I also gave some thoughts to the Reading Debate and presented my stance. As a conclusion, I claim that at present, in the tenors of making screen reading effective, comfortable, and very practical, the biggest challenge is to accomplish and bring back the missing experience of classic reading, namely: engagement, emotion, inner motivation, complex mental, physical, and sensual experience that makes print reading specific. To achieve this, further research on digital reading and text comprehension, visual literacy, reading experience, user satisfaction of reading devices and designing digital reading materials are required.

Funding

Special thanks to the BME Measures of Rationality Research Group (MoR).

Supported by the ÚNKP-22-4-II-BME-192 New National Excellence Program of the Ministry for Culture and Innovation from the source of the National Research, Development and Innovation Fund (unkp.bme.hu).

Department of Philosophy and History of Science, Faculty of Economic and Social Sciences, Budapest University of Technology and Economics, Műegyetem rkp. 3., H-1111 Budapest, Hungary.

References

- Badulescu, D. (2016). "Reading in the Digital Age". *Philologica Jassyensia*. 12, no. 1(23): 139-149.
- Balling, G. (2009). Litterær æstetisk oplevelse. Læsning, læseoplevelser og læseundersøgelser: en diskussion af teoretiske og metodiske tilgange. [Literary Aesthetic Experience: Reading, Reading Experiences, and Reading Studies: A Discussion of Theoretical and Methodological Approaches]. PhD diss., København: Danmarks Biblioteksskole.
- Balling, G. (2016). What is a Reading Experience? The Development of a Theoretical and Empirical Understanding. In: Rothbauer, P. M., McKechnie, L., Oterholm, K. & Skjerdingsstad, K. I. (Eds) (2016). *Plotting the Reading Experience — Theory/Practice/Politics* (pp.37-53) Chapter: 3. Wilfrid Laurier University Press.
- Benne, C. (2021). Tolle lege. Embodied reading and the "scene of reading". *Language Sciences*. 84 (2021): 101-357.
- Bennett, L. (2017). *The print versus digital debate rages on, but should there really be a debate at all?* At: <http://www.adrenalineagency.com/blog/print-versus-digital-great-debate/>. Last accessed: 15. 08. 2023.
- Berntsen, D. & Larsen, S. F. (1993). *Læsningens former* [Forms of Reading]. København: Gyldendal. Blanche, Tobin & Gueguen, 2005.
- Coyle, K. (2008). E-Reading. Managing Technology, *Journal of Academic Librarianship*. 34(2):160-162. At: https://kcoyle.net/jal_34_2.html. Last accessed: 15. 08. 2023
- Csíkszentmihályi, M. (2022). *Az áramlat – A tökéletes élmény pszichológiája*. Budapest: Akadémiai Kiadó Zrt.
- Eden, G. (n. d.). How reading changes the brain? At: <https://www.understood.org/en/articles/how-reading-changes-the-brain>. Last accessed: 15. 08. 2023.
- Gatward, D. (2017). "The book is dead. Long live reading" Youth and Children's Work. Blog post on March 2017. At: <https://www.youthandchildrens.work/content/view/full/738158>. Last accessed: 15. 08. 2023
- Konnikova, M. (2014). Being a Better Online Reader. *The New Yorker*. At: <https://www.newyorker.com/science/maria-konnikova/being-a-better-online-reader>. Last accessed: 15. 08. 2023.
- Malafouris, L. (2013). *How Things Shape the Mind. A Theory of Material Engagement*. Cambridge: MIT Press.

- Mangen, A. & Schilhab, T. S. S. (2012). An embodied view of reading: Theoretical considerations, empirical findings, and educational implications. In: Matre, S. & Skaftun, A. (Eds.) (2012). *Skriv! Les!* Trondheim: Akademika forlag.
- McKechnie, L., Ross, C. S., & Rothbauer, P. M. (2006). Reading Matters: What the Research Reveals about Reading, Libraries, and Community. At: https://www.researchgate.net/publication/258761613_Reading_Matters_What_the_Research_Reveals_about_Reading_Libraries_and_Community. Last accessed: 15. 08. 2023.
- McLuhan, M. (1964). *Understanding Media: The Extensions of Man*. At: <https://designopendata.files.wordpress.com/2014/05/understanding-media-mcluhan.pdf>. Last accessed: 15. 08. 2023.
- Morineau, T., Blanche, C., Tobin, L. & Gueguen, N. (2005). The emergence of the contextual role of the e-book in cognitive processes through an ecological and functional analysis. *International Journal of Human-Computer Studies*. 62 (3): 329-348.
- Nyíri, K. (2022). *Turn the Leaf*. In: Nyíri, K. (Ed.) (2022) *Facing the Future, Facing the Screen*. Budapest: Hungarian Academy of Sciences.
- RED Project. At: <http://www.open.ac.uk/Arts/RED/experience.htm>. Last accessed: 15. 08. 2023.
- Sabatino, A. C. & Pisapia, R. (2022). *Papers Like Stories. Video Essay as Research and (Online) Publishing Tool*. In: Nyíri, K. (Ed.) (2022) *Facing the Future, Facing the Screen*. Budapest: Hungarian Academy of Sciences.
- Sanchez, S., Dingler, T., Gu, E. & Kunze, K. (2016). *Embodied Reading: A Multisensory Experience*. CHI EA '16: Proceedings of the 2016 CHI Conference Extended Abstracts on Human Factors in Computing Systems May 2016. 1459–1466.
- Schilhab, T., Balling, G. & Kuzmičová, A. (2018). Decreasing materiality from print to screen reading. *First Monday*. 23(10). At: <https://firstmonday.org/ojs/index.php/fm/article/view/9435>. Last accessed: 15. 08. 2023.
- The Scientific World (2021). *What Happens to Your Brain When You Read?* At: <https://www.scientificworldinfo.com/2021/02/how-does-reading-affect-your-brain.html>. Last accessed: 15. 08. 2023.
- Szabó, K. (2020). *Assessing the “Invisible”*. *Critical Discussion about the OECD/PISA Reading Literacy Surveys*. Doctoral dissertation.
- Szabó, K. (2019). "Not Exactly Reading". *Információs Társadalom: Társadalomtudományi Folyóirat*. 19(4): 100-114.

Toyne, J. & Usherwood, B. (2001). The value and impact of reading imaginative literature. *Journal of Librarianship and Information Science*. 34 (1). At: <https://journals.sagepub.com/doi/10.1177/096100060203400104>. Last accessed: 15. 08. 2023.

Yulbarsova¹, A. L. & Topvoldieva, M. E. (2021). The importance of reading competencies in the context of the “industry 4.0” industrial revolution. *Academicia: An International Multidisciplinary Research Journal*. 11(1): 205-210.

Contact email: szabo.krisztina@gtk.bme.hu