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Reading Strategies Used by Turkish Teacher Candidates in the Reading Process

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Abstract

This study aimed to reveal which physical strategies (behaviors) Turkish teacher candidates prefer when reading a printed or electronic book/text, what kind of operations they perform related to the text and the reasons for these interventions. Hence, the opinions of 150 teacher candidates in the Turkish Language Teaching program of Istanbul Aydın University Faculty of Education in the spring semester of the 2021-2022 academic year were obtained through a semi-structured form developed by the researcher. Their opinions were analyzed with content analysis. The research was according to the phenomenology pattern. The behaviors of teacher candidates were personal reading strategies. They were classified and graded under various categories. The strategy for teacher candidates who prefer to read printed publications mostly is to make underlines. Then, strategies such as bookmark use and marking were more frequent. In the study, where sex and grade variables did not make a significant difference, some eccentric reading strategies (using a ruler while reading, taking a page/screen photo, using emoji, spraying perfume on the book, etc.) were also present. Finally, the study made various recommendations.

Keywords: Reading, Reading Strategies, Reading Behaviors, Teacher Candidates, Book, Text

1. Introduction

Behavior, which means attitude, action, reaction, and shows positive/negative characteristics, "refers to a cognitive, sensory and psychomotor attitude, occurrence, and situation" (Arı, 2008: 29). The individual develops various behaviors and reactions to people, objects, events, and phenomena. The physical ones of these reactions are observable and external. Cognitive and sensory behaviors are not as observable as physical behaviors.

Behavior is a multifaceted expression and is subject to all kinds of discipline. The discipline of reading is a language skill, and some related behaviors can be called strategies of reading. Some of these behaviors (strategies) take place before reading, while others are during it, and some after (Akyol, 2013; Karatay, 2014). A significant part of the strategies is cognitive strategies related to readiness, efficient reading, and post-reading evaluations. For example, it is a strategy to reveal preliminary information before reading the text. Again, paying attention to the context while reading the text, rereading the incomprehensible sentences/paragraphs, or post-reading interpretations are among the strategies. However, the reader does not only use cognitive strategies in the reading process. He/she also utilizes different strategies, which are physical behaviors. Strategies such as underlining lines,

taking notes on books or notebooks, using bookmarks, and making markings create a wide range of personal reading experiences. These behaviors students use in the reading process are study strategies.

When reading a book, it is a reading behavior for the reader to take notes, fold the page from the edge to remember where he/she left off, or avoid doing this not to harm the book. It is known that some readers who are sensitive to the book do not exhibit any scribbling, marking, or note-taking behavior on the book. Such attitudes and behaviors are also strategic and affect reading understanding.

Behaviors are not far from habits. Habits, in a sense, are automatic behaviors. Some are reflexive, they are done without thinking, whereas some are strategic, and they are applied consciously. In reading, the text/book-related behaviors may be mental, psychological, or physical. If the reader uses efficient strategies, managing the reading process will be efficient, too. According to Karatay, "In the process of comprehending what they read, conscious readers have previously adopted some strategies to cope with the difficulties they will encounter and know in which situations, when, and how to use them" (2009, p. 61).

Regarding the physical behaviors of reading, the pen comes to mind first. Writing, marking, and scribbling are all thanks to him. A cursor is the electronic equivalent of a pen, and the cursor performs actions such as marking, painting, drawing, scribbling, etc.; it helps to take notes with the help of keys. However, sound is also used in writing/printing. Sound can create characters (letters, signs, spaces, etc.). In other words, the sound turns into a writing tool or material.

The physical behaviors preferred in reading are mostly "memory strategies" on remembering in Oxford's (2013) classification of reading strategies. These strategies are within the scope of "strategies that support reading" in the classification of Mokhtari and Richard (2002).

1.1. What is reading?

Today, reading, which corresponds to various meanings, is the reader's reaching new meanings by synthesizing the information in the text with his/her preliminary information (Emiroğlu, 2020, p. 4). The reading action, shaped by factors such as reading, text, and context, is "not just exploring, understanding, and structuring information mentally. Reading is also a voluntary contribution to the meaning of writing" (Güneş, 2016: 2). This contribution qualifies the reading activity.

The meaning of reading has changed and expanded with technology. "Considering that information is not only presented through written and printed texts today, reading can also be defined as a language skill in which mental processes such as attention, perception, remembering, assigning meaning, interpretation, synthesis, evaluation, and analysis occur together on written, visual, and electronic texts" (Aktaş and Bayram, 2018: 1402). Reading is an effort, and it is multi-faceted. "Reading is the activity of extracting meaning from written symbols with the collaboration of cognitive behaviors and psychomotor skills" (Demirel, 1999: 59).

The goal to be achieved by reading is understanding. Badrawi (1992) states that reading is a process, and a product is present at the end of this process (cited in Razı, 2007, p. 17). There is no specific standard for understanding a text or constructing meaning through a text. It affects and differentiates the understanding of characteristics such as background knowledge, intelligence, age, educational status, culture, and interest. A similar situation is present in preferred physical behaviors during reading. The reader may use different physical strategies depending on his/her personality traits in line with the following goals: understanding the material he/she reads, recording it in his/her mind, finding his/her place in the text later, and enjoying the text.

1.2. Reading from paper - reading from the screen

It is faced with reading from paper reading from the screen. The object of reading varies in format. Although readers state in their statements that they prefer printed publications, it is noteworthy that reading from the screen is used more involuntarily. After increasing time spent reading electronic documents, screen-based reading behavior emerged (Liu, 2005). It is possible to say that the readings made by the readers in electronic media or on

the web are a new type of reading, that this turns into a need with the increasing amount of information, and that the person navigates the pages without knowing that he/she is reading. Platforms, tools, and applications (Goodreader, Evernote, Wattpad, Kindle, iBooks, Calibre, Moon+Reader, Adobe, etc.) that facilitate this regarding conscious reading enable one to manage the process more effectively. The gradual development of the tools used (computers, mobile phones, tablets, e-readers, etc.) and their design in a seamless structure and features make reading from the screen enjoyable, functional, and practical.

A significant factor that increases screen reading is the internet. "The widespread use of the Internet since the mid-1990s and advances in screen technology have led to an increase in screen reading behavior globally" (Yaman and Dağtaş, 2013, p. 316). The changes and developments in the internet and digital environment have differentiated the direction, course, and object of reading. Currently, the time spent in the virtual realm is almost halfway through the day. Apart from mobile phone screens, readings are possible on different and large screens (tablets, e-book readers, computers, televisions, billboards, etc.).

Today, the place where literacy is predominantly a digital environment. Children can touch tablets or mobile phones before printed products, understand the instructions on the screens of these devices and make calls, and even learn to read and write in digital environments without requiring a guide.

Screens are everywhere, and readings are done on the screen. Screens appear in markets, streets, schools, homes, and even in almost natural areas. "The printed text, which consists of pictures and writings, almost revived and came to life with texts enriched visually and audibly" (Ministry of National Education (MoNE), 2017: 14). These texts led to the questioning of the nature of reading skills.

Digital reading behaviors are different from printed reading behaviors. This type of skill is more comfortable today. Especially for generations born into technology, screen reading is easier, faster, and more attractive than reading from printed products. Smartphones and computers are essential tools for electronic reading. They have accelerated reading. However, the effects of electronic reading on understanding are still controversial.

Reading from the screen has many advantages and disadvantages. There may be benefits that motivate the reader and facilitate the reader's work, as well as obstacles that cause difficulty for the reader during reading. "While reading from the computer screen, different texts can be displayed and read with hyperlinks or other forms of connection (highlight text, hyperlink, bookmarks, viewers, etc.)" (Maden, 2021: 4). Such an advantage allows the reader to access much data quickly and easily. However, many features of texts, books, and pages in an electronic environment, such as font, size, colors, complexity, surface brightness, etc., may make it difficult to read. Millar and Schrier (2015) pointed out that reading electronically has disadvantages in reading, marking, and taking notes (cited in Keskin and Çetinkaya, 2017). However, reading on paper does not tire the reader as much as digital reading and allows the use of reading strategies (Baştuğ and Keskin, 2012; Güneş, 2010).

Websites direct reading behaviors as much as stationary texts; they enable many different reading behaviors, such as cutting, copying, pasting, taking notes, saving, marking, adding, etc. The interventions to be made on the text or page read in digital media are more than the printed texts. With more fun and colorful touches, the impact of reading, understanding, and remembering is amplified.

Güneş (2016) asserts that readers can remember the information in texts according to their position on the page and states that remembering in printed texts is more efficient than reading from the screen. In their study, Pešut and Živković (2016) concluded that 85 percent of the participants remember the information better when they read from printed materials. Similarly, Farinosi, Lim, and Roll (2016) argue that printed materials help readers remember information from long and complex texts. Baştuğ and Keskin (2012) concluded that students who read printed material understood the text better. Similarly, Özen and Ertem (2013) concluded that building meaning from text is more efficient than reading on paper in their reading studies. Again, Mangen, Walgermo, and Bronnick (2013) concluded that students who read from paper understood the texts better than those who read digitally. According to Baccino, multiple texts increase stress and cause a 30% loss of working power as they present a series of pages to visit and read. In addition, the presentation of multiformat text such as sound, image, image, shape, and video on the screen results in fatigue (Baccino, 2012; Drai-Zerbid, 2012; cited in Güneş, 2016: 12).

In the studies on whether teachers, teacher candidates, or students prefer printed or electronic resources in reading, results in favor of both environments have emerged. In a comprehensive study conducted by MoNE in Turkey in 2017, most teachers read in digital environments. In the study by MoNE (2017), 58.5% of teachers used digital devices for reading. Again, in the study of Duran and Alevli (2014), secondary school students preferred to read from the screen more, and according to the study of Ulusoy and Dedeoğlu (2015), teacher candidates opted for texts in an electronic environment. However, according to the findings obtained from Dağdaş's (2013) research, most teachers generally prefer to read a text from the printed page rather than from the screen.

With increasing readings in the digital environment, the reader's comprehension-based and recall-based behaviors on the text have started to change. This process has been gradual and has taken place over time rather than a sharp transformation. Information is now in the electronic environment rather than printed books, not only in the form of book characters but also with content such as videos, images, texts, symbols, etc. Therefore, the reading behavior of the reader has changed. However, in 2022, when this article was in preparation, behaviors based on understanding and remembering are still dominant through printed books. "Because the strongest feature of physical reading is the strong bond between the printed book and the human, today's human is not yet ready to meet the characteristics of holding it, feeling its smell, tasting the pleasure of watching and briefly connecting with it" (Odabaş, 2018: 7).

Both reading media (printed or electronic) should be used differently according to the purpose. "Considering the purpose of reading, while the paper media maintains its weight in the readings made for the internalization of learning or information, electronic media is preferred in the readings to collect, communicate, and browse practical information" (Stoop, Kreutzer, and Kircz, 2013; cited in Keskin and Çetinkaya, 2017).

1.3. Physical reading strategies (behaviors)

Although readers have similar strategies in the reading process, reading strategies can be as much as the number of readers since reading is a personal action. Whether reading is on printed or electronic material also increases this diversity. Some reading behaviors remain the same even if the format of the material being read changes. While reading printed work, the reader underlines the places he/she likes. The same reader does the same in electronic texts. Human senses are active in both printed and electronic environments. Technology allows it. Almost all senses on printed books take place in the electronic environment today. The page sound of the book is heard, the lines are underlined, notes are taken on the page edges, words/sentences are marked, and almost the smell and texture of the book are reached. Along with physical behaviors, recreation occurs in the text. These changes can rewrite the text. Behaviors such as taking notes, marking, underlining, underlining, etc., can be easier in the electronic environment.

People can mark books/texts as they wish. Although the standards of the markings are considered, a subjective situation is mentioned. Understanding the same book by people at similar levels and even underlining the places they consider crucial can show significant differences. Underlining is the reader's preference for important and insignificant information in a sense. The reader can underline the word/sentence/paragraph that s/he finds important and meaningful in the text and that s/he likes or can use. In learning a foreign language, more unknown words are underlined (Demirbaş, 2018).

In physical reading strategies, notetaking is as dominant as underlining and marking. It is a process known as "taking notes from the reader or listener, selecting necessary information, a word that is favorite, and writing it on the notebook or the receipts" (Göğüş, 1978, p. 284). It is a mental and psychomotor process and shows subjective qualities such as underlining. Notes can be taken in both printed and electronic media. Specific software permits these actions.

Traditional literacy activities, such as reading printed texts and taking notes on paper, have been carried to the screen with the digitalizing world. People who unwittingly read screens started to write, became authors, and share in digital environments without realizing it. "Today, in addition to reading and writing paper-based texts on paper, people read and write from a mobile phone, e-reader, computer screen, and various similar technological tools" (Mazzoleni, 2012). Therefore, the materials taken note diversified.

In the text coding strategy, researchers (L'Allier and Elish-Piper, 2007) state that students can take notes during reading and after reading the text. These can also be sticky papers attached to books or notebooks or even to the corners of the computer screen. "Note-taking on the text edge helps the student to repeat, be ready for new information, and code it" (Arends, 1997, cited in Erdem, 2005: 2). Such a strategy provides permanent learning. The study focused on physical reading strategies. There are many studies in the literature at this point. In the conclusion section, these studies will be mentioned according to their relationship with this research.

2. Method

The phenomenology pattern is one of the qualitative research methods. This study employed this method. Phenomenological research focuses on phenomena that are aware but do not have an in-depth and detailed understanding (Yıldırım & Şimşek, 2011). The opinions of the teacher candidates and why they preferred these opinions were analyzed by a content analysis technique. "Content analysis is a research technique for the objective, systematic and quantitative description of the clear content of communication" (Berelson, 2000, p. 18). With content analysis, it has become possible to determine the density and importance of a specific element by revealing the quantitative frequency of those elements (Tavşancıl and Aslan, 2001).

2.1. Purpose, significance, and research problem of the study

Strategies that people prefer during reading have cognitive, sensory, and psychomotor characteristics. Deciding which lines are underlined and what are noted are cognitive and sensory. Exhibiting these movements are physical and psychomotor reactions. Knowing why and how these strategies are used and recognizing their benefits or harms are metacognitive. The study aimed to reveal which physical strategies Turkish teacher candidates prefer in reading a printed or electronic book/text and the reasons for these preferences. This study is critical in determining and rating these strategies.

In addition to the strategy expression, the term behavior was also present in the study. In addition to known strategies such as underlining lines, taking notes, and marking, different attitudes and habits have emerged depending on various tendencies, the format/type, and perspectives of the material read. In this respect, the terms behavior and strategy were interchangeable in the study.
The question "What are the physical strategies (behaviors) preferred by Turkish teacher candidates while reading a printed or electronic book/text, and why do they prefer them?" listening/monitoring skill area?" To answer this question, the opinions of teacher candidates were under investigation.

2.2. Limitations

The study was limited to the physical strategies (behaviors) preferred during reading and their causes. The expression of physical strategy or behavior aimed to express the reader's attitudes, attitudes, and behaviors, such as drawing lines, taking notes, marking, and so on in the reading process. These strategies are pragmatic. Cognitive or sensory strategies to understand the text (e.g., revealing preliminary information, intertextual interest, researching the author of the work, making comments and evaluations) are out of the scope of the study. In the study, the expression of physical strategy (behavior) was used as an umbrella term to meet the behaviors that can be observed in the reading process and based on intervening, marking, and taking notes on the book/text.
Although the physical strategies used in the reading process (underlining, notetaking, marking, etc.) have been separated and examined from other reading strategies, it is impossible to distinguish them with precise lines. Note-taking, for example, is an action where physical and psychomotor characteristics intersect. However, it is also cognitive and sensory. Because the reader can record the words/sentences/paragraphs, he/she likes or finds critical in a notebook or an electronic word processor program. Here, the action of recording and taking notes is physical and psychomotor. However, processes such as liking and finding crucial information and selecting them from the text show cognitive and sensory characteristics.

In the study, the opinions of Turkish teacher candidates were directly consulted, which is another limitation of the research.

2.3. Study participants

The study group consists of 150 teacher candidates studying undergraduate education in the Turkish Language Teaching program of Istanbul Aydın University Faculty of Education in the spring semester of the 2021-2022 academic year. An easily accessible sample set was selected for the study. Teacher candidates participated in the study voluntarily.

Table 1: Distribution of the Study Group by Sex and Class Level

	Demographic Attribute	F	%
Sex	Female	109	73
	Male	41	27
Class	Grade 1	35	23
	Grade 2	39	26
	Grade 3	36	24
	Grade 4	40	27
Total		150	100

109 (73%) participants were female, and 41 (27%) were male. Many women and men representing each grade level participated in the study.

2.4. Data Collection and Analysis

In this study, which aims to determine the physical strategies (behaviors) preferred by Turkish teacher candidates while reading a book/text and their reasons, the form developed to collect the data were delivered to the teacher candidates by the researcher. The researcher guided the teacher candidates during the completion of the form. First, teacher candidates thought about book reading behaviors (strategies) in the literature and printed and electronic books. Then, as stated in the instruction of the form, they focused on only physical reading strategies (behaviors) and wrote down the strategies they used and why they preferred these strategies on the form. They needed to write at least five different opinions, and more if they would like to.

The instructions of the form also included a few examples that teacher candidates could benefit from. The teacher candidates first wrote demographic information such as gender and grade and then filled in the relevant parts of the form meticulously. Some teacher candidates could write more than five behaviors, while a few could only write 3 or 4 behaviors.

The data were transferred to the computer environment, coded, and analyzed by considering sex and class variables and using basic statistical techniques (frequency and percentage). In the study, the sex and class variables did not make a significant difference, and this difference was given in the general evaluation in the conclusion section. In the findings section, the opinions of the teacher candidates are in tables collectively.

Teacher candidates developed 659 opinions in total. There were some data losses (18) during coding and counting. The physical reading strategies written by a few teacher candidates and the explanation of their reason were not consistent. The number of data losses in this way is 5. Other data losses in the study (13) are the opinions of teacher candidates about cognitive strategies for understanding what they read. These behaviors are mental efforts to understand and remember, rather than physical interventions on or from the book. For example, examining the book preface, memorizing the poems in the book/text, researching the author's life, buying books according to their subject, interpreting the book, etc. After removing these data, the remaining opinions are considered valid. Thus, 641 valid opinions were present.

Field experts are used to ensure the validity and reliability of qualitative data (Merriam, 2018). The table in the findings section of the study was presented to 2 field experts, and some adjustments were made in line with their opinions and suggestions. Then, the coding in the table was presented to the same experts again, and it was determined that the percentage of code reliability among the experts showed 90% compliance.

3. Results and Comments

The data were converted into findings and reflected in the table in this section. With the content analysis, the physical strategies preferred by teacher candidates while reading a book/text were in five categories. These are as follows:

1. Drawing line (underline the line, cross out the line, do not cross out the line)
2. Note-taking (on book/text, on paper, in electronic media)
3. Marking (over the book/text, not marking)
4. Touching, changing, placing (folding, using fingers, object/driving)
5. Other (sniffing, sharing)

These categories are divided into sub-dimensions (titles) and shown in the table with the reading purposes and tools

Table 2: Physical reading strategies preferred by teacher candidates during reading, their subdimensions, goals, and tools

Reading Strategy	Sub-Dimension of Strategy	Purpose of the Strategy	Auxiliary object, tool, etc.	F	%
Drawing a line	Underline row	● Identify the key sentence (s) ● Identify favorite words/sentences/paragraphs ● Show unknown words ● Recognizing foreign words	Pencil Erasable pen	127	20
	Strike out the row	● Identify sentences/paragraphs that are inappropriate ● Clarifying the wrong words ● Show spelling errors	Pencil	12	2
	Not drawing line	● Not to harm the book ● For others to benefit from ● In order not to have trapezoid lines		19	3
Total and percentage				158	25
Note Taking	Above book/text	● Record favorite words ● To investigate ● To post a comment ● To review ● Summarize chapters ● Reflecting emotions ● Writing incomplete information ● Writing the meanings of unknown words in margins ● Writing down where the reader left off while studying as place and date ● Not to harm the book ● Writing the names of the characters in the book ● Learn how to pronounce the names of foreign book characters ● Concentrate ● Show errors ● Knowing the newly learned words with their meanings ● Writing positive and negative thoughts about the work ● Writing the end date and time of the book	Pencil Pilot pen Post-its Strip	45	7

		● Identify where the author behaves subjectively ● Making short summaries ● Remembering the purchase day of the book			
	On paper	● Utilize ● Not to harm the book ● Reinforcing knowledge ● Recording what has been understood ● Writing in the word (dictionary) notebook (unknown words) ● Writing beautiful words, phrases ● Writing new meanings of old words ● Whether to recommend it or not ● Remembering the characters in the book ● Expressing and remembering emotions ● Determine how long it will take to finish	Notebook (diary, vocabulary notebook, scoring file, general culture notebook, character notebook) Miscellaneous papers	51	8
	To electronic environment	● Copying important information ● Utilize	.docx file Mobile phone	28	4
Total and percentage				124	19
Marking	Above book/text	● Remember where you are staying (marking the beginning of the page in PDF, marking the first word of the page on the left) ● Investigate (question mark, arrow, exclamation point) ● Expressing emotions (emojis) ● Unknown words (question mark in the printed book; italics in Word) ● Specify the number of the page you like (scribbling, rounding, coloring) ● Identify significant, or favorite pages/lines/words (using red color in PDF, highlighting in yellow color, green coloring; marking at the end of the page in the printed book, circling words, placing a bookmark at the beginning and end of the favorite sentence, using an asterisk, quoting favorite sentences; bluing in Word file, darkening, asterisk, question mark, green coloring) ● Identify historical events (asterisk) ● To make the book look good (drawing on the first page of the book according to its type) ● Enjoying the book (painting the descriptions in the book) ● Clarifying misspelled words (scribbling) ● Showing who the book belongs to (using a stamp in the printed book, signing the first page)	Pencil Erasable pen Painting tools Painting/marking tools in the electronic environment Stamp Pen	109	16
	Not marking	● Not to harm the book ● Not disrupting reading speed and concentration		25	4

		● Not to reduce the quality of the book		134	20
Total and percentage				134	20
Touching, placing, changing	Folding	● Remember the last read page (Fold the sheet from the top right, top left, and bottom left; Fold the entire sheet; Fold the page in a triangular shape; Fold the page to the last read line)		93	14
	Using a finger	● Reading more (placing a finger between the pages to be read) ● Understand the volume relevance of the book (measure the thickness of the book with thumb and forefinger) ● Follow (finger-follow lines from the screen/book)		4	1
	Object use	● Remembering the last read page ● Not to harm the book ● Not leaving marks and folds ● Leaving books clean ● Stable reading ● Being able to read easily and comfortably ● To be permanent	Bookmark Magnetic bookmark White paper Paperclip Bookcase with bookmark Pencil Computer (screen editing mode and tools, electronic tracking tools, files, and folders) Magnifying Glass Ruler Mobile phone Tablet E-book reader	120	19
Total and percentage				217	34
Other	Smell,	● Smelling the book (sniffing) ● Spreading the smell of books (turning the pages of newly purchased books) ● Enjoying the book (spraying perfume on the book)	Perfume	4	1
	Share	● Sharing (sharing the favorite sentences on 1000kitap.com, sharing the favorite and important sentences on Instagram)	Social Media Web sites Mobile phone	4	1
Total and percentage				8	2

Table 2 shows the physical strategies preferred by the teacher candidates participating in the study while reading a printed or electronic book, the subdimensions, goals, and tools of these strategies, along with their frequency rates and percentages. The ratios of the categories within themselves and among all categories are in the table. The category in which the most reading strategies (217 opinions) are clustered out of a total of 641 valid opinions stated by teacher candidates is Touching, placing, changing. The share of this category in the total is 34%. The second category with the most reading strategies (158 opinions) is "Line drawing". The share of this category overall is 25%. The "Marking" category (134 opinions) ranks 3rd, and the share of this category overall is 20%. The fourth place is the "Note-taking" category. The total share of this category (124 opinions) is 19%. The last place is in the "Other" category (8 opinions), which has a 2% share of the total.

Categories are the top headings that combine reading strategies. Such a method has been preferred for easy understanding of the classification. When the subdimensions of the categories are examined, the most preferred

reading strategy of the teacher candidates is "underlining". This strategy is the most preferred (20%) reading strategy of all categories. After underlining the lines, the most preferred strategy is using objects/tools (19%). Then, marking on the book/text takes place (16%).

The line drawing was present in 3 subdimensions in the study. These are underlining (80%), overlapping (8%), and not underlining the lines (12%). In addition to stating that drawing a line is a strategy that should be for critical points, teacher candidates have revealed that it is a behavior that harms the book and disrupts the aesthetics of the book. The number of teacher candidates (51) who used pencils while underlining the books is remarkably high since those who underline with pencils try to be sensitive to the book.

The note-taking strategy was also present in 3 subdimensions. These are taking notes on the book/text (36%), taking notes on paper (41%), and taking notes on electronic media (23%). In the dimension of taking notes on the book or text, some teacher candidates stated that they could write on the book (margins) for different purposes. However, according to some teacher candidates (20), notes should be on sticky papers (post-its) on the book pages rather than writing on the book or text, and they made readings in this way. The teacher candidates took notes about important information, beautiful words, and evaluations on a paper or notebook but not in the book directly. They presented different and beneficial types of note-taking methods. It is common knowledge that beautiful words and crucial information are written on notebooks/papers, and unknown or foreign words in a book or text are noted in the vocabulary notebook. However, writing the information about the general knowledge in a general knowledge book, determining the score value the book or text (from 1 to 5), recording this score in a scorebook, and writing the various characteristics of the characters in the literary books in a character book are original forms of note-taking. Teacher candidates also took notes in electronic environments other than books and notebooks. They stated that they copied important information from printed or electronic books to Word files and wrote them on their phones to benefit from some crucial and favorite information. The number of teacher candidates (23) who stated that they used pencils while taking notes in the book is high. because of the idea of deleting, correcting, and improving these notes later.

Another strategy preferred by teacher candidates is marking. Marking appears by placing various marks on books or texts. As with printed books, many markings can be made in electronic books. In the study, teacher candidates stated that they made some markings that would make their reading meaningful. The marking strategy had two dimensions. Marking on the book or text (81%) was dominant. The rate of prospective teachers who would not make a mark was 19%. The signs placed on the text/book should consist of shapes, colors, and symbols that will enlighten the reader, encourage him/her to think and research later, and attract his/her attention. In the study, many different symbols, shapes, colors, actions, and signs (question marks, exclamation marks, arrow signs, emojis, scribbling, circling, italicizing, using red–yellow-green–blue-black colors, brackets, quotation marks, stars, darkening, painting, stamping, signing) emerged. Teacher candidates who do not mark do not want to see things that will harm the book, disrupt their reading, and disrupt their focus on the page.

In the study, "touching, placing, changing" was used as the 4th category which contained the following strategies: the reader touching the book, placing something between the book, and trying to change some things in the book. The "folding" behavior under this heading is a method reader uses to remember where he or she last stayed while reading a printed book or text. Different folding tactics were present, such as folding the page from the top right, top left, and bottom left, folding the entire leaf, folding it in a triangular shape, or folding the page to the last reading line. Many teacher candidates (43%) stated that they showed folding behavior to remember where they stayed while reading a book. Four teacher candidates (2%) preferred to use their fingers. One of these teacher candidates (male) stated that he followed the lines in the electronic environment, and the other (female) followed the lines in the printed book with her finger. Both teacher candidates stated that such a habit helped to understand what they read. Many teacher candidates (81) stated under the title of object or tooling (55%) that they used a bookmark to remember which page they left off. This behavior resulted from the thoughts such as not harming the book and leaving the book clean. Some teacher candidates (3) used magnetic bookmarks or book covers to mark the left page by being more sensitive. In this subdimension, a teacher candidate placed paper clips on the page where he/she left off. Some teacher candidates stated that they used various modes of book reading programs (reading mode, screen yellowing, screen darkening, night light mode, page-turning, etc.) on their computer/tablet/mobile phone. Some teacher candidates read more comfortably by reducing the screen brightness

of the computer/tablet/mobile phone/book reader and enlarging the font size of the texts. Curiously, one teacher candidate (male) used a magnifying glass while reading a printed book, and another (female) held a plastic ruler under the lines while reading a printed book. It is a challenging and motivational strategy for a teacher candidate to state that he/she uses white papers to force him/her to read multiplications of 30 pages to read consistently. One student stated that he put a pencil between the books instead of a bookmark and thus focused more on the book. The last category in the study was "Other" because it combines two subheadings that are not directly related to each other. In this category, where a total of 8 teacher candidates expressed their opinions, four teacher candidates showed the behavior of "Smelling" (50%), and four teacher candidates showed the behavior of "Sharing" (50%). The smell of cellulose, printing, and glue is attractive. Three teacher candidates stated that they used their sense of smell. However, it is interesting for a teacher candidate to state that he/she sprays perfume on the books he/she purchases. In this way, the mentioned female teacher candidate could focus on the book much better. Four behaviors were present under the title of "sharing". One of the teacher candidates shared the sentences he/she liked in the books he/she read on a website, and three participants shared them on social media (Instagram) via mobile phone.

4. Conclusion, Discussion, and Recommendations

The results are evaluated in this section, the intersecting, and diverging aspects of the results with the studies in the field are mentioned, and some suggestions are listed.

In the study, sex and class variables did not make a significant difference. The determined reading behaviors are, in general, similar to each other. There is a partnership in basic reading behaviors such as underlining lines, taking notes of crucial and favorite information in books, making markings on the book, and using bookmark. However, some behaviors differ according to sex. For example, one female teacher candidate sprayed perfume on the book, and another used emojis to express her feelings while marking on the book. Again, the behaviors related to smell and touch were mostly among the opinions of female teacher candidates. One male teacher candidate used a magnifying glass while reading a book, and another male teacher candidate recorded his/her notes on his/her mobile phone. In the study, the class variable made almost no difference. Teacher candidates presented similar opinions in all grades.

Although the physical behaviors preferred by teacher candidates while reading books are similar to each other, some of them are different. While there are teacher candidates who do not touch the book while reading to prevent any harm to the book at one end, there are teacher candidates who claim that a book is an object at the other end, and therefore, there will be all kinds of scribbles and markings on it.

In the study, 11 teacher candidates stated that they did not prefer books/texts in PDF format. However, according to 5 teacher candidates, reading from an electronic book was more efficient. Although the study does not focus on the relationship between digital or printed texts and reading attitudes, the predominance of printed books in the opinions of teacher candidates shows that such books are preferred over digital ones. In a study on this subject (Yaman and Dağtaş, 2013), reading in a digital environment affected reading attitude more positively than reading from printed books.

Within the scope of regulations that will increase reading comprehension, to better manage the reading process of teacher candidates, preferring to print books and texts from electronic environments and reading on paper (6 teacher candidates expressed their opinions in this direction) also intersect with the research in the field. Research has revealed that students prefer to work by printing out the data in electronic sources while studying (Keskin and Çetinkaya, 2017; Mizrachi, 2015).

In the study, the strategy of underlining the lines used since ancient times was the most preferred physical reading behavior of teacher candidates. In the study by Beydoğan and Taşdemir (2007), underlining important places was dominant among the students in the faculty of education. The underlining strategy is the strategy teachers make their students use the most (Durkan and Özen, 2018).

Underlining and marking the line is differentiated using printed and electronic books. When the teacher candidates said "I will underline the lines", they meant the printed book. It is also possible to underline the lines in PDF or another electronic book/text format (epub, mobi, text, Word, etc.). This is a preference other than painting (highlighting). However, in the study, prospective teachers either do not know how to underline the lines very well or do not use them in electronic media.

According to Keskin and Çetinkaya's (2017) study, it is possible to say that the strategy of taking notes and marking important places is still a predominantly used application in printed environments. There was a similar result in this study. In the study of Supancic (1995), however, the most used strategy by the students was taking notes. In the study by Çetin (2021) on 143 students (8th-grade students), behaviors such as emphasizing and writing on digital texts were preferred "mostly" and "always". According to another study (Baykan, Naçar, Mazıcıoğlu, 2007), students' high grade point averages were associated with a high level of underlining important information and taking notes while reading.

Several studies revealed that girls are more successful than boys in strategy use level (Güngör, 2005). Some studies had significant results favoring female students in practical and pragmatic strategies such as marking or taking notes (Çöğmen, 2008). However, this study reached no such conclusion. The opinions of teacher candidates are similar. Even the class variable did not make a significant difference in terms of preferred physical behaviors.

Teacher candidates used some reading strategies together. For example, a teacher candidate recorded the lines he underlined in the books in a separate notebook. Both underlining and note-taking strategies are present in this case. Teacher candidates also mentioned digital reading tools while expressing their reading behaviors. Among these, computers and mobile phones were frequently emphasized. In addition, tablets and book readers were also mentioned. However, the most mentioned reading object is the printed book.

It has also become possible to compare printed books and electronic books based on the study. Teacher candidates mainly considered printed books while presenting their opinions. The printed book is a reading object in behaviors such as underlining the lines in the book, taking notes on the book, placing a bookmark between the books, making various markings on the book, and avoiding scratching and marking to avoid damaging the books. However, the book format in the minds of teacher candidates at the point of easy and comfortable reading and marking (enlarging, highlighting, coloring, editing the screen brightness, copying, image acquisition, sharing on social media, etc.) is an electronic book. The cellulosic environment is closer to the human nature than the screen. However, electronic books are also preferred in this information age, due to the convenience of digital environments. In short, printed books are still at the forefront in making long-lasting and enjoyable readings and engaging in different and varied behaviors on the book.

In addition to using bookmarks to remind them where they stay in the book, prospective teachers also use this strategy for book preservation, aesthetic pleasure, and motivational purposes (pleasing to the eye, increasing reading enthusiasm, etc.). Several teacher candidates talked about colorful and eye-catching bookmarks. Some teacher candidates used magnetic bookmarks or book covers with bookmarks.

The study revealed what teacher candidates did on electronic or printed books and what they did not do. What they do not do refers to their conscious preferences. For example, not folding/folding the pages of books. Many teacher candidates do not prefer this because they think it will damage the book and leave a mark. Teacher candidates who do not scribble on the book, underline, overline, take notes, mark, etc., because of concerns such as seeing the book clean, not wanting to harm the book, not looking bad on the pages, not forming traces and folds, and finding it clean if someone else reads it.

In the study, some teacher candidates had practical and original reading methods. A teacher candidate assigned value to colors to better understand the texts he read. He stated that he used yellow color for criticism, red for liking, and black for research purposes on words/sentences/paragraphs while reading texts in an electronic environment. A teacher candidate changed the name of the PDF file he read to the page number on which he stayed so that he did not do a second job, such as saving his place of stay. Interestingly, a teacher candidate expresses his/her emotional state with emojis. At this point, the electronic environment and the printed environment come

together. Emojis are visuals and abbreviations used in electronic correspondence that express emotions. Sometimes mobile forms of these (GIFs) can also be used, but adding emojis to printed books shows how technology affects printed publications. The following behaviors that emerged in the study may also offer a different experience to the readers:

● Underline the first and last words of the favorite sentence Leaving notes between borrowed books that will be useful for readers

● Sticking colored tape where the author of the book/text behaves subjectively

● "How is the book?" writing and answering the question after finishing the book

● Placing motivating pictures and photos between book pages

● Keeping a notebook in which the characteristics of the characters in the book are present

● Keeping a book-scoring notebook

● Drawing a picture on the first page of the book according to its type (novel, story, poem, memory)

● Spraying perfume on the book

● Following the lines in the book with a ruler

● Collecting screenshots from books in a folder

In the study, photography and screenshot-taking behavior, which can be called one of the current methods of taking notes, was used by many teacher candidates.

This study made several suggestions to institutions and individuals (employees, researchers, readers). They are as follows:

● The choice between printed or electronic books during the reading process is subjective. Reading is a personal activity. Publications in both formats are crucial and valuable. Whichever provides a higher yield should be preferred. Likewise, the chosen strategies in the reading process are personal and vary according to the interests and needs of the person. In this respect, it is necessary to examine why the most preferred strategies are preferred rather than the right strategy. In this study, why the strategies used in the reading process are preferred are discussed. In the future, every reading strategy can be focused on in other studies, and at which education level and how they are used can be examined.

● In the study, many different physical reading strategies that readers can benefit from were determined. Such behavior will have positive or negative effects on reading comprehension. If these behaviors motivate and support the person in general to gain diversity, a practical and effective reading will be possible. In the study, it is necessary to know and share these strategies that will give different experiences to the readers.

● Many people use these book backgrounds in interviews, meetings, and video chats from a distance today when printed books turn into a decor that shows being cultured as a background. Moreover, visits to the printed book sections of libraries have decreased, and libraries are mostly for studying, resting, thinking, etc. It would be appropriate to remind with this study that printed books are not nostalgic elements and are still preferred by many people.

● The effects of behavior (strategy) of taking screenshots from both printed and electronic books on learning and remembering should be investigated.

● It can be discussed whether to take notes on the printed or electronic book. If the book can be borrowed, shared, or borrowed from libraries, there should be no marking, notetaking, or scribbling on these books. One can use these strategies if one wants to make more effective readings, and increase recall, deepen on only one's books.

● Teachers who raise generations and teacher candidates who want to do so should be well-trained in using strategies in the reading process. "The high reading motivation and strategic reading behaviors that teacher candidates will develop will affect future teaching practices. Students with teachers with high reading motivation and strategic reading behavior are likely to be more successful readers. For this reason, there should be more studies to improve the reading skills of teacher candidates in teaching programs" (Akbabaoğlu and Duban, 2020: 1723).

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