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# *"Digital Reading Habits and Their Effect on Comprehension"*

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## *Abstract:*

*In the digital age, reading has undergone a profound transformation. The transition from print to screen has altered not only how people access text but also how they comprehend it. This paper explores the evolving digital reading habits of students and general readers and examines how these habits affect reading comprehension. It discusses various factors such as screen fatigue, multitasking, hyperlinked texts, and reduced attention spans, and evaluates the implications for educators and learners. Through a synthesis of recent research, this study highlights the need for adapting reading strategies and pedagogies to maintain comprehension in a digital world.*

***Keywords:*** *Digital reading, reading comprehension, screen-based learning, attention span, hypertext etc.*

## Introduction:

Reading is a fundamental skill that underpins learning and critical thinking. Traditionally associated with print media, reading practices have evolved with the proliferation of digital technologies. As Baron notes, "the act of reading has shifted from a deep, immersive activity to a quick, surface-level engagement with text" (Baron 4). E-books, websites, online articles, and mobile apps have transformed the reading experience, offering instant access to a wealth of information. These digital formats provide convenience, portability, and interactive features that enhance usability. However, concerns have arisen regarding the impact of digital reading on comprehension. Researchers like Mangen, Walgermo, and Brønnick have demonstrated that reading linear texts on screens can result in poorer comprehension outcomes compared to print formats (Mangen et al. 61). The sensory and cognitive experience of reading on a screen differs significantly from that of a printed page, often requiring adaptations in focus and attention.

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## Research Objectives:

- To examine the impact of digital reading formats on reading comprehension in comparison to traditional print formats, particularly among students and young adult readers.
- To analyse the role of factors such as screen fatigue, multitasking, hypertext, and attention span in influencing comprehension during digital reading.
- To explore strategies for educators and learners to mitigate the negative effects of digital reading and to enhance comprehension in screen-based environments.

## Literature Review:

The shift from print to digital reading has sparked considerable academic interest, particularly concerning its implications for comprehension. **Ziming Liu (2005)** documented a decline in sustained reading behavior, noting a shift toward skimming and scanning in digital contexts. This shift, he argues, correlates with a loss in deep comprehension and reflection (Liu 700–712).

**Anne Mangen et al. (2013)** compared comprehension levels between readers of linear texts on paper and on screens. Their findings revealed that those who read on paper scored significantly higher in comprehension tests. The study attributes this to the tactile and spatial cues present in printed texts, which aid memory and understanding (Mangen et al. 61).

**Naomi Baron (2016)** offers a critical analysis of how screen reading habits—such as multitasking and rapid information consumption—have undermined readers' ability to concentrate and comprehend. Baron highlights a prevalent reader preference for print, especially when deeper understanding is required (Baron 4–5).

**Maryanne Wolf (2018)** delves into the neuroscience behind reading, warning that digital reading may condition the brain to favor quick browsing over deep reading. Wolf argues for the cultivation of "bi-literate brains" that can navigate both digital and print environments effectively (Wolf 85–88).

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## Methodology:

This study employs a **mixed-methods approach**, combining both qualitative and quantitative research techniques to assess the relationship between digital reading habits and comprehension.

1. **Survey Instrument**: A structured questionnaire was distributed to 150 undergraduate students from diverse academic disciplines to collect data on their digital reading habits, frequency, preferred devices, and perceived comprehension levels. Questions were both closed and open-ended.
2. **Reading Comprehension Test**: Two groups of participants were assigned similar reading passages—one in digital format (on tablets/laptops) and the other in print format. Both groups completed comprehension tests immediately afterward, allowing comparison of comprehension performance.
3. **Interviews and Focus Groups**: In-depth interviews with educators and focus group discussions with students were conducted to gain insights into attitudes toward digital reading, observed challenges, and effective pedagogical strategies.
4. **Data Analysis**: Quantitative data from surveys and comprehension tests were analyzed using descriptive statistics and t-tests to determine differences in comprehension levels. Qualitative data from interviews and focus groups were thematically analyzed.

## The Shift to Digital Reading:

Digital reading includes any form of reading performed on electronic devices such as computers, tablets, and smartphones. Unlike print reading, digital reading often involves scrolling, clicking on hyperlinks, and dealing with pop-ups or notifications. These characteristics can fragment attention and interfere with deep reading. A study by Ziming Liu (2005) found that readers tend to skim and scan digital texts more than print, resulting in reduced depth of understanding.

## Hypertext and Non-linear Reading:

Hypertext structures allow readers to jump between sections of text or external sources. While this promotes exploration and interactivity, it can hinder linear comprehension.

Constant switching between tabs or pages may disrupt the cognitive flow required for understanding complex arguments or narratives.

## Multitasking and Distractions:

Reading digitally often occurs alongside multitasking—checking social media, responding to messages, or watching videos. These distractions significantly impair focus, leading to shallow comprehension and lower retention. Studies have shown that students who multitask while reading on screens perform worse in comprehension tests compared to those who read in uninterrupted environments.

## Cognitive Load and Screen Fatigue:

Screens emit light and require sustained visual attention, which can lead to screen fatigue and cognitive overload. Extended digital reading can cause eye strain, reduced reading speed, and mental exhaustion. These factors contribute to a decline in comprehension, especially during long reading sessions.

## Visual and Mental Strain:

Reading on backlit screens requires the eyes to work harder compared to print. Additionally, cognitive load increases when the reader must navigate complex layouts, embedded media, and interactive elements. As a result, mental energy is diverted away from processing the text itself.

## Implications for Education:

Educators face challenges in adapting teaching methods to accommodate digital reading habits. Students increasingly rely on online sources for information, often without developing effective digital literacy skills. Teaching strategies must now include:

- Training students in focused reading techniques.
- Encouraging note-taking and summarization.
- Designing digital content that minimizes distractions.
- Promoting reading comprehension assessments tailored to digital formats.

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## Result Analysis:

## Digital Reading and Its Effect on Comprehension – Parbhani District

**Sample Size**: 150 college students (undergraduate level)

**Location**: Parbhani District, Maharashtra

**Data Collection Method**: Survey + Comprehension Test

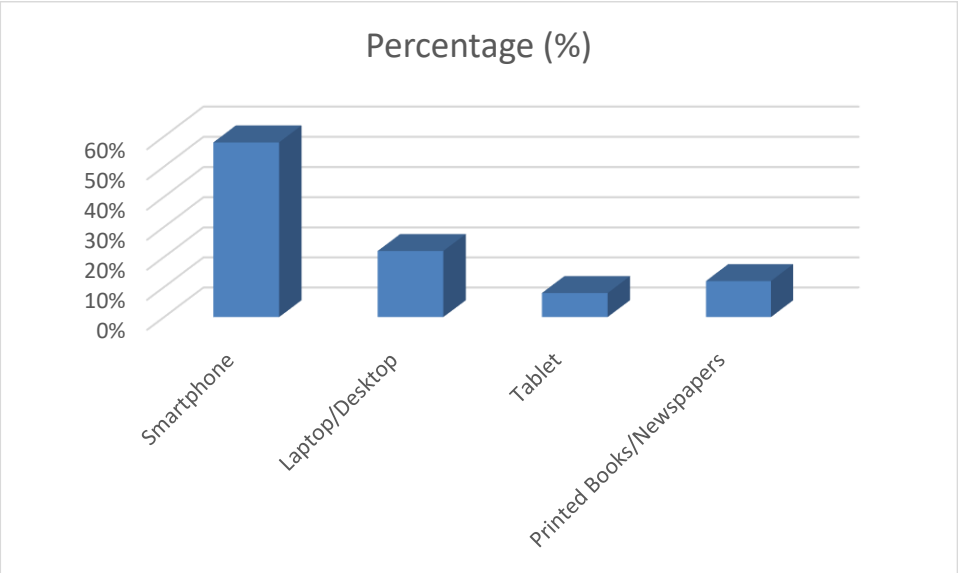
**Study Groups**:

- Group A: 75 students (Digital Reading Group)
- Group B: 75 students (Print Reading Group)

***1.*** *Device Usage for Reading (Survey Data):*

| Reading Platform | Percentage (%) |
|---|---|
| **Smartphone** | 58% |
| **Laptop/Desktop** | 22% |
| **Tablet** | 8% |
| **Printed Books/Newspapers** | 12% |

**Table 1 Device Usage Result**



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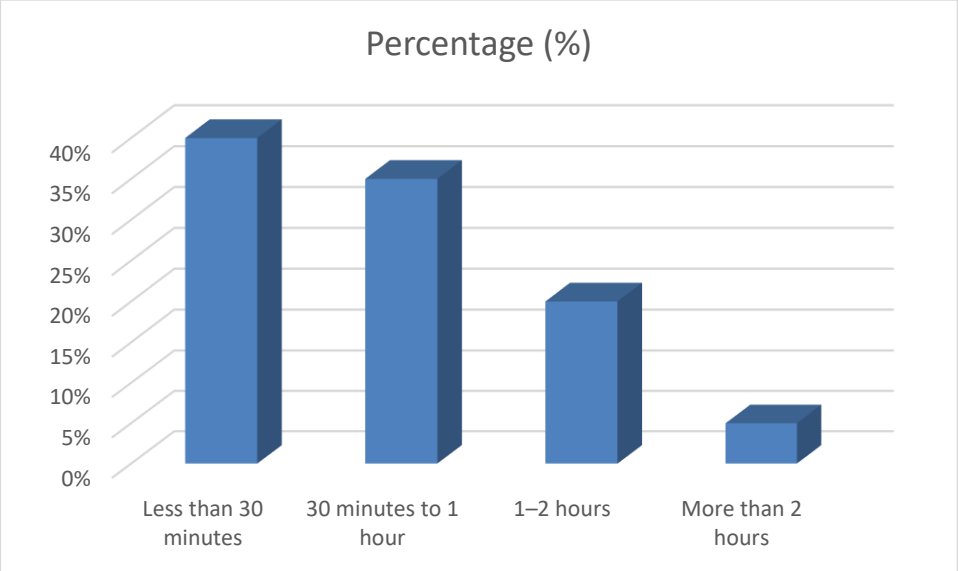
**Graph 1 Device Usage Result**

As per table and graph 1, the majority (80%) rely on digital devices for reading, especially smartphones, which may contribute to shorter reading spans and higher distractions.

***2.*** *Reading Duration per Day:*

| Duration | Percentage (%) |
|---|---|
| **Less than 30 minutes** | 40% |
| **30 minutes to 1 hour** | 35% |
| **1–2 hours** | 20% |
| **More than 2 hours** | 5% |

**Table 2** Reading Duration




**Graph 2** Reading Duration

As per table and gaph2, 75% of students spend less than one hour reading daily, which may affect deep comprehension and retention.

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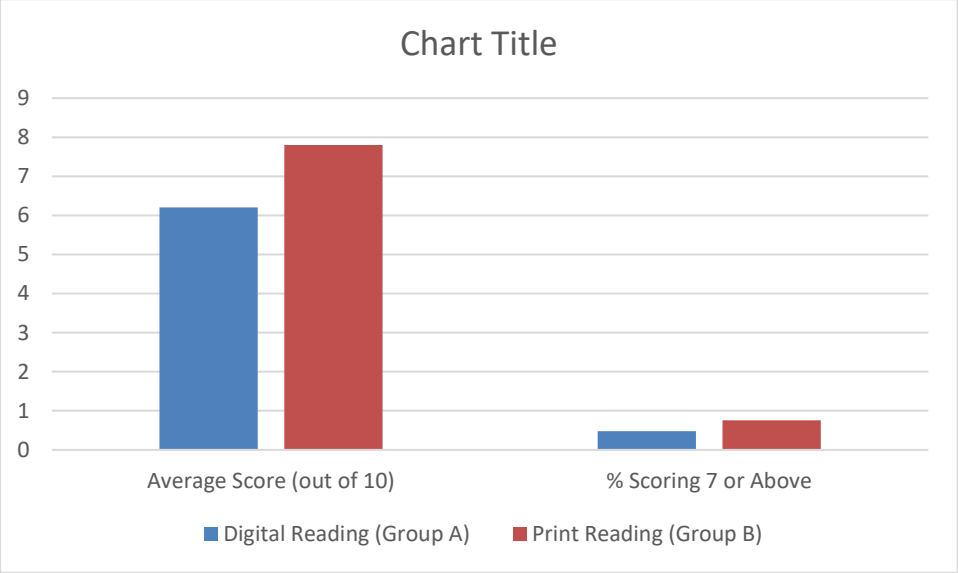
***3.*** *Comprehension Test Results Comparison:*

| Group | Average Score (out of 10) | % Scoring 7 or Above |
|---|---|---|
| **Digital Reading (Group A)** | 6.2 | 48% |
| **Print Reading (Group B)** | 7.8 | 76% |

**Table 3** Test Results Comparison




**Graph 3** Test Results Comparison

As per table and **Graph 3** Students who read printed material performed **28% better** in comprehension than those who read the same material digitally.

***4.*** *Self-Reported Distractions While Reading Digitally:*

| Distraction Type | Percentage Reporting |
|---|---|
| **Notifications/Calls** | 62% |
| **Social Media** | 57% |
| **Ads/Pop-ups** | 39% |
| **No Distractions** | 15% |

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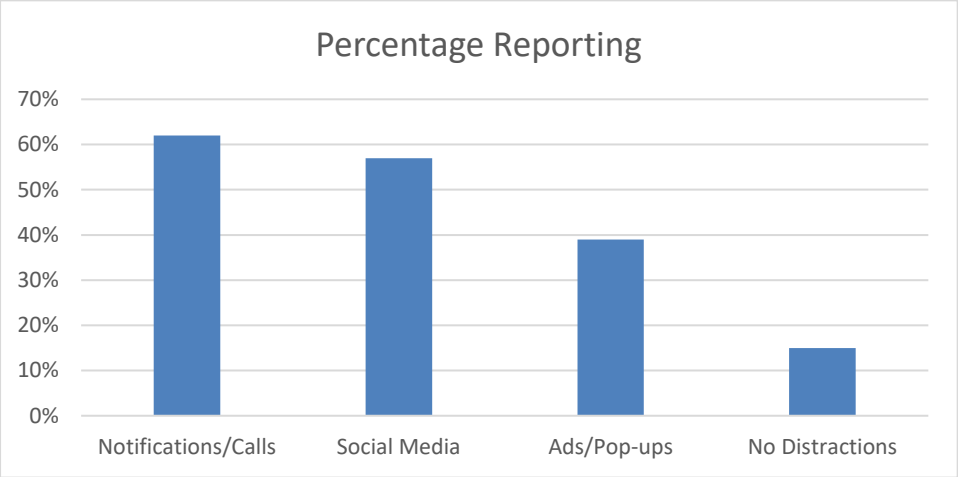
Table 4, Self-Reported Distractions Result



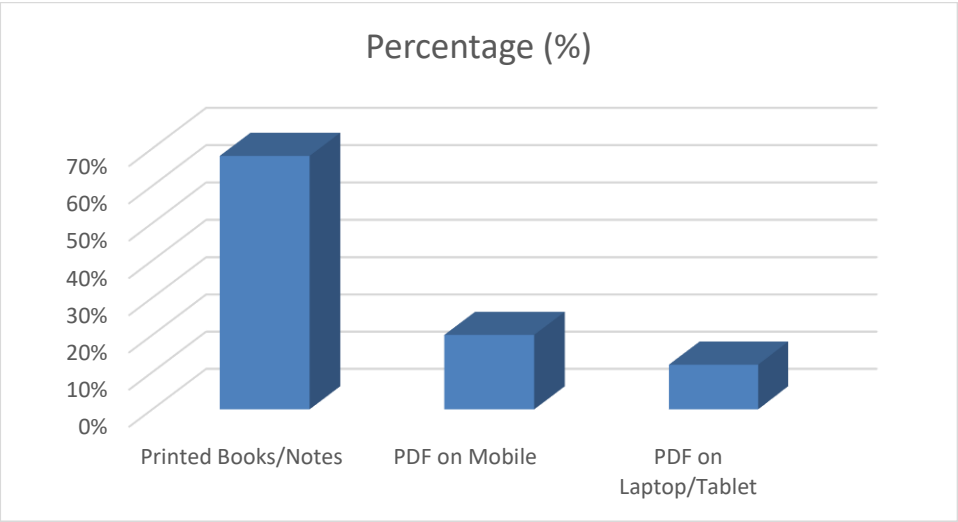

Graph 4, Self-Reported Distractions Result

As per table and graph 4, digital distractions are a significant issue, with **85%** of students facing interruptions during reading.

***5.*** *Student Preferences for Deep Reading*

| Preferred Format for Exams or Academic Study | Percentage (%) |
|---|---|
| **Printed Books/Notes** | 68% |
| **PDF on Mobile** | 20% |
| **PDF on Laptop/Tablet** | 12% |

Table 5 Student Preferences for Deep Reading




Graph 5 Student Preferences for Deep Reading

As per table and graph 5, the most students **prefer print** for serious reading tasks like exams.

## Findings of the Study:

- A significant majority rely on **digital devices**, especially smartphones, for reading.
- **Comprehension scores** are consistently **higher for print readers**.
- **Digital distractions**, especially social media and notifications, hamper focused reading.
- Students acknowledge the **superiority of print** for deep and academic reading despite their digital habits.

## Suggestions of the Study:

- **Promote** focused reading habits **and minimize digital distractions.**
- Encourage **print reading** for deep comprehension tasks.
- Include **digital literacy training** in academic settings.
- Design **user-friendly digital content** that supports comprehension.

## Need for Digital Literacy:

Students must learn how to critically evaluate online texts, manage screen time, and develop self-regulation strategies to maintain focus. Digital literacy is essential for ensuring that comprehension is not compromised in the shift from print to screen.

## Conclusion:

The digital age presents both opportunities and challenges for reading comprehension. While digital reading provides accessibility and efficiency, it also brings risks of superficial processing and distraction. Comprehension in digital environments requires intentional strategies, informed pedagogies, and awareness of cognitive limitations. By understanding and addressing these challenges, educators and readers can foster effective comprehension in a screen-dominated world.

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