

Reading Brain in the Digital Age: An Experience of Philippine High School

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Abstract

The study aims to ascertain the significant relationship of digital reading profile and reading comprehension, and digital reading behavior and reading comprehension of Grade 7 students of Elpidio Quirino High School. The results will be obtained through the three phases of the study: digital reading profile and digital reading behavior survey, reading comprehension tests, and focus group discussion. The findings of the study show that the participants read more academic resources online or offline as opposed to the results from the qualitative data in which it shows that they preferred Wattpad, also respondents tend to use cellphone in reading digital materials. Based on the comparison made, the result shows no significant relationship. From the findings, due to its portability, cellphone is the commonly used device and Wattpad is the most commonly read digital reading material. It can be concluded that digital reading has no effect on the reading brain of the students. Based on the conclusions, it is suggested that through the inevitable emergence of technology, proper utilization and the collaboration of parents and teacher is vital to promote genuine love for reading.

Keywords: Polytechnic University of the Philippines, Reading Brain, Digital Reading, Reading Comprehension, Reading Behavior

Introduction

Reading is an effective way to enrich the brain with things that are necessary for school and especially for life. It can bring people to a world of knowledge and wisdom. Reading according to Wolf (2016) changes the human brain, it rewires the brain; it gives new purpose for some areas of the brain – it is the basis for more sophisticated, linguistic, cognitive, and affective capacities of the brain.

Through the emergence of technology, students nowadays spend a lot of time reading from gadgets such as computers, kindle, and mobile devices. Also, through the help of the internet, they can download the material that they want to read. Digital reading or electronic reading is a product of technology, and it must be noted that technology is not perfect. In line with the idea that digital reading is quite an essential part of our generation, Dopierala (cited in Puente, 2012) concludes in her study that her respondents are voting for digital reading and she concludes that this medium is for their generation and a medium for the future.

Digital reading and/or using gadgets when reading made a lot of debates from scholars – Grant (2015) claims that most people would agree that if the students are limited to textbooks and library resources only, it would make uneasy for them to think critically but in today's world where students are extensively exposed to digital materials, they had adopted a new platform which is not conducive for critical thinking.

Likewise, Herold (2014) says that the deluge of digital devices in the learning environment of the students might make their comprehension suffer.

Furthermore, another scholar on the debate of the effectiveness of digital reading, Guernsey (2011; Baird and Henninger 2011 cited in Taylor, 2012) said that digital reading is a movie-like and it is more of a supplement to provide pleasure to the readers and it can be associated with poor reading comprehension—it cannot be considered as a “serious play” that is required for real learning to occur.

In contrast to those ideas, an article, “*Cyber Life: Is Digital Reading Changing Our Brains?*” (2016) states that according to a research on digital reading, researchers found out that concentration skills can actually benefit from reading on the screen and the result of an MRI scans conducted provides some evidence that the human brains are becoming better at sifting through excess information.

According to Maryanne Wolf (2013) in her article, *How the Reading Brain Resolves the Reading Wars*, “the ‘reading brain’ represents the semi- miraculous capacity of the brain to form new circuits for cultural inventions from older, genetically programmed, component processes that make up vision, language, cognition and emotional systems.” Wolf (2013) said that the repertoire of each component part is essential for the whole circuit to function effectively upon achieving expert reading.

Also, in an article, *Understanding the Brain: The Birth of a Learning Science* (2007), “Neuroscientists have well established that the brain has a highly robust and well-developed capacity to change in response to environmental demands, a process called plasticity.”

Furthermore, Cardoso, Ganito, and Ferreira (2012) profess that digital reading is a ‘cumulative activity’ and there are surveys showing that all individuals who are intensive readers in printed formats are also the ones who can read more digitally and vice versa. Cardoso, Ganito, and Ferreira added that digital reading is an extension paper of printed books.

Orencia (2006) said that since Philippines is not a ‘reading populace’, and whatever the medium is, it will be the responsibility of the teachers to foster genuine love for reading to Filipinos while improving their reading comprehension skill to eliminate illiteracy in the new millennium.

The researchers have limited resources so the study has been conducted to only one school which will serve a picture out of a bigger picture on how digital reading works in the Philippines. The result of the study will serve as a stepping stone for the students, parents, teachers, and the schools; an idea on how to utilize the technology to encourage students to read and develop a genuine love for reading in the Philippines.

Objectives

This study aims to explore reading brain in the digital age. Specifically, this study seeks to determine:

1. the digital reading profile of the respondents;
2. the digital reading behavior and reading comprehension of the students of a Philippine High School;
3. the significant relationship of digital reading profile of the students and their digital reading comprehension; and
4. the significant relationship of digital reading profile of the students and their digital reading behavior.

Methodology

This study used descriptive method. To further analyze the results of the study, this study used explanatory sequential mixed method wherein the quantitative data will be supported by the qualitative responses of the respondents towards digital reading. According to Creswell (2013), explanatory sequential mixed method approach is a design under mixed method in which the results from the quantitative part of the study will be described or explained in more details by the results from the qualitative part of the study. This procedure involves collecting survey data, analyzing the data, and followed by the interviews to help explain the survey responses.

The study has three phases of data gathering: the first phase which used survey questionnaire to gather the data, the second phase where respondents needed to undergo reading comprehension test for 4 days, and the last phase which was the focus group discussion wherein ten random students had been interviewed about their views towards digital reading.

The target school was a high school in Bacood, Manila. The chosen respondents were Grade 7 students. Convenience sampling was employed for each phase. In phase 1, all students who were present during the data gathering process were chosen. For phase 2, students who were available to go back to school for 4 days and who answered “yes” on phase 1 were chosen to undergo the reading comprehension test. As a result, there were 111 out of 372 with 30% response rate who were able to complete phase 1 and 2. For the last phase, the researchers chose ten random respondents who were available to participate in the focus group discussion.

Results and Discussion

Digital Reading Profile of the Respondents

In terms of the commonly read digital reading materials, online or offline academic resources got the highest weighted mean of 2.14 which means it is the most commonly read digital reading material of the respondents. However, it is in contrast to the results gathered from the focus group discussion wherein Wattpad is their most preferred digital reading material. According to a study conducted by Rainie, Zickuhr, Purcell, Madden, and Brenner (2012) for Pew Research Center’s Internet & American Life Reading Habits Survey that 80% of the Americans 16 and older reads at least occasionally for pleasure, 78% reads at least occasionally to keep up with current events, 74% reads at least occasionally for research on specific topics that interest them, and 56% reads at least occasionally for work or school. Those findings are for technology users who own a cellphone, tablets as well as for internet users.

When it comes to the most commonly used device when reading digital materials, cellphone got the highest weighted mean of 2.57 and verbally interpreted as “always” which means respondents used cellphone most of the time when reading digital materials and it is similar to their response on the focus group discussion. It is similar to the study conducted by the UNESCO (2014), where 67% of people tend to use cellphone because of its convenience. Thus, people prefer cellphone or mobile device for reading because of its portability and they can bring it anywhere than bringing multiple heavy books.

Digital Reading Behavior of the Respondents

The respondents are adopting a surface level approach in reading and in accordance with the results shown in quantitative data, the reason why students are adopting surface reader approach is because according to the respondents, they are fond of reading wattpad stories. Moreover, most of them are reading for pleasure.

In general, findings reveal that respondents are adopting surface approach in reading because Liu (2005 cited in Sarkhel and Das, 2010) indicates that screen-based reading behavior was reported to be characterized by greater amount of time spent on browsing and scanning, keyword spotting, one-time reading, non-linear reading, and reading more selectively, while lesser amount of time was spent on in-depth or deep reading, and concentrated reading. This maybe because the attitude and interest of the students toward reading can be related with their feelings and will to learn as stated on the study of Karim (2006), Reading Habits and Attitude in the Digital Age, Analysis of Gender and Academic Program Differences in Malaysia.

Digital Reading Comprehension of the Respondents

Literal Level

Respondents were ranked fair in literal level with the highest percentage of 43.24 percent. Despite the fact that the reading comprehension tests undergone a series of validation that will assure its appropriateness to Grade 7 students, still the respondents were ranked as fair in literal level because according to them during the interview, some of the words are too hard or too deep for them to understand. The cause of students poor reading comprehension according to the result of Kwiatkowska-White's (2012) study, Understanding Reading Comprehension Performance in High School Students, is the students' weakness at different reading levels such as vocabulary, text-based, and situational model. Kwiatkowska-White (2012) states that for those who still struggle at the word level or the literal level, improvements in word reading maybe necessary.

Inferential Level

In the inferential level, students who were described as average level students got the highest percentage of 69.32. Since as what the students said on the interview that some of the words are too deep for them to understand, they also get a lower score on the inferential level.

The results show that the respondents are average readers only when it comes to inferential level questions and only 8.11 percent of the respondents got an excellent rank, this maybe because the readers didn't effectively use their prior knowledge when answering inferential questions as stated by Gillam (2007 cited in Green & Roth 2013). In addition, Scannell-Miller (1982 cited in Green & Roth 2013; Adams, Clarke & Haynes, 2009; Dodwell & Bavin, 2008; Laing & Kamhi, 2002) claims that researches support his conclusion that students tend to experience difficulties in inferential questions if they always struggle in understanding what they have read.

Significant relationship between respondents' Digital Reading Profile and Digital Reading Comprehension Level

At 5% level of significance, results revealed that there was no significant relationship between the digital reading profile and reading comprehension level of the students (literal and inferential). The result of this study proves the findings of the study of Jeong (2012), states that there is a significant effect of books on quiz scores in comparison to e-books and it appears that printed books can promote better reading comprehension. In line with this, the students said that they like digital reading and books are boring and heavy however, they also said that books are still better.

Significant relationship between the respondents' Digital Reading Behavior and Digital Reading Comprehension Level

Based on the results, at 5% level of significance, there was no significant relationship between digital reading behavior and reading comprehension level of the respondents. As observed, the result of this study has a similar finding to the study of Pfof, Dorfler & Artelt (2013). They correlate the reading behavior profiles of their respondents to their competence development and it shows that reading behavior profiles of the respondents who are highly engaged in online reading or

has exceptionally low engagement in reading traditional print media is still related to lower achievement scores.

Conclusions

In view of the different findings, the following conclusions were made:

1. Majority of the students commonly use cellphones when reading digital materials and they prefer to read in their gadgets.
2. Based on the findings, students prefer digital reading and read using their device occasionally due to its convenience and portability.
3. The respondents are assessed as adopting a surface approach in reading and literal level on reading comprehension. This is due to students are fond and more exposed in reading Watt-pad stories.
4. It can be concluded also that the digital reading profile and reading behavior has no significant relationship to respondents' digital reading comprehension.
5. Therefore, the results show that digital reading has no effect on the students reading brain.

Recommendations

1. The results show no significant relationships between digital reading profile and reading comprehension and reading behavior and reading comprehension, still the spread of technology as part of human nature is on fleet, it is in need to adapt to the new environment. Especially, in this era, 21st century where various technologies such as gadgets emerged so all in need is proper utilization of those technologies to help human beings improve or enhance their macro-skills especially reading skill which is not naturally learned unlike the other skills.
2. Reading comprehension as one of the vital skills that teachers, schools or institutions take into account should encourage the students to read more whether through books or digital device, and they may also find some ways to utilize whatever technology they have in schools to promote genuine love for reading.
3. Parents may provide proper guidance and a conducive environment for their children to be motivated to read whether, through use of digital devices or books. They should also help their children understand how important reading is either digitally or not, that being exposed to reading brings a lot of benefits for them. It is in favor with the idea of Suarez (2015) that students are required to read a lot of materials appropriate to their level and be exposed on various text to learn and improve their vocabulary.
4. This study discloses the situation and exposure of rural areas to digital materials, digital devices, and technologies integration in school due to different factors such as the affordability, location, etc.
5. A similar study may be conducted by the future researchers to verify the concept, theories, findings, and conclusions derived from this research. It is suggested that modification and inclusion of other variables be considered.

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