Communication Science

Doctoral Program

THESIS SUMMARY

to the Ph.D. dissertation of

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The birth of a new book format

The effects of the interactive books on reading ability and comprehension amongst the Alpha and Z generation

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1. Research Summary and Thesis Formulation

Society as a whole is continuously being engulfed by the online world. This process does not leave reading unaffected, and as such, directs our attention to new phenomena. What kind of effect do these new modes of online reading, especially those which tend to emphasize the acquisition of information as opposed to the digestion and revision of the material (as described by Jakob Nielsen, phenomenon F, 1999), have on the reading habits, general and functional literacy of the Alpha generation, i.e. people born after the year 2010? Historically, perhaps not even Gutenberg's invention had had such an impact on reading as modern online technology has had in our time. Print changed the way we read (Briggs & Burke, 2002) and shifted to a new realm in terms of unprecedented acceleration of how knowledge and information are shared. In a society of the information age, this process is ever so prevalent, which also affects the so-called Gutenberg Galaxy (cf. McLuhan, 1962) and could result in the evolution of print and reading habits alike.

It is especially important to monitor the changes in reading habits among the age group of 6 to 14-year-olds to gain insight and understand the changes that occur in said reading habits to formulate the anticipated short and long term implications. Everything we may learn about this specific age group will provide us with further insight into the adult reader's future mental profile. The root of learning disabilities can often be traced back to some form of struggle, impediment or lack of a developed vocabulary related to the learner's mother tongue, reading, and text

comprehension. In the most recent Programme for International Student Assessment (PISA, 2018) study, it is stated that in Hungary, 25% of 15-year-olds are functionally illiterate or are incapable of reading. In Europe, 10% of people between the ages of 15 to 65 struggle with some form of reading impediment (EPALE, 2015). Yet nowadays, reading is an essential skill that enables one to assimilate into the workforce; it is an invaluable skill; perhaps never before has there been such high demand and expectation for literacy.

In the aforementioned age group, it can obviously be pointed out that the figure of books read, the intensity of reading, and the time spent reading has been dropping steadily (Erdős & Lak, 2019). *Only by reading can one overcome their problems related to their reading impediments.* This seems evident, yet facilitating this process in childhood is one of the most pressing challenges of the 21st century. In an oddly dissonant way, the very root of the problem could also potentially be the solution. The internet and online technologies could help reverse negative reading tendencies.

In the literature on the subject and research papers published in the English language, researchers tend to use the term *literacies*, often in the plural, to define types of reading and its various forms, to refer collectively to literacy as a whole.

As David Bawden (2001) wrote in his essay, the definition of literacy changes over time. At one point, the definition of literacy focused on decoding printed material, at another time it meant having a conscious and critical knowledge of cultural conditions, ethical norms and aesthetic

values of printed material. The nature of literacy has always consisted of these two (Koltay, 2010).

On the one hand, the definition of literacy contained the general ability to read and write. On the other hand also meant reading *for* comprehension, which already encompasses the ability to think logically and formulate argumentation and criticism (*reading literacy,* OECD 2003).

When examining the knowhow and technique of the ability to read and write, we also must take into account the opposite of it, i.e. primary illiteracy, which is defined as the complete lack of the ability to read or write in general, while also considering the less severe, yet equally dire version of it: functional illiteracy, which in terms of the acquisition of the ability in and of itself is not enough, is defined as the inability to read well enough to manage daily living. In other words: one may be considered functionally illiterate who is unable to live up to the expectations of their community and their professional environment (Koltay, 2010). One level beyond such categories would be *critical* literacy, which is in essence the ability to approach a text with critical comprehension (Briggs & Burke, 2002).

Therefore, reading is an invaluable instrument in the development of creativity and critical thought which helps the intuition of one to recognize the nuance in our world, to be able to reflect on patterns and models, and as such, is a *sine qua non* for thinking in networks (Harsányi, 1991). Despite this – as indicated by the alarming data above – there is an ongoing literacy crisis (Wetzel, 2018). This contradiction alone justifies

sufficient reason to recontemplate the ever-so-changing social role, nature and direction of reading at the beginning of the 21st century.

The conversion of printed materials into the digital format, i.e. the advent of the e-book, has not been particularly successful on the children's and teens' book markets. In order to address the upcoming generation, there was a necessity for a new format – which is part of your ordinary digital ecosystem's medium – to emerge (Briscoe & Wilde, 2007). The interactive book provides an attempt to solve this problem, which is characterized by various modalities and combinations – written text with motion picture and sound – and the interaction that coordinates the user in real time (Varga, 2019). By using interactive books, the reader becomes an active participant (Sargeant, 2015). Children who were born into the digital age are expected to participate in a story actively and its developments, to properly digest the content, especially if presented on a screen. The reader's experience and connection with the material becomes more dynamic in comparison to printed books, since the reader can intervene or interfere with the story, which may change the illustrated world within to some extent according to the plot (Boldog et al. 2018). Therefore the depicted world is neither obvious nor fixed like most printed text. Interaction is already a playful, perhaps even magical experience that children very much appreciated. It may be a source of incentive or motivation to readers that may still have difficulty reading and comprehending printed text. However, the opportunity to read interactive books requires inexpensive technology and *digital* literacy. In terms of literacy, we must distinguish two concepts within elementary reading, such as functional digital literacy and critical digital literacy, the latter of which comprises creative acumen (Bajomi-Lázár, 2020). In the case of

critical digital literacy, the reader is able to identify, access, handle, integrate, evaluate and synthesize digital resources, is also able to tap into new knowledge and communicate with others and reflect upon the information that reaches them. The importance of the topic is reflected in the European Commission's various frameworks, which help us understand digital skills and provide a unified approach to the further development and realization of competencies. DigComp (which was first introduced in 2013, revised in 2019) provides a solid basis for the assessment of digital competence. The framework establishes the principles and areas of life which are essential for active participation in a digital society. This includes information literacy, communication, collaboration, digital content creation, problem-solving, and securty (Carreteroet al., 2017). The European Commission has also created the DiComp framework, DigCompEdu (Redecker, 2017), which aids the assessment of digital competence of educators on a member state level. The proposition identifies competencies that educators must improve upon to realize digital education and support students in developing their digital competence.

2. Research Methodology

I begin my dissertation with a brief overview of the history of literacy, particularly in reference to the works of Marshall McLuhan, Asa Briggs, Peter Burke and Andrew Chadwick. After that, I shall provide an analysis

of the reasons for the change in reading habits, taking into consideration the PIRLS report and the official OECD PISA survey.

A significant portion of research regarding the book and reading is very much so quantitative to this day. I believe that research on this particular topic can be complemented by qualitative analysis of various media use, followed by surveying the general public. It would be rather misleading to omit the general public's participation in such research in terms of the notion of innovation itself and the success of new technologies. It is absolutely imperative for the understanding of various media's effects on children to examine the relationship that children have with various media and their experiences in relation to them. An important starting point for the analysis of this issue would be that children are active in generating meaning when using various media, and during this process is in essence determined by factors such as personality traits, society and culture (Buckingham, 2002).

Such a cultural approach to technology helps researchers understand the motives and needs of readers. Therefore, I complement the figures presented with an examination of the wider cultural and social context in my analysis. The user satisfaction model created by Elihu Katz and his colleagues focuses on the individual reader's general and psychological needs during media reception, thus providing a foundation for a paradigm of reception that focuses on the user and media to satisfy their needs. As such, we can not only quantify the size of the audience of mass media, but also we may assess how the community reacts to the communicational experience (Ross & Elliott, 1975: 228). In my research, I place great

emphasis on analyzing the experiences and opinions of users of the interactive book experience.

Therefore by analyzing hybrid media and applying the classical theories of mass communication, we must also consider the receiver as a transmitter; the user who constructs meaning is our starting point, one who shuffles between hybrid media according to their level of media consciousness and chooses content to their interest and whim. Participation or user engagement (Nakamura, Chow & White, 2012) implies constantly evolving digital knowledge, adaptation and activity. The user also creates content, integrates, reshapes and shares while interacting with other users of the same network, constructing or reconstructing from platform to platform. As such, a platformized and participatory society has come into existence based on interconnectivity (Fehér 2016; Lee & Chan, 2016; Dijck, 2013). The present-day reader has a bookshelf in not only their living room, but also a plethora of books downloaded onto their virtual equivalents.

User activity is also influenced by the level of media activity (Myat, 2010), since different media allow for differing levels of recipient feedback and interaction related to content. The members of the Z and Alpha generations, whose primary communication platform is not even e-mail, but rather social networks, interaction is a given. The e-book that is seen as a hybrid genre is constantly evolving due to social pressure and the need for increased stimuli. It is starting to behave like any other popular new media. According to Chadwick, the elements of media are in constant interaction; they are competing for attention, the communities

and of course for revenue, and as such are dependent on one another in content creation and technological innovation for the overarching goal.

Newly-introduced elements join the system and constantly shape this network, while successful practices are seen as innovative, they nevertheless influence older actors too, i.e. the needs of digitally native generations already affect the hybrid e-book market's actors as well, and consequently give life to interactive books. As a result of this interaction and reaction, the content of books flow into the mobile application market.

I used both documentary analysis and qualitative methods for specialized literature review in my research.

I included a number of international and domestic study results, including the PIRLS report, the official OECD PISA survey (Programme for International Student Assessment), the Metropolitan Ervin Szabó Library's "My Library" results, and Juhász Gyula Faculty of Education's Arts for Education research group's professional findings from the University of Szeged. In order to present and evaluate interactive books in detail, in addition to international examples, I will also analyze a Hungarian application, BOOKR Kids, the research provided is based on domestic application developments that shape the majority of the structure for this thesis.

The argumentation is based on the results of EFOP 3.2.4 grant which was made possible by the Klebelsberg Center, the research was conducted from September to December of 2019, during which the interactive book was tested and evaluated with the performance of control groups comprised of students in the second, third and fourth grades of elementary school which was made to read printed text (synchronous data collection),

while the other control group comprised of fifth and sixth graders, the data collection was conducted in a diachronic way: the use of the interactive book preceded classroom work with traditional printed books.

3. Research Questions

In my dissertation, I examine the ever-evolving environment of a hybrid medium; the intention was to assess the significance of the interactive book as a new constellation in the Gutenberg and Castells galaxies from various aspects. I attempt to provide answers to the following research questions:

1. Is it true that today's generation does not read or consider reading a leisure activity? Have the reading habits of younger generations really changed? Do the present-day digitally native generations even require reading as a technique? If so, then why?

2. How can we promote literacy among the Alpha generation? What tools and methods are available that can help develop students' skills and motivate this generation that generally does not respond with interest to traditional media and approaches? Do ICT tools evoke a similar reaction in this manner? Where do they belong in the Gutenberg and Castells galaxies? Are we speaking of the revolutionary

reinvention of the book? What does this all mean in a media theory context? How does this illustrate the interaction of technology, media and society and its consequences?

3. Is the interactive book as a new hybrid medium able to help literacy and reading comprehension? If so, for which age group and which acquisition phases? Can the young and socially disadvantaged directly profit from such developments? To what extent can the features of the interactive book be used? Can such a development be implemented on a scholastic institutional level in educational processes?

4. Results of the Thesis

The aforementioned PIRLS report, the official OECD PISA survey (Programme for International Student Assessment), the Metropolitan Ervin Szabó Library's "My Library" findings pertinent to the first research question do in fact confirm the hypothesis that the reading activity of children has decreased. They read less compared to the previous decades and spend more time in front of the screen. The members of the alpha and Z generations have radically different searching and information use habits than the youth of previous generations. The almost constant online presence, the multiple hours spent in front of the screen, and digitalization

already have a significant impact on reading habits. However, the youth of the 21st century also needs reading as a skill. Anything that distinguishes humankind from artificial intelligence can be sought after in reading. Critical thought, social and emotional tactfulness, emotional intelligence, creativity, thinking in models: these can all be developed through stories and books. That is why I provide argumentation for the notion that even the youngest generations should read; the process of raising children into readers and laying the foundation for reading from a very young age is critical. I base my argumentation on international research and study programs conducted of which the results indicate that socioeconomic effects are the most important components of raising children into literate readers. Technical and technological advancements, the presence of the internet and digital tools and the standardization of the availability of such products can help balance and equalize status differences and can provide the opportunity for the poorest of our society to learn to read and improve upon text comprehension. In my research, I provide my argumentation that the larger the figure of the average amount of volumes of books found in a household, the higher the chance that the child will have a virtual bookshelf of content as well as a physical, printed story collection of their own. One of the major challenges for young parents and teachers is to preserve the tradition of reading stories, and technology can be an effective tool to help maintain this.

Pertaining to the second research question, I made the following observations. The digitally native generations born into technological "habitats" are already expected to participate in the interpretation of the story actively told on screen (Varga & Daróczi, 2018). Thus, new types of visual book experiences on screen should also play an important role in

literacy education. Exclusively print-based education materials are no longer sufficient for today's young readers. I base this observation on the studies on the presentation of interactive books and the effects of its interactions, and I also point out that children's reading approaches follow new rules in a new media environment. Reception of the material and the expectation of such has not changed: children should still be able to comprehend the audiovisual content and story. At the same time, in the case of interactive books the interactive elements enhance the reader's ability to do so, as they become participants in mediatized story universes, they are more integrally present during reception.

In my research, I also argue that the interactive book can be an effective ICT tool that can be integrated into different stages of literacy acquisition and reading teaching. This new format is most effectively integrated in the early stages of reading acquisition and in groups of individuals with identified reading impediments. A well-constructed interactive book can be a great tool to improve attention spans in the long term and help develop a deep and meaningful reading experience. The written research presented is intended to argue that it is no longer necessary to treat learning and teaching processes and digital technology as separate concepts since ICT tools are evolving dynamically on the one hand, and on the other hand since the crisis caused by the pandemic, these tools have become an integral part of the education system.

One of the major pillars of the theoretical framework of my research is based on Chadwick's hybrid media theory, according to which old media logics are no longer able to resist logics of new media, and as such, must adapt to new logics to deal with the challenges presented by new technologies and tools. Thus, a hybrid media system is characterized by continuous change, the coexistence of old and new media; it cannot be

considered complete while media plays a social and cultural role in the recipients' attitudes towards media are also constantly under change. The collective of society, culture and market forces have led to the migration of traditional book content, initially from paper to e-readers, then to the mobile application market.

In my analysis of McLuhan's theses, I pointed out that the emergence of interactive books is an exemplary illustration of the fact that McLuhan's technological determinism cannot be applied to hybrid media either, as this would place the relationship between society and media in an excessively simplified framework.

A medium is always a cultural construct depending on exactly what kind of function it serves in society, therefore technology constantly changes and consequently, so do cultural phenomena. Rarely does the imagined use meet the expectations of the actual function (take for example the telephone and telegraph). In my opinion, the very nature of books is also starting to change. They are no longer built upon on the passive reception of the material, but in the case of new media active user presence and participation is a given. The debate rages on in intellectual, professional and user groups regarding interactive books and about the question of digital reading itself; participants are searching for the connections, aspects and values of technology that affect them, similarly to how throughout the centuries these innovations have evoked doubt (see Hammer, 2006, Bajomi-Lázár, 2017). This hypothesis came to be a response and explanation that can provide relevant resources to researchers to evaluate this debate.

The most important result of the pilot study was that students performed 15-20% better on average with the use of an interactive book in terms of reading and text comprehension. The pilot study has also

confirmed that interactive books have a multifaceted effect on developing students' linguistic awareness and have a positive transfer effect on sutdents' performance regarding text comprehension.

The respondents of the study claim that the interactive book provides teachers with the opportunity to take into account differences in students' abilities in a classroom context, to use it to mitigate the socioeconomic and sociocultural disadvantages and to include visual reading through the inspiring power of still images and motionpicture. This pilot study clearly demonstrated the openness of young populations to technomediated ways of imparting knowledge. The responses indicate emotional attachment. The obviously high appreciation index – in and of itself – can neither be explained by technological or genre novelty; the positive responses were mainly related to the experience of actually using interactive books. Overall, it can be said that BOOKR Suli's books are the Hungarian representatives of such interactive books that can be used in scholastic environments. On the one hand, it helps learner's develop linguistic awareness and comprehension performance, and on the other, these books provide support for their digital literacy skills to cope with this new cultural and technological paradigm successfully.

The future course of the newest actors in the Gutenberg-Castells galaxy naturally cannot yet be determined.
Before advancing to a future merely imagined, we must rely on history and understand the fact that changes affecting society are complex and do not take as much time as we might think (Høyer, 2001). The fate of interactive books is in the hands of society and the free market, as it is for all hybrid media. In the era of mass reading from the mid-19th and 20th centuries, the difference between the elite and society is reflected in

various classes reading habits (Durant & Horava, 2015). I believe in the future the question will be concentrated on whether one reads or not.

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