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An International Comparative Study of Digital and Print Reading: Based on Literature Analysis and Post-Print Review

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Abstract

[Purpose/Significance] With the continuous advancement of digital technology, digital reading has become the predominant mode of reading. Through comparative analysis of digital reading and paper-based reading, this study clarifies the relationship between the two modes and their respective characteristics, providing reference for digital resource construction and reading promotion services in Chinese libraries. [Method/Process] By reviewing foreign literature on digital reading and paper-based reading research, it is found that comparative studies abroad can be clustered into three aspects: reading preference, reading comprehension, and reading experience. Therefore, the literature is analyzed from these three aspects. [Results/Conclusion] Foreign literature primarily employs experimental methods, questionnaire surveys, interviews, eye-tracking, and electroencephalography (EEG) methods to investigate the characteristics and differences between digital reading and paper-based reading; digital reading and paper-based reading each have their advantages and disadvantages; it is argued that in the digital age, the two should complement each other, and implications for relevant research and library reading promotion services in China are proposed.

Full Text

Preamble

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A Comparative Study of Foreign Digital Reading and Paper Reading—Based on Literature Analysis and Review

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Abstract

[Purpose/Significance] With the continuous advancement of digital technology, digital reading has become the primary mode of reading. Through comparative analysis of digital and paper reading, this study clarifies the relationship and respective characteristics of both reading modes, providing references for digital resource construction and reading promotion services in Chinese libraries.

[Method/Process] By reviewing foreign literature on digital and paper reading research, we found that comparative studies abroad can be clustered into three aspects: reading preference, reading comprehension, and reading experience. Therefore, this paper analyzes the literature from these three perspectives.

[Result/Conclusion] Foreign literature primarily employs experimental methods, questionnaire surveys, interviews, eye-tracking, and electroencephalography (EEG) to investigate the characteristics and differences between digital and paper reading. Both modes have their own advantages and disadvantages. The study concludes that in the digital age, the two should complement each other, and proposes implications for related research and library reading promotion services in China.

Classification Number: G252

Keywords: digital reading, paper reading, reading preference, reading comprehension, comparative study

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1. Introduction

A 2011 survey conducted by Gartner Inc. across six countries [1] revealed that people spend nearly equal time reading on digital screens and printed texts. A research team from the University of Tokyo conducted a 48-hour diary study of approximately 1,500 individuals [2], finding that the average daily reading time through print media was 34.6 minutes, while digital media consumption averaged 69.1 minutes—more than double that of print media. K. Kurata et al.'s research showed that subjects spent 70% of their total reading time using digital media [3]. These reports indicate that digital media has already assumed a dominant position in reading activities.

What constitutes digital reading? No precise definition currently exists, and its conceptual boundaries remain ambiguous. Generally, digital reading is understood to include reading e-books, e-journals, emails, websites, and social network services (SNS) through various digital media. However, consensus has

not been reached on whether non-text activities such as watching movies, television, and playing games should be included. Foreign literature on digital reading predominantly adopts a comparative approach with paper reading to analyze the strengths and weaknesses of each. The research perspectives, methodologies, and conclusions offer valuable insights for domestic research and provide scientific guidance for libraries and digital platforms in formulating appropriate reading services and promotion strategies.

This study systematically reviews foreign comparative literature on digital and paper reading. In the Web of Science database, we conducted thematic searches using combinations of terms including “digital reading,” “screen reading,” “e-book reading,” and “paper reading” without year restrictions, retrieving 65 papers and one monograph. An additional three documents were obtained from ScienceDirect, yielding 68 total sources. The search results show that literature has concentrated in the past three years, indicating that research on digital and paper reading has gradually become a hotspot abroad. From the perspective of research angles and findings, these studies can be clustered into three dimensions: reading preference, reading comprehension, and reading experience. Therefore, this paper provides a detailed analysis of foreign comparative research from these three aspects.

2. Comparative Studies on Digital and Paper Reading Preferences

Reading preference is a crucial factor influencing users’ choice between digital and paper reading. Preference is a broad concept that encompasses not only simple liking for a particular medium but also perceptions of its utility or usefulness. Preference is considered a factor affecting the adoption of new technologies and media, and it changes with environmental shifts. Foreign research on reading preferences primarily employs experimental methods, questionnaire surveys, self-report logging (where subjects record and report their daily reading time and methods in detail), interviews, eye-tracking, and EEG analysis. Foreign scholars have conducted in-depth research on reading preferences from unique perspectives, with findings that can be elaborated as follows.

2.1 Different Groups Exhibit Different Reading Preferences

V. Cesario et al.’s [4] testing of children showed that no single reading medium holds overwhelming superiority. For children, digital and paper reading are equally matched, with more than half of children choosing a combination of both modes. D. B. Daniel and W. D. Woody [5] argue that while digital reading offers interactive features, it cannot yet replace traditional reading methods. A. Holzinger [6] thoroughly studied clinicians and found that medical professionals show a clear preference (90%) for paper reading. Despite the high quality and efficiency advantages of electronic media, they cannot completely replace paper media. As learning methods for exchange students rapidly evolve toward digi-

talization, S. Taipale [7] investigated the reading preferences of this group, with results showing that in Finland, exchange students' positive attitudes toward paper reading indicate they benefit more from it than screen reading.

2.2 Discrepancy Between Reading Preference and Reading Behavior

K. Kurata et al. [3] focused on the relationship between reading behavior and preference, using self-report logging and online questionnaires to find that respondents spent approximately 70% of their reading time on digital media, despite their preferences leaning toward print. This suggests that reading preference does not necessarily determine reading behavior; rather, preference and behavior often contradict each other. J. S. Laine and T. Leppnen [8] used eye-tracking glasses to investigate reading preferences, finding that while all subjects expressed a preference for print media, 57.5% still chose digital reading as their first option, with 42.5% preferring print. What causes this inconsistency? J. Vincent [9] identified cost as one contributing factor. The weight of print media and the cost of printing text length affect students' medium selection. S. W. Ji et al. [10] confirmed this: when digital reading resources are provided free of charge, most students choose digital reading purely for cost considerations. The vast majority of students reported that when offered free print materials, they prefer paper reading because it yields better learning outcomes. Additionally, changes in reading environments can create conflicts between reading behavior and preference. In academic settings, reading e-journals and e-books is most common, while in other contexts, e-books are not as popular as paper books. J. Vincent [9] argues that despite posture and eye strain from digital reading, its convenient search functionality makes it particularly practical in educational environments. M. Pinto [11] identifies academic discipline as an important factor affecting university students' reading behavior. Compared to consulting paper materials in libraries, digital retrieval is more convenient and faster, leading students to develop passive habits of electronic reading. Thus, students engage in digital reading more out of academic necessity than preference. However, N. M. Foasberg [12] presents the opposite view, finding that while electronic media are sometimes used for academic purposes (such as information searching), students frequently use them for shorter, non-academic reading. In web environments, the public has become accustomed to reading digital texts such as websites, blogs, emails, and SNS, but prefer print media in different contexts. The gap between reading behavior and preference represents an important area for future exploration of the transition from paper to digital reading.

2.3 Reading Preferences Are Influenced by Text Content and Length

S. Taipale [7], N. M. Foasberg [12], M. Farinosi et al. [13], and D. Mizrachi [14] argue that the choice between paper and screen reading depends on text type and length, with length being more influential than type. Respondents prefer reading short texts such as academic articles on electronic screens, but choose paper for long texts like books. D. Mizrachi [14] proposes that if a

text is fewer than 5 pages, students prefer digital media, but if it exceeds 10 pages, they tend toward paper. M. Farinosi, C. Lim, and J. Roll [13] further note that digital and paper reading are not two independent behaviors but completely complementary: digital media is preferred for short, enjoyable texts, while paper is chosen for long, complex texts such as theses and books.

2.4 Reading Preferences Are Influenced by Aesthetic Factors

J. Vincent [9] considers aesthetics a decisive factor for many in choosing paper media. Many respondents across 10 countries mentioned the pleasant emotions evoked by the unique touch, feel, and smell of print media, while no one reported aesthetic feelings from digital media. M. Farinosi et al. [13] propose that the smell and texture of paper, along with cover design, provide aesthetic pleasure that influences readers' choice of paper reading. M. K. Merga [16] explored teenagers' reading preferences, finding that while some students are enthusiastic about digital technology, most who use these technologies do not employ them for digital reading, preferring paper instead. Knowing "where I am" is an important part of the aesthetic experience of reading paper books. Even so-called "digital natives" [17] may express dissatisfaction with clumsy e-reading technologies. The authors suggest that future e-reading devices and applications should focus on enhancing readers' aesthetic experience in digital reading, as graphics and certain physical attributes can stimulate reading interest.

2.5 Reading Preferences Are Influenced by Technological Factors

F. Borgonovi [18] notes that digital reading requires students to acquire unique skills unnecessary for print reading. M. Farinosi et al. [13] observe that while print media continues to be read, the trend is weakening as digital natives join the population. Respondents choosing digital reading cite screen media's portability and ability to store multiple books, saving space. However, screen reading has drawbacks: screens are fragile, unlike books that remain readable even when dropped or knocked. Based on technological frame theory, repeated use of new technology is inevitable, and habitual use eventually leads to practice formation [19], which in turn promotes new technology development. The study finds that cultural differences and timing of digitalization are two important factors explaining why different countries are at different stages in transitioning from paper to digital reading.

2.6 Reading Preferences Are Influenced by Physiological/Cognitive/Health Factors

M. Farinosi et al. [13] note that one student who had cataract surgery found reading text on paper more difficult than on e-books or computer screens, thus using screen technology as much as possible. When screen reading time is excessive, concentration issues and cognitive tension and headaches can occur. Some respondents reported that cognitive factors like distraction prompted them to

print materials on paper for reading. K. Gill studied patients with wet age-related macular degeneration (AMD) and found that digital devices could be applied in visual rehabilitation therapy for patients with low vision [20]. Devices with larger screens and higher contrast benefit AMD patients who need extensive text reading. Patients read faster on Apple iPads than with paper books. F. Kretzschmar [21] used EEG and eye-tracking to test whether digital media reading requires higher cognitive ability than traditional books. Older readers may benefit from tablets' strong contrast. Therefore, subjective evaluations of digital reading media must be separated from the cognitive and neural functions required for electronic information processing. Current research provides no evidence that reading on digital devices is more effortful than paper reading. On the contrary, in some cases (such as with older readers), digital media can provide advantageous reading conditions.

2.7 Other Factors Influencing Reading Preferences

2.7.1 Ecological Factors In M. Pinto et al.'s [11] study, students considered the environmental benefits of e-books as their greatest advantage. In M. Fari-nosi et al.'s [13] research, German respondents reported that their reluctance to choose paper reading stemmed from the negative environmental impact of paper production and waste.

2.7.2 Usage Frequency L. M. Singer and P. A. Alexander [22] calculated reading preferences based on students' frequency of media use. Experimental results showed students' preference for digital media due to its economy and convenience. Given that these students are "digital natives," this finding is not surprising.

2.7.3 Gender Factors Z. Liu and X. Huang [23] found that female students prefer paper reading more than male students, while male students show higher satisfaction with online reading than female students, making gender a decisive variable in digital reading. W. D. Woody et al. [24], however, argue that gender has no predictive effect on e-book usage and no decisive impact on academic digital reading.

3. Comparative Studies on Digital and Paper Reading Comprehension

The most significant change brought by media differentiation is the difference in reading comprehension effects. Whether digital reading comprehension differs from paper reading comprehension depends on specific circumstances. Under different background conditions, the degree of comprehension varies between digital and paper reading. Foreign research on comprehension effect evaluation primarily employs experimental methods, questionnaire surveys, interviews, eye-tracking, and EEG.

3.1 Digital Reading Comprehension Is Weaker Than Paper Reading Comprehension

F. Günes [25] argues that without effective text structure, the brain's cognitive mapping may reduce reading comprehension effectiveness. Screen reading creates greater cognitive load because, compared to paper reading, it makes the brain's information construction process more intensive and complex. B. M. Martin et al. [26] believe traditional text reading may better support reading ability development. In traditional books, students pay more attention to the text itself, confirming A. Mangen and A. Van's finding that students reading paper texts demonstrate greater comprehension ability than those reading digital texts [27]. This suggests teachers need new strategies to teach students how to focus on text content in digital media without being distracted by other digital links. J. H. Hou [28] argues that reading paper books is superior to reading their digitally disrupted versions in terms of reading comprehension. Digitally disrupted versions refer to digital reading presentations with unreasonable page layouts that destroy page structure, making it difficult for participants to understand text structure and hindering their formation of effective cognitive maps. If the brain's cognitive map of a text is not effectively constructed, readers may become distracted by losing their way in the narrative. R. Ackerman and T. Lauterman [29] conducted comparisons of digital and paper reading comprehension under time-limited conditions, arguing that psychological factors affect screen reading and that metacognitive processes are important factors explaining performance differences between the two media. Without time constraints, there is no difference in text comprehension between paper and screen; under time-limited conditions, screen reading comprehension is inferior to paper reading. W. Lenhard et al. [30] believe the equivalence of digital and paper reading comprehension depends on task complexity and proficiency. Screen reading leads to higher error rates, possibly due to different motor and perceptual demands and working methods. Such effects decrease with reader proficiency and task complexity.

3.2 Digital Reading Comprehension Is Stronger Than Paper Reading Comprehension

F. Borgonovi [18] attempted to explain gender differences in reading comprehension assessment between paper and screen reading through video games, finding that playing collaborative online games may cause students' ability to understand, use, reflect on, and read written texts to decline sharply. However, video games may promote students' acquisition of navigation techniques and spatial skills—unique skills that digital reading imparts to students. Excessive gaming affects academic performance, but moderate video gaming can indirectly promote students' digital reading skills. Many countries exhibit gender differences when assessing reading comprehension between paper books and e-books, which video games explain well: boys play more video games than girls, so boys outperform girls in forming digital spatial concepts and using navigation tools,

and similarly outperform girls in computer screen-based reading comprehension assessments. Both boys and girls benefit positively from single-player games in reading achievement. Moderate video game use may help narrow the gender gap in text comprehension and navigation skills.

3.3 No Significant Difference Between Digital and Paper Reading Comprehension

L. M. Singer and P. A. Alexander [22] argue that when identifying main text content, there is no significant difference in comprehension effects between media. J. H. Hou et al. [28] note that paper versions and their digital equivalents (where digital media presents text content identical to print) show no significant difference in reading comprehension. U. Perenic used poetry as the assessment object for paper and screen reading comprehension, pointing out no obvious difference between the two methods [31]. L. M. Singer and P. A. Alexander [22] found through experiments that students' text comprehension does not differ across media. However, current research data cannot determine whether visual fatigue leads to decreased reading comprehension ability. A. Holzinger [6] fully understood clinicians' preferences and found no significant difference in reading performance between paper and screen. S. Bando et al. [32] used hemodynamic parameters as a physiological indicator, conducting physiological and psychological measurements on subjects during reading tasks to study the physiological and psychological effects of reading books using electronic or paper media. Although paper media gives the impression of being much easier to read, and reading documents on e-readers is less comfortable, N. S. Chen [33] believes that comprehension is the goal of reading. However, due to lack of background knowledge and proper reading strategies, students often encounter reading difficulties. QR codes combined with mobile technology can provide supplementary materials and questions to support students in expanding their reading scope. QR codes printed on paper materials enable direct access to digital reading resources. Integrating digital resources into paper reading based on student needs through mobile technology is a feasible method. For complex texts, this method offers obvious benefits for improving students' reading comprehension.

In summary, whether digital or paper reading holds superiority in comprehension effects, or whether they are equally matched, scholars' views appear mutually exclusive but actually reflect different research preconditions. Factors such as time constraints versus no time limits, selection of complex versus simple reading materials, and whether subjects are digital natives or older adults accustomed to paper reading all affect comprehension assessment outcomes. Therefore, the relative strength of digital versus paper reading comprehension cannot be simply summarized; different results emerge under different limiting conditions.

4. Comparative Studies on Digital and Paper Reading Experience

Reading is both a mind-opening process and an experience. The authors conceptualize reading experience at two levels: first, the readability and value of text content; second, the usability of reading media and the “joy” of reading. The joy of reading represents the ultimate pursuit of reading experience, allowing readers to enjoy a pleasurable, immersive reading experience. Academic discussions generally focus on the second level. Foreign research on reading experience primarily employs experience mapping, questionnaire surveys, and interviews. The following sections summarize external sensory experience and internal psychological experience separately.

4.1 Comparison of External Sensory Experience Between Digital and Paper Reading

External sensory experience refers to media usability, primarily concerning font size, layout, backlighting, page-turning convenience, bookmarking, annotation, and note-taking. J. S. Laine and T. Leppnen [8] note that digital reading requires screen zooming and scrollbar dragging, which many subjects find troublesome. Reading newspapers on browsers (such as Safari on iPads) generally does not provide good user experience. In navigation bars, linked sections are initially invisible, which many participants consider a disadvantage. Many participants reported feeling lost when jumping between articles in digital publications—for example, returning to previous articles or sections is not intuitive. User experience is sometimes affected by operational delays (network connection issues may cause delays). M. Farinosi et al. [13] propose that continuous mouse scrolling and screen clicking are laborious experiences. M. R. Bold et al. [34] consider annotating e-books too difficult and time-consuming. People feel awkward about current digital reading technology, resulting in poor reading experience. H. Shibata et al. [35] note that subjects are reluctant to touch iPad tablets because they are so smooth. When they accidentally placed their hands on the iPad during experiments, documents became enlarged, after which they paid special attention to their hand placement when touching the panel. This may lead to decreased reading performance on touch-based digital tablet devices. In contrast, paper media offers good tactile satisfaction, fulfilling readers’ nostalgic sentiments; it facilitates annotation and note-taking, allows readers to always know “where I am,” and provides good reading experience. However, when encountering unfamiliar content requiring dictionary consultation, paper media interrupts reading fluency, representing a disadvantage in reading experience.

4.2 Comparison of Internal Psychological Experience Between Digital and Paper Reading

Internal psychological experience refers to the pleasurable immersive reading experience readers pursue. A pleasurable immersive reading experience represents the ideal state of reading because it improves work or study efficiency, makes

one forget time and space, remains undisturbed by external factors, and enjoys the pleasure of reading.

J. S. Laine and T. Leppnen [8] adopted the experience mapping method described by A. Mensonen et al. [36] to further describe and compare user experiences induced by different publication versions. Many questions in the questionnaire were designed based on the Self-Assessment Manikin [37], a commonly used graphical tool for measuring emotional responses. Results show that pleasant reading experiences and familiarity with paper media lead many subjects to choose paper newspapers. However, quite a few subjects, while acknowledging the reading experience of paper newspapers, prefer reading daily news on digital newspapers. Considering gaze paths and attention allocation, many subjects find newspaper ad layouts natural and pleasant, allowing them to easily focus attention on advertisements. In contrast, ads on digital publications are evaluated by many subjects as distracting and providing poor reading experience.

M. Farinosi et al. [13] note that paper reading enables immersion in content. They argue that paper reading cultivates a reflective mode of thinking. The sole focus of reading books is the content itself, which does not distract. If someone is screen reading, they may become distracted by checking email, multitask, and forget the text content. Paper books allow readers to focus on the current text content, gaining more concentration through single-medium reading. In contrast, screen reading creates detachment from content, while paper reading seems to immerse readers between the lines, thereby improving learning effectiveness. J. H. Hou et al. [28] believe that reading paper books is superior to reading their digitally disrupted versions in terms of immersion. However, if reading paper versions and their digital equivalents (where digital media presents text content identical to print), there is no significant difference in immersion. If files on e-reading devices perform similarly to paper books, then screen reading can rival paper reading.

The authors suggest that in designing digital media devices, we should leverage the advantages of various reading platforms, avoid unnecessary interference, reduce hyperlinks, enhance user reading concentration, and promote deep reading.

5. Comprehensive Review and Implications of Foreign Digital and Paper Reading Research

5.1 Comprehensive Review

Foreign research on digital and paper reading exhibits the following characteristics:

- (1) **Granular research with emphasis on controlling preconditions.** Foreign scholars emphasize controlling research preconditions. Reading itself is a highly complex process involving numerous elements for readers (age, gender, nationality, preference, motivation, interest, habit, and growth environment) plus influencing factors such as reading content,

transmission media, and information sources, constituting a highly complex reading system. Foreign scholars control preconditions by limiting subjects (children, special populations such as macular degeneration patients), reading length, and distinguishing between e-books and online reading, making research granular. Granular research yields more novel, operable, and referential results.

- (2) **Diversified research methods integrating psychology and neuroscience techniques.** Observation, experimentation, tracking, interviews, eye-tracking, EEG, and data analysis have been applied to comparative studies of digital and paper reading. The application of psychological and neuroscience techniques demonstrates increased attention to the characteristics and attributes of human readers. Multiple methods are often combined within a single study to complement and corroborate each other, enhancing scientific credibility.
- (3) **Empirical and experimental research with rigorous design and process.** Research designs are meticulous and processes rigorous, with some studies employing long-term tracking methods. Papers provide detailed descriptions of research ideas, processes, and data acquisition and analysis, ensuring credibility and scientific validity.

Synthesizing foreign research on paper and digital reading, the basic consensus is: paper reading's advantages lie in not causing eye fatigue and allowing posture changes; easier annotation; portability without power dependence; no sudden advertising interruptions; and being considered a more focused and sustained reading behavior. Regarding understanding of digital versus paper reading, digital reading features key identification, one-time reading, non-linear reading, and selective reading, using less time for deep and concentrated reading with declining sustained attention, while paper reading is linear and restricts certain behaviors but promotes reading [38]. Skimming and non-linear reading are typical characteristics of digital reading, significantly different from the deep and linear reading of paper texts [39]. Additionally, many hypertext features increase readers' cognitive load [40]. New technologies have affected reading behavior, but it remains uncertain whether these changes represent a complete decline in reading quality. Instead, these technologies are believed to provide support that enables users to improve reading levels.

5.2 Implications for Chinese Digital and Paper Reading Research

A characteristic of Chinese comparative research on digital and paper reading is the strong association established between digital reading and shallow reading, and between paper reading and deep reading. Foreign literature rarely mentions the concepts of deep and shallow reading; reading comprehension effects are concepts associated with deep and shallow reading in China. Comparative research on digital and paper reading should focus not on comparison itself, but on exploring readers' strengths and weaknesses under different media conditions

to provide theoretical foundations and practical strategies for further improving quality reading services.

Based on characteristics of foreign research, implications for Chinese research are as follows:

- (1) **Emphasize setting and refining research conditions.** For reading services, few universal laws and rules exist. Treatment should be targeted according to different conditions presented by readers, environments, resources, and media. Refining research conditions actually provides analysis of digital and paper reading characteristics under different conditions, enabling targeted guidance for reading services.
- (2) **Emphasize novel and diversified research methods, particularly reader-centered approaches drawing on cognitive psychology research achievements and methods.** The core of realizing reading value lies in improving readers' knowledge comprehension and absorption levels. Currently prevalent questionnaire and interview methods are highly subjective, while equipment such as eye-trackers, near-infrared brain function imaging systems, and EEG can output more objective user data, improving research reliability and scientific validity and helping discover scientific laws to guide reading services.
- (3) **Emphasize experimental research methods, strengthening experimental process design and condition control.** Current Chinese research on this theme has employed numerous experimental methods, but further rigor and scientific standardization are needed in experimental design, variable control, process tracking, and data collection and analysis.

5.3 Implications for Chinese Library Reading Promotion Services

Based on existing scientific research findings on digital and paper reading, several implications for Chinese reading promotion services can be drawn:

- (1) **Digital reading does not absolutely equal shallow reading, nor does paper reading absolutely equal deep reading.** Resource construction should be based on content length, nature, and target readers' age, with segmentation in service objects, content, and methods.
- (2) **Emphasize the aesthetic attributes of reading resource transmission media and content.** The aesthetic experience of book media has gained reader recognition. How to improve the aesthetic attributes of digital resource content and transmission media to provide readers with potential aesthetic experiences represents a key point for deepening reading promotion services. The experience and pursuit of beauty reflect social development levels, and China's economic and cultural development has reached a stage where the whole society values aesthetic experience.
- (3) **Truly implement reader (user)-centered service through multi-**

dimensional segmentation of reader attributes. Reading promotion activities should be designed based on scientific research findings for children, special populations (such as deaf-mute individuals, people with reading disabilities, and patients with special diseases), and specific groups (such as researchers, university students, and corporate R&D personnel).

- (4) **Identify positioning and highlight service characteristics in library reading promotion services.** The complexity of the reading process determines the complexity of reading promotion services. Libraries should precisely position their reading promotion services according to their advantages, such as children's reading promotion or special population reading promotion, to improve professionalism, scientificity, and authority, forming distinctive service features and enhancing libraries' authority and professionalism in characteristic reading promotion services.

This paper comparatively analyzes the content and methods of foreign digital and paper reading research, providing detailed 梳理 of foreign research findings from aspects of reading preference, reading comprehension effects, and reading experience, and obtains implications for Chinese research and library reading promotion services based on comprehensive review. From a research trend perspective, laws and characteristics of user reading behavior urgently require further exploration to provide foundations for Chinese reading resource construction and reading service promotion.

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A Comparative Study of Foreign Digital Reading and Paper Reading—Based on Literature Analysis and Review

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Abstract: [Purpose/significance] With the increasing advancement of modern digital technology, digital reading has become the main reading mode. Through comparison and analysis of digital reading and paper reading, this paper clarifies the relationship between digital reading and paper reading and their respective characteristics, providing reference for optimizing digital resource construction and reading promotion services in our country. [Method/process] This paper reviews literature on digital reading and paper reading in foreign countries, finding that comparative studies can be clustered into three aspects: reading preference, reading comprehension, and reading experience. Therefore, the paper analyzes these three aspects in detail. [Result/conclusion] Foreign literature mainly uses experimental methods, questionnaire surveys, depth interviews, eye-tracking measures, and electroencephalogram (EEG) to study the characteristics and differences of digital reading and paper reading. Digital reading and paper reading each have their own unique advantages and regularities. In the digital

age, the two should complement each other. This paper puts forward enlightenment for China's related research and library reading promotion services.

Keywords: digital reading, paper reading, reading preference, reading comprehension, comparative study

Note: Figure translations are in progress. See original paper for figures.

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