



COMPARATIVE ANALYSIS OF ONLINE AND PRINT READING:- A REVIEW

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Abstract:-Research comparing print and digital reading shows that while digital technologies are increasingly common, print often provides unique benefits for comprehension, annotation, and navigation. Studies in both educational and professional contexts reveal that readers frequently perceive paper as superior for learning, though results are inconsistent. Some research finds clear print advantages, others no difference, and some even highlight digital benefits. These contradictions are often due to differences in study design, participant characteristics, and the rapid evolution of digital devices. In early literacy, the assumption that narratives are “primary” has been challenged. Kindergarten children demonstrate the ability to engage with informational books as effectively as with stories, sometimes preferring the former. This suggests that literacy education should expose children to a wider range of genres rather than focusing mainly on stories. In English as a Foreign Language contexts, contradictory findings also appear: some studies show print reading supports comprehension, others show digital reading does, while many find no significant difference. Methodological diversity and differing levels of digital literacy among participants contribute to these mixed outcomes. Beyond education, media studies reveal that the shift from print to online platforms affects public understanding of science and technology. For example, print coverage of nanotechnology has declined while online sources, particularly blogs, continue to expand, often emphasizing environmental issues more strongly. Overall, these studies indicate that the transition from print to digital is not simple substitution but a transformation that requires new teaching strategies, balanced research approaches, and awareness of how media platforms shape knowledge and discourse. reading on paper, although improvements in screen technology have reduced.

Introduction:-Across research in literacy, education, and media, the transition from print to digital reading is framed as a period of significant change with both opportunities and challenges. Studies on reading habits in higher education and professional contexts highlight the need to rethink how texts are authored, structured, and consumed when shifting from paper to electronic devices. While surveys often focus on access and convenience, experimental work emphasizes deeper questions about how e-texts affect comprehension, annotation, and learning processes. The emergence of devices such as the Kindle and iPad accelerated interest, but print remains a benchmark for usability and effectiveness in many settings. In literacy development, longstanding assumptions—

particularly the idea that narrative texts are primary in children’s learning—are challenged by evidence that young learners also engage effectively with informational texts. This suggests that pedagogical traditions privileged stories may need revision to include a broader range of genres that reflect children’s capacities and interests. Research on English as a Foreign Language (EFL) reading adds another layer, revealing contradictory findings on whether digital or print reading supports comprehension better. These inconsistencies stem from variations in study design, participant demographics, digital literacy, and

technological features. Rather than establishing one medium as superior, the literature calls for nuanced approaches that consider context, learner characteristics, and instructional goals. Beyond educational settings, studies of media coverage illustrate how the decline of print journalism and the rise of online platforms have shifted public discourse on emerging technologies. While newspapers once dominated coverage, online platforms such as blogs now play a major role, often with distinct thematic emphases like environmental concerns. This underscores the broader societal implications of the print-to-digital transition, where media ecosystems shape not only reading habits but also collective knowledge and debates. Together, these introductions establish the central problem: the move from print to digital is not a simple substitution but a transformation that reshapes literacy practices, research outcomes, and media landscapes. The challenge lies in adapting educational methods, refining research designs, and recognizing the cultural consequences of this ongoing transition.

Literature review:-The literature on reading across print and digital formats presents a diverse but often contradictory set of findings. Early human factors and psychology studies, such as those reviewed by Dillon and others, focused on measurable outcomes like reading speed, proofreading accuracy, and comprehension. Many of these studies showed that reading on screens was slower than or eliminated this gap (O'Hara & Sellen, 1997). Later scholarship argues that these narrow laboratory tasks fail to capture authentic reading practices, and that researchers should consider the reader's perspective and the naturalistic contexts in which reading occurs. Research on e-books and electronic texts highlights both opportunities and challenges. Stoop, Kreutzer, and Kircz (2012) found that while e-readers improve access and convenience, they often replicate the structure of print rather than making full use of digital affordances. Their large-scale studies with students and professionals showed that annotation, navigation, and comprehension were often better supported in print, suggesting that digital learning materials need to be redesigned rather than merely digitized. In literacy education,

the long-held assumption that narrative texts are central to children's early reading development has been questioned. Pappas (1993) demonstrated that kindergarteners were equally capable of engaging with informational texts as with stories, and in some cases even preferred informational books. This challenges traditional pedagogy and suggests that teachers should broaden their use of genres to better reflect children's capacities and interests. Studies in English as a Foreign Language (EFL) contexts add another layer of complexity. Pardede (2019) reviewed 20 studies on print versus digital reading and found contradictory results: some showed print superiority (e.g., Ackerman & Lauterman, 2012; Mangen et al., 2013), others showed no significant differences (e.g., Murray & Pérez, 2011), and still others favored digital reading (e.g., Abanomey, 2013; Ebrahimi, 2016). These inconsistencies stemmed from factors such as sample size, age differences, variations in study settings, lack of digital reading strategies among participants, and differences in the technological sophistication of the devices used. Finally, research on media coverage underscores how the print-to-digital shift shapes public understanding. Cacciatore, Anderson, Choi, Brossard, Scheufele, and colleagues (2012) examined coverage of nanotechnology and found that while U.S. print media attention had peaked and declined, online platforms—especially blogs—continued to expand. Online sources also emphasized environmental themes more strongly than newspapers, showing that the platform chosen influences how scientific and technological issues are framed for the public. Taken together, this literature reveals that the transition from print to digital is not a straightforward replacement. Instead, it is a multifaceted transformation influenced by technology design, research methodology, educational practice, and media ecosystems. The challenge for future research is to move beyond simple comparisons of speed or comprehension, and instead to explore how readers interact with different media, how digital affordances can be better used, and how both literacy development and public discourse evolve in a digital age.

Methodology summary:-The methodologies across the studies show a wide range of approaches to understanding reading, literacy, and media transitions. One set of studies focused on large-scale experiments with students, educators, and professionals to compare paper and digital reading. Participants were given devices such as e-readers and tablets to use over extended periods, and their experiences were examined through comprehension tests, surveys, and group discussions. These methods aimed to capture not just reading performance, but also the usability of devices, annotation practices, and the overall reading experience. Another study worked with kindergarten children in a natural classroom setting.

Over multiple sessions, children performed pretend readings of both stories and information books. Their oral reenactments were recorded and analyzed to see how they relied on linguistic and visual cues, how they constructed meaning, and how their strategies differed across genres. A different approach used a literature review and synthesis of multiple studies that had compared digital and print reading comprehension. This method examined variations in design, such as differences in age groups, sample sizes, learning environments, and comprehension measures, to explain why studies often reached contradictory conclusions. Experimental methods were also widely used. Some studies randomly assigned participants to read texts in print or digital form, then measured comprehension using tests, recall, or other assessments. Others relied on surveys to explore self-reported reading behaviors and preferences. Finally, one study analyzed media coverage by conducting a systematic content analysis of newspaper articles, online news, and blogs. This approach identified trends in the amount of coverage and the themes emphasized across platforms, highlighting differences in how emerging technologies were presented in print versus online. Taken together, the methodologies range from controlled experiments and classroom-based studies to surveys, systematic reviews, and media analysis. This diversity reflects the complexity of studying the shift from print to digital, showing that multiple approaches are necessary to understand its educational, cognitive, and social implications.

Discussion Summary:-The discussions across the studies converge on the idea that the shift from print to digital is complex, with both advantages and limitations depending on context. One line of discussion emphasizes the persistence of print's strengths. Students and professionals often highlighted that paper supports deeper concentration, easier annotation, and tactile engagement. The ability to physically mark, highlight, or scribble notes was seen as essential for comprehension, and many participants found laptops distracting due to multitasking opportunities. These findings led researchers to argue that digital tools must develop more intuitive annotation and navigation features to match the affordances of print. At the same time, digital reading offers unique opportunities. Access to a wide range of texts, integration with online searches, and features such as adjustable fonts or multimedia content can enrich learning experiences. However, these advantages often come with trade-offs: navigation can be less intuitive, comprehension can suffer when texts are fragmented, and the temptation of online distractions can reduce focus. In early literacy, discussions challenge the assumption that children should begin primarily with narrative texts. Evidence shows that children are equally capable of interpreting informational books, constructing meaning through both pictorial and linguistic cues. This supports a more balanced literacy curriculum that integrates diverse genres rather than privileging stories. In English as a Foreign Language learning, the discussion highlights contradictory findings: some studies favor print, others digital, and many report no difference. This inconsistency is attributed to differences in research design, participant characteristics, and digital literacy skills. The broader implication is that teachers should not rely on one medium alone but help learners develop strategies suited to both. Finally, in the realm of public communication, the discussion points to how media transitions affect knowledge circulation. Print coverage of emerging technologies has declined, while blogs and online platforms have expanded, often framing issues like nanotechnology with stronger environmental emphasis. This suggests that shifts in medium are not only technical but also cultural, influencing how society understands and debates science and technology. Taken together, the discussions emphasize that print and digital reading are not in simple competition but exist in tension and complementarity. Rather than replacing one with the other, the future

lies in rethinking design, pedagogy, and communication strategies to maximize the strengths of each medium.

Conclusion Summary:- Across the studies, the central conclusion is that the shift from print to digital reading is not a straightforward replacement but a multidimensional transformation that reshapes how people learn, read, and engage with information. Print continues to offer unique advantages in terms of comprehension, annotation, navigation, and sustained focus. These qualities make it especially valuable for tasks requiring deep learning, critical thinking, or professional decision-making. However, digital reading provides unmatched accessibility, portability, and integration with interactive features, offering learners and readers new possibilities that print cannot replicate. In early literacy, findings challenge the long-held belief that narrative texts are the primary foundation of learning. Children demonstrate equal competence and sometimes preference for informational texts, pointing to the need for literacy education that embraces multiple genres. In English as a Foreign Language and broader educational contexts, contradictory research results suggest that no single medium is universally superior. Outcomes depend on factors such as study design, participant characteristics, and the level of digital literacy. This underscores the importance of teaching strategies that prepare learners to read effectively in both print and digital environments. In the domain of public communication, the decline of print journalism alongside the rise of online platforms highlights how media transitions also shape public discourse. Online sources, particularly blogs, not only expand coverage but also frame issues differently, which influences how society understands emerging technologies. Overall, the conclusion across these works is clear: the movement from print to digital should not be seen as a competition, but as a call to adapt. Educational systems, researchers, and media institutions must design materials, methods, and platforms that take advantage of the strengths of each medium. By doing so, both print and digital can coexist in ways that enrich learning, literacy, and public understanding.

References:-

1. Stoop, J., Kreutzer, P., & Kircz, J. (2012). Reading and learning from screens versus print: A study in changing habits. *CREATE-IT Applied Research*, University of Applied Sciences Amsterdam.
2. O’ Hara, K., & Sellen, A. (1997, March). A comparison of reading paper and on-line documents. *Proceeding of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 335–342). ACM.
3. Pappas, C. C. (1993). Is narrative “primary”? Some insights from kindergarteners’ pretend readings of stories and information books. *Journal of Reading Behavior*, 25(1), 97–129.
4. Pardede, P. (2019). Factors attributed to contradictory research findings in print reading vs. digital reading effectiveness: A literature review. In *EFL Theory and Practice: Voice of EED UKI (Proceedings of EED Collegiate Forum 2015–2018)* (pp. 194–208). UKI Press. ISBN: 978-623-7256-25-0
5. Cacciato, M. A., Anderson, A. A., Choi, D.-H., Brossard, D., Scheufele, D. A., Liang, X., Ladwig, P. J., Xenos, M., & Dudo, A. (2012). Coverage of emerging technologies: A comparison between print and online media. *New Media & Society*, 0(0), 1–21.
6. Ackerman, R., & Lauterman, T. (2012). Taking reading comprehension exams on screen or on paper? A metacognitive analysis of learning texts under time pressure. *Computers in Human Behavior*, 28*(5), 1816–1828.
7. Mangen, A., Walgermo, B. R., & Brønnick, K. (2013). Reading linear texts on paper versus computer screen: Effects on reading comprehension. *International Journal of Educational Research*, 58*, 61–68.
8. Murray, M. C., & Pérez, J. (2011). E-textbooks are coming: Are we ready? *Issues in Informing Science and Information Technology*, 8*, 49–60. <https://doi.org/10.28945/1346>
9. Abanomey, A. A. (2013). The effect of using digital reading on reading comprehension of EFL

learners.*EnglishLanguageTeaching,6*(11),1–163.https://doi.org/10.5539/elt.v6n11p155 10. Ebrahimi, S. S. (2016). The impact of digital reading on comprehension among Iranian EFL learners.*International Journal of Research Studies in Education, 5*(3), 57–66.

9. Abanomey, A. A. (2013). The effect of using digital reading on reading comprehension of EFL learners.*English Language Teaching, 6*(11),155–163.

10. Ebrahimi, S. S. (2016). The impact of digital reading on comprehension among IranianEFL learners.*International Journal ofResearch Studies in Education, 5*(3), 57–66.

