Generation Z students' attitudes to printed books inertia of the historical perception process, diversification of usefulness in the DPR Korea

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Abstract - Thanks to the eye-opening innovation of the digital technology a lot of disadvantages of the e-books will be overcome in the near future, and then what role the printed books will play is a great concern for those who work in the fields of publication, library etc. This paper has focused on the printed books and analysed the Generation Z students' attitudes towards them. 174 students with different majors have been interviewed using the questionnaires made by experts and the collected data has been analysed. For the purpose of sufficient feedback from the students the second question was made open. Students still primarily perceive "books" as printed ones and have a positive attitude to the usefulness of them in the future, though they are "digital natives". First of all, the traditional definition and image of books, social customs regarding their usefulness play a crucial role in making people have a positive attitude towards printed books even in the era of digital technology. Also, the usefulness of printed books has been diversified as they are now used in a variety of forms, such as evidence or luxury things. The future study should focus on those with different social backgrounds, thus clarifying the relationship between the cultural attitudes and the printed books in detail.

Keywords: printed book; generation Z; inertia; usefulness; luxury things

1. Introduction

The Internet has become more deeply permeated into people's everyday life and its influence on their social activities is steadily increasing. It has enabled people to conveniently conduct their work, lives, study, scientific research, travel, and recreation activities on the network.

As a result, a virtual world of social activities on the network appeared and people can publish their innovative ideas and scientific achievements online in time, exchange information actively with other people to gain public appraisal as well as get information very easily.

Actually, we have become familiar with many concepts (Tosun, 2014) such as e-mail, e-store, e-bank, e-commerce, e-publishing etc. which start with "e-" in all fields of politics, economy and culture.

Consequently, it is quite natural that many people talk about "cultural migration" (Prensky, 2001) today. This has brought about great changes in the way of thinking and lifestyle. In particular, the "digital natives" who have had great benefit from the digital technology and the development of the Internet treat real and virtual spaces as one and identical (Prensky, 2001). Also, a person who does not have a Facebook account "does not exist" and such a person is even excluded from social circles (Werenowska et al, 2020). Like this they are addicted to social media including Twitter (Cabral, 2011).

The trend to adapt to this changed reality in time and the social customs of feeling "attached" to the traditional ones have caused many problems. A typical example is the change in publishing and library fields in connection with the usefulness of e-books and printed books.

Advanced mobile devices such as smartphones and tablets are widely used, and technical conditions for downloading the books they require at any place and at any time have been created (Cabral, 2011) thus ensuring people increased access to learning resources which are cost-effective, efficient and easily accessible (Ross et al, 2017).

Moreover, there is a growing demand for the e-books as a number of researches have been carried out and published clarifying the reasons why cognitive and visual effects are reduced when reading e-books (Van Horne et al, 2016; Cumaoglu et al, 2013) and a series of achievements have been made in overcoming the downsides (Buragohain, 2019; Nuraeni & Nur, 2019).

Hence, publishers are making a lot of digital versions of books that have traditionally been available in paper format to cope with these changes (Millar & Schrier, 2015) and increasing the proportion of e-books publication. Libraries, especially university libraries, are also actively working to reconstruct their studying environment in accordance with the trend of reading.

Routinely collected Vanier library statistics (Hall & Kapa, 2015) showed a steady number of library visits and a sustained decrease in both the borrowing activity and the number of questions received at the reference desk in the last 10-15 years. This implies the decreasing demand for the printed books.

Recent students' visits to libraries have revealed that the main objective of visits is generally to find quiet studying environment (Bailin, 2011; Walton, 2006). So many libraries are paying great attention to creating a variety of favourable studying environments suited to the hobbies, tastes and needs of individual readers.

This fact raises many questions about the existence and usefulness of printed books in the future. However, Intergraf (2019) report that printed learning materials play a vital role in people's reading in the future-even for so-called "digital natives" shows that printed books have not outlived, but rather have been highlighted in some respects.

In this paper, we attempted to assess the usefulness of the printed books in the near future when many downsides of the e-books have disappeared thanks to the rapid development of the digital technology in the analysis of Generation Z students' attitudes to e-books.

Generation Z have much in common with Generation Y (Singh, 2014), but is more sensitive to newer technologies, well accept and skilfully apply them. In particular, students belonging to this generation are more likely to read more books than any other groups because of their studying.

Soon Generation Z and coming generations are to be the main producers and consumers, so it is very necessary to have a correct understanding of what attitudes they, who are accustomed to the digital environment, have to information resources, i.e. printed books. It is of great importance for libraries and the fields of publishing and education.

Generation Z are also called "digital natives".

The concept of "digital natives" first appeared in 2001 when Prensky (2001) used it with the phrase "digital immigrants".

He said that those who were born after 1980s have been accustomed to computers and Internet from childhood, so they can be called "digital natives". On the other hand, those who were born before

1980s had a contact with the digital environment after adulthood, so they can be called "digital immigrants".

According to this criterion, Generation Y belong to the "digital natives".

In general, the generation is divided into Baby Boomers (born between 1946 and 1964), Generation X (so-called Baby Busters, born between 1970 and 1979), Generation Y (so-called Millennials, born after 1980s) (Borges et al, 2010; Juchnowicz, 2009).

Lyons et al (2015) further subdivided the generation into Baby Boomers (born 1946-1964), Generation X (born 1965-1980), Generation Y (so-called Millennials, born 1981-1994), and Generation Z (so-called "digital natives", born after 1995).

From this point, in some studies, the "digital natives" refer to Generation Y, while in others they are sometimes associated with Generation Z (Singh, 2014).

This is the result of the difference in the view whether we see those who were born after 1980s as one generation or two generations subdividing it in more detail.

In this paper, we refer Generation Z to "digital natives".

To date, studies of the usefulness of printed books have been carried out within the framework of people's reading activities. To be specific, preference for the printed books or e-books and the reason for it have been studied.

Above all, most studies show the reason why people prefer printed books to e-books is the former's advantages in terms of understandability and visual effects compared with the latter.

For example, Singer and Alexander (2016) found that students could better recall the main ideas and relevant concepts when reading printed books, and Lin et al (2015) found both memory and performance improved after using a piece of paper and a pencil, and that eye fatigue was greater when using a tablet. The idea that the use of e-books lowers concentration and comprehension due to eye fatigue has also been suggested in other studies (Tosun, 2014); Buragohain (2019); Jabr (2013); Dobler (2015).

Mangen et al (2013). pointed out the factors that lead to eye fatigue when reading e-books are screen navigation, display, scrolling, etc., but Bilton (2010), Freund et al (2016), and Myrberg and Wiberg (2015) suggested that these will be technically viable in the future.

So, in terms of understandability, are the printed books far superior to the e-books?

In conclusion, some studies don't have a positive attitude towards this view. Even some opposite results are rampant.

For example, Norman and Furnes (2015) did not reveal the differences between printed and e-books in metacognitive learning and did not find any obvious differences in understandability. These results were also derived from the studies of Chen et al (2014); Porion et al (2016); Szapkiw et al (2013); Dennis et al (2016). The study by Szapkiw et al (2013) rather showed that in some cases the understandability was higher when reading e-books. Next, some studies have analysed the reasons why people prefer e-books to printed books. In summary, searchability, accessibility and mobility are the main reasons for choosing e-books (Muir & Hawes, 2013); Woody et al (2010); Rowlands et al (2007); Felecia et al (2020).

We can easily purchase and read e-books at any place and at any time, and find the necessary part with keyword-searching.

We can also adjust the brightness of the screen and the size of the font to suit our needs (Tosun, 2014): Gibbons (2001) and can select and print the necessary parts [39] and save a lot of paper (Tosun, 2014); Davy (2007). These are all advantages of e-books.

Next, there are some studies that have analysed the selection of printed and e-books in connection with other factors, such as the degree of familiarity with media or environment, reading topics, etc. Studies by Sickler etl (2009); Ratneswary et al (2011); Baek and Monaghan (2013). concluded that the more familiar people become with the digital environment, the more e-books they read.

In terms of reading topics, e-books include a great deal of books on lifestyle, travel, photographs, etc. (Buragohain, 2019). books on science and technology (Slater, 2009), books on computer science and psychology (Sprague & Hunter (2009) while printed books include a lot of comics, newspapers and magazines etc. (Buragohain (2019).

Generally, the word "attitude" refers to the stand and viewpoint on an object, and thus includes cognitive aspects as well as behavioural aspects.

In this regard, the existing literature has focused on the behavioural aspects such as the choice of printed books or e-books, and the trends of reading.

2. Method

The study adopted a qualitative approach to explore the attitudes of Generation Z towards printed books. To achieve a nuanced understanding of their perspectives, the research employed structured interviews as the primary method of data collection. This approach was chosen because it enables participants to express their thoughts in detail, allowing researchers to capture both explicit opinions and underlying sentiments regarding printed books. Below is a detailed account of the methods employed for data collection and the techniques used for analysis.

2.1 Method of Data Collection

The study involved 174 participants aged 21-24, spanning across different majors and school years (1st to 4th year) in universities. This demographic was chosen due to their presumed frequent interaction with books, either for academic or personal purposes. Students from various fields of study were included to ensure diversity in viewpoints, as attitudes towards books may vary depending on academic discipline and individual preferences.

Participants were recruited through university networks and announcements in student groups. The selection process aimed to maintain a balance in gender representation and academic disciplines, thereby reflecting a broad spectrum of opinions within Generation Z.

The interviews were conducted using a structured format to maintain consistency and comparability across participants. A set of three open-ended questions was developed to guide the discussions:

"What do you think of the phrase 'read books' in everyday life?"

This question was designed to elicit participants' conceptual understanding of "reading books," focusing on both printed and digital formats. It aimed to uncover how reading integrates into their daily routines and whether they perceive a distinction between printed books and e-books.

"When do you use (or purchase, read, borrow) printed books?"

This question sought to explore specific contexts and motivations behind the use of printed books. It included aspects such as purchasing habits, borrowing tendencies, and the perceived utility of printed books in academic, leisure, or sentimental contexts.

"Do you think we still need printed books in the future?"

This question aimed to gauge participants' opinions on the future relevance of printed books, prompting them to consider technological advancements, environmental factors, and cultural significance.

Interviews were conducted in person and via online platforms to accommodate participants' availability and preferences. Each interview lasted approximately 20-30 minutes and was audio-recorded with the participants' consent.

2.2 Technique of Analysis

The audio recordings of the interviews were transcribed verbatim to create a comprehensive dataset. Transcripts were organized by question, enabling systematic analysis of responses across participants.

Thematic analysis was employed to interpret the data. This technique involved identifying, analyzing, and reporting patterns (themes) within the dataset. The process included the following steps:

Familiarization: Researchers reviewed transcripts to gain an overall understanding of the data.

Coding: Key phrases and ideas were coded, focusing on recurring terms such as "convenience," "tactile experience," "environmental concerns," and "cultural value."

Theme Development: Codes were grouped into broader themes, such as "practicality versus nostalgia," "academic utility," and "future prospects."

Validation: Themes were cross-checked by multiple researchers to ensure reliability and minimize bias.

Responses were compared across demographic variables such as academic majors and year levels to identify variations in attitudes. For instance, humanities students might exhibit a stronger affinity for printed books due to their field's reliance on textual analysis, while STEM students might prioritize e-books for their functionality.

The themes were synthesized to form a coherent narrative addressing the study's objectives. The analysis highlighted key insights into Generation Z's reading habits, preferences, and the perceived role of printed books in the digital era.

3. Results and Discussion
3.1 Results
The first and third questions were asked to assess the cognitive aspects of the Generation Z students to printed books.

To the first question, most respondents (71.2%) answered "We perceive 'books' as printed books." and the remaining (28.8%) answered "We perceive 'book' as e-books." The respondents who chose the answer of "printed books" are as many 2.5 times as those who chose the answer of "e-books".

To learn about it in detail, students were asked to answer why. Those with the answer of "printed books" are classified into 4: "We are accustomed to reading printed books." (22.6%); "We think a book is something which is written or printed on paper" (29%); "We came to know about the books reading printed ones in childhood." (20.2%); "Historically, books have been defined as printed books." (28.2%).

As shown in Table 1, the second is the most cited reason which is followed by the last reason that "Historically, books have been defined as printed books."

Table 1 Reasons for perceiving books as printed ones

Reason	Number of respondents	Percentage (%)
We are accustomed to reading printed books.	28	22.6%
We think a book is something which is written or printed on paper.	36	29%
We came to know about the books reading printed ones in childhood.	25	20.2%
Historically, books have been defined as printed books.	35	28.2%
Total	124	100%

There is no diversification for students' reasons for perceiving books as e-books. Seeing them in descending there are 3: "We read e-books every day and are accustomed to them." (52%), "Our studying and living environment is set so." (28%), "We read more e-books than printed books." (20%) (Table 2).

Table 2 Reasons for perceiving books as e-books

Reason	Number of respondents	Percentage (%)
We read more e-books than printed books.	10	20%
We read e-books every day and are accustomed to them.	26	52%
Our studying and living environment is set so.	14	28%
Total	50	100%

What is important here is that most (95) of the students (124) who perceive books as printed books as well as those who perceive books as e-books usually read a lot of e-books. The second question was designed to identify how Generation Z students use printed books.

The students' answers to the second question varied greatly (Table 3.).

Table 3 Reasons for using (buying, reading, borrowing, etc.) printed books.

Case	Number of respondents	Percentage (%)
When the book contains something to be memorized.	37	21.3%
When the book has to be read in detail.	25	14.4%
When new works are published.	18	10.4%
When there is no electronic version of the book to read.	16	9.2%
To keep the book for a long time.	15	8.6%
When the book is something like textbooks to keep long	14	8%
When preparing a gift.	11	6.3%
When making a bookcase as a hobby.	10	5.8%
When going away on business or holiday	9	5.2%
When there is a library nearby.	7	4%

When the book is rare.	6	3.4%
When the parents or old people want them.	4	2.3%
When seeing other people have good books (printed books)	2	1.1%
Total	174	100%

The two cases "When the book contains something to be memorized" (21.3%) and "When the book has to be read in detail" (14.4%) were the typical reasons for using printed books. "When the book is something like textbooks to keep long." (8%) and "When new works are published." (10.4%). are the answers from the perception that the printed books have a greater advantage in deep understanding of contents as well as these.

It is noteworthy here that "When preparing a gift" (6.3%), "When making a bookcase as a hobby" (5.8%), and "When the book is rare" (3.4%) account for fairly large proportion (15.5%) showing new attitudes towards printed books.

With the third question we attempted to analyse students' future-oriented views on printed books. To the third question, only 45 students (25.9%) answered "We don't need them." and 129 students (74.1%) said that they would need printed books in the future, too.

The students who think they don't need printed books in the future have two reasons: "Because Internet has everything we need" (51.1%) and "Because e-books will have all the functions and advantages of printed books in the future." (33.3%) (Table 4).

Table 4 Reasons for no need for printed books.

Reason	Number of respondents	Percentage (%)
Internet has everything.	23	51.1%
E-books will have all functions and advantages of printed books in the future	15	33.3%
It saves resources and is cost-effective.	4	8.9%
It's time-saving.	3	6.7%
Total	45	100%

As shown in the table, the reason for no need for printed books in the future is relatively simple: reasons mostly resulting from satisfaction with existing technologies and confidence in future technological updates (51.1% and 33.3% respectively) are common (84.4%).

The most important reason for the future need for printed books was that "They can be evidence." (34.8%) (Table 5).

Table 5 Reasons for the need for printed books in the future.

Reason	Number of respondents	Percentage (%)
They can be evidence.	45	34.8%
Efficient in education	26	20.1%
Data isn't damaged or lost.	22	17.1%
They can be luxury things.	16	12.4%
They are good for health.	10	7.8%
To give children the image of books.	8	6.3%
E-books can never replace the printed books.	2	1.5%
Total	129	100%

For the reason of "Because it is efficient in education" when they were asked to give specific examples some students (18) answered that printed books are superior to e-books in theoretical understanding of contents.

The remaining eight students answered that printed books play a catalytic role in forming the attachment to and consciousness of learning. In essence, this is from the similar response of students who answered "printed books are necessary to give children the image of books."

3.2 Discussion

If the results of the survey are analysed in a comprehensive way, they can be expressed in the expression

of "inertia of historical perception process" and "diversification of usefulness".

First, the result is that the traditional definition and image of books, social customs regarding their usefulness play a crucial role in making people have a positive attitude towards printed books even in the era of digital technology. This can be called "inertia of historical perception process".

Despite the fact that the vast majority of students (83.3%) are reading more e-books than printed books, 71.2% of students perceive "books" as printed ones; this clearly proves the "inertia of historical perception process".

Of the reasons for perceiving "books" as printed books, three reasons (the second, third and fourth in Table 1) are attributed to this historical perception in essence.

Printed books has a history spanning thousands of years. In this process, people have come to think paper is inextricably linked with books (see Table 1), and have developed social and cultural customs that encourage children to read a lot from childhood with an attachment to books. What matters here is whether today children can have an image of books through media, including mobile phones.

It is the author's view that these socio-cultural customs are inherited so that Generation Z remains "two-screen generation", not "online-only" as well as the Generation Y (Erin, 2016).

This is consistent with the opinion of Kretzschmar et al (2013) who connected the trends of choosing printed books and e-books with the cultural attitudes of learners.

Although partly, the answer to the third question (Table 5) that "printed books are necessary to give children the image of books" (6.3%) proves this.

Second, the result is that new aspects of the usefulness of printed books are highlighted.

In other words, the usefulness of printed books in the past mainly was the contents of them, but now they are used in a variety of forms, such as evidence or luxury things. This can be called "diversification of the usefulness of printed books." More precisely, new use values have been added.

Even in the past people sometimes used books as gifts to close people, but that was rare. However, the study has highlighted the relatively salient features of printed books such as being collected or given as gifts (Table 3), being used as evidence or luxury things, and being viewed as "tools" to give the image of books to children. (Table 5).

In this respect it is necessary to recall the research of Coen (2017) that for those who want to gather books for bookcase at home or at work the printed books are "luxury things".

This is the result of the so-called necessity that many people now mainly obtain necessary information on the network.

As in the previous studies Singe and Alexander (2016) and Lauterman and Ackerman (2014) conflicting opinions such as that "Printed books are far superior to e-books in understandability" (Table 3), "E-books can fully replace the printed ones in the future with the development of technology" (Table 4) have surfaced the "diversification of usefulness".

4. Conclusion

In this paper, we focused on printed books and investigated Generation Z students' attitudes to them. People continue to perceive "books" as printed ones and the majority have a positive attitude towards their usefulness in the future.

However, new aspects of its usefulness have been highlighted. The reason for this may be explained by people's socio-cultural attitudes, or by the current setting when many people acquire the knowledge they need through e-books.

In conclusion, the usefulness of printed books have been diversified, but they are necessary in the future, too. Since the data presented in this paper were obtained from students in a particular area, further studies are required to investigate the relationship between cultural attitudes and printed books including people with different socio-cultural backgrounds.

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