# From Traditional Reading to Digital Reading: Preserving the Values of the Past in the Modern Age

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**DOI: https://doi.org/10.47772/IJRISS.2026.102000065**

**Received: 19 October 2026; Accepted: 24 October 2026; Published: 20 November 2026**

## ABSTRACT

Reading has not simply shifted from paper to screens; the change has affected how people find texts, how long they stay with them, and what they expect to gain from reading. This narrative review asks which enduring values of sustained reading can be carried into digital life. It brings together major print–screen meta-analyses, a 2024 systematic review of children's and adolescents' reading, U.S. reading surveys, OECD PISA results, studies from Kerala and Delhi, and the 2016 Arab Reading Index. The findings are mixed in ways that matter. Some reviews identify a modest paper advantage for comprehension, particularly with informational texts and time-limited tasks, while a newer review of younger readers found that many outcomes did not differ by medium and that well-designed digital texts can support engagement or vocabulary in some circumstances. Survey estimates also vary because the surveys ask different questions about reading. Alongside this empirical evidence, the article considers an Islamic understanding of reading and knowledge. The Qur'anic emphasis on recitation, the pen, learning and reflection, together with the history of Arabic-Islamic teaching and textual transmission, offers a meaningful cultural framework for discussing why reading matters. These religious and historical sources establish values; they do not prove that one medium produces better comprehension. The article identifies five values to preserve—attention, reflection, respect for the complete text, continuity with heritage, and shared reading—and proposes a four-part bridge model for readers, educators, digital designers and cultural institutions. The model is presented as a set of practical ideas to test, not as an intervention already shown to work. The central argument is that the future of reading depends less on choosing one medium over another than on using each thoughtfully and protecting the habits that make reading meaningful.

**Keywords:** Digital Reading; Print Reading; Reading Comprehension; Deep Reading; Islamic Perspectives On Knowledge; Arab Reading Culture; Arabic Textual Heritage; Narrative Review

## INTRODUCTION

The shift from books to screens is often described as if one format has simply replaced another. In practice, readers move between several kinds of engagement: a student may study a textbook on a phone, return to print to revise an argument, listen to a recorded chapter while travelling, and encounter a quotation on social media. All of these involve words, but they do not demand the same level of attention or lead to the same kind of understanding. A count of reading activity can tell us something about access; on its own, it cannot tell us whether people have understood, remembered or questioned what they read.

This change has prompted two familiar responses. Some welcome the sheer quantity of written material now within reach. Others worry that short posts, alerts and rapid switching leave less room for patient reading. Each view captures part of the picture. Digital formats can make texts affordable, searchable and available to readers who face geographical, physical or linguistic barriers. Yet the same environment can make it easy to leave a long argument before its main point becomes clear. Print may offer a calmer setting, but paper alone does not guarantee concentration; a printed page can be skimmed, just as a digital book can be read with care.

Three questions need to be kept separate: how much people read, which formats they use, and how well they understand what they read. A survey that asks whether an adult read a book during the past year measures

participation, not depth of comprehension. Likewise, an experiment that finds a difference between paper and screen under certain conditions does not demonstrate that digital media caused a general decline in literacy. These distinctions are important if the discussion is to move beyond broad claims and toward evidence that can guide practice.

This article treats the change in reading as both an educational issue and a cultural question. It asks what recent studies tell us about reading volume and format; when the medium may affect comprehension; how the strengths of sustained reading can be maintained online; and what Arabic and Islamic textual traditions can contribute to the discussion. The paper brings empirical research into conversation with a religious and historical perspective, while keeping their roles distinct: studies measure reading outcomes, whereas scripture and textual history help explain the values communities attach to reading and learning.

## 2. Method: a transparent narrative review

This paper is a focused narrative review and synthesis of previously published evidence. It is not a systematic review or a new meta-analysis: no participant-level dataset was reanalysed, no new pooled effect was calculated, and the search was not designed to capture every study in the field. The review draws on SANRA, the Scale for the Assessment of Narrative Review Articles, as a guide to explaining the topic's importance, stating the aims, describing the search, using appropriate references, reasoning carefully and presenting relevant findings (Baethge et al., 2019). SANRA is used here as a reporting aid; the paper does not claim that it has undergone a formal SANRA score or validation.

A targeted search and source-checking exercise for this revision was completed on 29 October 2026. It included peer-reviewed journal articles, academic books and publisher records, along with original reports from the National Endowment for the Arts (NEA), Pew Research Center, the OECD and the Mohammed Bin Rashid Al Maktoum Knowledge Foundation/Knowledge4All. Academic publisher and repository pages consulted included Wiley Online Library, ScienceDirect, SAGE Journals, SOAS Research Online and Open Book Publishers. Search phrases combined terms such as 'paper versus screen reading comprehension', 'digital reading systematic review', 'reading habits in India', 'Arab Reading Index', 'Arabic manuscript reading culture', 'Qur'anic recitation and written transmission', and 'Islamic perspectives on knowledge and reflection'. The Qur'anic passages and hadith cited in the discussion were checked against accessible text repositories, and reference lists were followed where they helped identify relevant scholarship.

Sources were selected for their relevance and the quality of the information they provide. Priority went to peer-reviewed meta-analyses and systematic reviews, empirical studies that describe their samples and methods, primary institutional reports, and academic research on Arabic and Islamic textual practices. Studies published after 2018 were sought to update the discussion, while older research was retained where it remains influential or supplies essential context. When an original institutional report was available, it was preferred to a news story summarising it. The Indian studies are used to add local context, not to represent the whole country; the Arab Reading Index is treated as an important historical dataset rather than a current population estimate.

The search was targeted, not exhaustive. There was no preregistered protocol, no complete record of every result screened, and no PRISMA flow diagram; for that reason, the paper does not present itself as a systematic review. The studies also use different populations, survey questions and definitions of reading, so their statistics are discussed separately rather than combined into one index. Most research identified was available in English. Arabic-language databases and locally published work may contain relevant studies that this search missed. The discussion of Islamic reading is consequently grounded in selected scriptural sources and established historical scholarship, not offered as a comprehensive account of the many reading traditions found across Muslim communities.

# CONCEPTUAL FRAMEWORK

## 3.1. Reading medium is not the same as reading mode

In this article, 'traditional reading' describes sustained engagement with a complete work, often—but not always—in print. 'Digital reading' refers to texts encountered through e-books, web pages, online documents and social feeds. These labels describe settings rather than guaranteed mental outcomes. Someone may read a novel slowly on a tablet, while another person may skim a printed article. What matters is the relationship between the reader, the task, the text and the conditions in which reading takes place.

## 3.2. Deep reading and hyper-reading

Hayles (2012) uses the distinction between close reading and hyper-reading to describe two ways of working with texts. Close reading stays with a passage long enough to examine its language, structure and implications. Hyper-reading involves scanning, searching keywords, comparing snippets and moving between sources. Neither approach is inherently wrong. A researcher may need hyper-reading to locate evidence quickly, then close reading to interpret a key passage. Difficulty arises when scanning becomes the default even for material that requires careful thought, or when a reader mistakes familiarity with a few words for understanding the whole argument.

Liu (2005), Carr (2010) and Wolf (2018) have shaped discussion about the possible effects of digital environments on concentration. Their work raises useful questions, but a plausible concern should not be presented as settled proof that the internet has broadly damaged readers' brains or abilities. It is more productive to examine outcomes that can be measured—comprehension, recall, reading persistence and how accurately readers judge their own understanding—and then test the influence of time pressure, interruptions, scrolling and task design.

## 3.3. The role of the reader and the task

Readers choose a format for practical reasons. Digital texts are portable and searchable, and features such as adjustable type, screen readers, text-to-speech and dictionaries can make them more accessible. Print offers a stable physical layout and usually places fewer competing functions around the text. The value of these features changes with the task: a search function may help someone locate a date, while a student learning an unfamiliar concept may need space to annotate, pause and reread. The useful question is not whether print or screen is best in every situation, but what will help this reader do this task well.

## 3.4. Reading, knowledge and reflection in an Islamic perspective

An Islamic approach gives reading a purpose that reaches beyond the accumulation of information. The first revealed verses traditionally identified with the Qur'an begin with iqraʾ, commonly translated as 'read' or 'recite', and then refer to the pen and to God teaching human beings what they did not know (Qur'an 96:1–5). The two English renderings of iqraʾ reflect the close relationship between written reading and oral recitation in Qur'anic practice; the point should not be reduced to a modern instruction about print. These verses place the act of engaging with words within a wider relationship to learning, gratitude and responsibility.

The Qur'anic request 'My Lord, increase me in knowledge' (Qur'an 20:114) expresses a continuing need to learn, while Qur'an 38:29 presents reflection on the revealed verses as a purpose of the Book. Qur'an 39:9 also distinguishes those who know from those who do not. Read together, these passages support a normative ideal in which reading should lead toward reflection and understanding rather than remain a mechanical act. This is compatible with educational accounts of close reading, but the two kinds of argument should remain distinct: scripture articulates a religious and ethical orientation; reading experiments measure particular outcomes under specified conditions.

The Prophetic traditions emphasise learning as something that can be shared. Sahih al-Bukhari 5027 describes the best among people as those who learn the Qur'an and teach it, and Sahih Muslim 2699a refers to gatherings

in which people recite and study the Qur'an together. These narrations offer a religious basis for the value of guided and communal learning. They do not show that a group always learns better than an individual, or that a printed text is inferior to a screen. Their relevance here is cultural and ethical: reading can involve careful attention, guidance, dialogue and the responsibility to pass knowledge on accurately.

## What current evidence says about reading volume and format

### 4.1. United States: two indicators, two different questions

The NEA's 2022 Survey of Public Participation in the Arts and Pew Research Center's 2025 survey both illuminate reading in the United States, but their results should not be treated as though they came from the same question. In its 2023 report, the NEA states that 48.5% of U.S. adults had read at least one book in print or electronically in 2022, a figure 6.1 percentage points below its 2012 estimate. The NEA also reports that 53.0% of adults read literature and/or books of some kind in 2022, compared with 57.1% in 2017. Within literary reading, the proportion who read a novel or short story was 37.6% in 2022, down from 45.2% in 2012 (National Endowment for the Arts, 2023). These figures suggest a decline in several NEA measures, but the precise meaning depends on which survey item is being considered.

Pew's survey of 8,046 U.S. adults, conducted in October 2025, asked whether respondents had read all or part of at least one book during the previous 12 months. Seventy-five per cent said they had. The format figures overlap: 64% had read a print book, 31% an e-book and 26% had listened to an audiobook. They cannot be added together because readers may use more than one format. Pew's historical series also shows a change in the mix: print readership declined from 72% in 2011 to 64% in 2025, e-book reading rose from 17% to 31%, and audiobook listening increased from 11% to 26% (Pew Research Center, 2026). In this series, overall book participation has been comparatively stable since 2011, even as the formats people use have changed.

The difference between the NEA and Pew estimates should not be read as evidence that one organisation is wrong. Their questions, survey settings and definitions are not identical. The NEA reports book and literary participation as part of a broader survey of arts participation, whereas Pew asks whether adults read any part of a book across formats. Question wording, fieldwork and sampling choices can all affect the result. There is also a methodological change in Pew's series: surveys from 2011 through 2021 were conducted by telephone, while the 2025 survey used both web and telephone modes. This change weakens strict comparisons across the full series. The two figures therefore answer related but different questions and should not be averaged or presented as directly interchangeable.

Pew found a relationship between educational attainment and book reading: 88% of adults with a bachelor's degree reported reading a book during the previous year, compared with 60% of adults with a high-school education or less. Seven per cent said they had participated in a book club during that period (Pew Research Center, 2026). These figures describe associations; they do not show that education alone causes reading or that people outside book clubs lack a reading community. They do, however, remind us that opportunities to read and settings in which reading is shared are part of the wider picture.

### 4.2. The Arab Reading Index: useful regional evidence, with important limits

The Arab Reading Index 2016, produced by the Mohammed Bin Rashid Al Maktoum Knowledge Foundation in partnership with the United Nations Development Programme, offers a useful regional counterpoint to U.S.-centred data. It collected 148,294 electronic questionnaire responses across 22 Arab countries: 60,680 from students and 87,614 from respondents outside the student group. Among those who responded, the report estimated an average of 35.24 reading hours and 16.08 books per year. For medium-specific reading time, it reported 19.45 hours per year for electronic reading and 16.03 hours for print (Mohammed Bin Rashid Al Maktoum Knowledge Foundation & UNDP, 2016). These numbers do not support the popular claim that Arabs read for only six minutes a year; the report explains that the often-repeated figure did not rest on a reliable calculation method.

The Index also has clear limits. Because the questionnaire was distributed online, people with weaker internet access or less familiarity with digital tools may have been less likely to participate. The report notes limits in what the survey can reveal about social, cultural and economic differences, and its reading-time measure excluded time spent reading religious texts and correspondence. All the figures are self-reported, and the data are now a decade old. They are best used as a historical snapshot of the survey participants, not as a present-day, nationally representative estimate for every Arab country. This is another reason to seek newer regional research that explains how its respondents were selected and what counts as reading.

### 4.3. Evidence from India: relevant, but not yet nationally representative

Studies conducted in India help add context that U.S. surveys cannot provide. Divya and Haneefa (2020) surveyed a stratified random sample of 700 postgraduate students at universities in Kerala. Participants reported better concentration, comprehension, content absorption and comfort when reading print resources than when using digital resources. They also described practical digital habits, including downloading documents and taking notes. The findings are relevant to higher education in Kerala, but they are based on students' reported experiences. They do not establish a universal causal effect of print, nor do they tell us that every student or task will produce the same result.

Khatri (2021) surveyed 384 undergraduate students at three colleges of the University of Delhi. The study explored students' reading purposes, formats, devices and online sources. It describes how tools such as WhatsApp, Wikipedia and video-sharing platforms have become part of the information environment in which students study. That is useful context, but it is not direct evidence that these platforms either improve or harm comprehension. Read together, the Kerala and Delhi studies suggest that Indian students use print and digital resources for overlapping reasons, and that local language, course demands, access and study habits all deserve attention. Two campus-based surveys cannot stand in for a nationally representative picture.

## 5. Does print produce better comprehension than screen reading?

### 5.1. Evidence from meta-analyses

The clearest evidence of a difference between reading media comes from experiments brought together in meta-analyses. Delgado et al. (2018) reviewed 54 studies published between 2000 and 2017, with 171,055 participants across between-participant and within-participant designs. Their analysis found a small average advantage for paper (Hedges' $g = -0.21$ when the digital condition was contrasted with paper). The difference was more evident for informational or mixed texts and for readers working under time limits than for narrative reading. The studies also varied substantially, so the average result should not be treated as a forecast for every reader, text or digital device.

Clinton's (2019) systematic review and meta-analysis reached a related conclusion. Across 33 studies involving 2,799 participants, screen reading was associated with a small negative effect on comprehension relative to paper ($g = -0.25$). The estimated difference was larger for expository material ($g = -0.32$), while the estimate for narrative texts was close to zero ($g = -0.04$). The review found no reliable difference in reading time, but readers' judgements of their own comprehension were better calibrated after reading on paper ($g = 0.20$). Put plainly, in these studies, readers were somewhat better at judging how much they had understood after reading print.

The two meta-analyses should not be treated as fully independent confirmations: their time periods and the research they include overlap. Even so, they identify a similar pattern. Paper has a modest advantage in some comprehension tasks, most often when the material is informational and the time available is limited. This is a reason to consider print for demanding study, not a reason to dismiss digital reading in general. The evidence supports a conditional conclusion rather than a universal rule.

### 5.2. What newer research adds

Hare et al. (2024) reviewed 88 eligible articles on digital and print reading among children and adolescents aged 1–17. The studies, published between 2000 and 2023, measured outcomes including comprehension,

engagement, vocabulary and reading speed. Across many outcomes, the most common finding was no clear difference between media. When the researchers separated findings by reader and task, print was more likely to have an advantage for older children and informational-text comprehension. Digital formats, meanwhile, supported engagement and some vocabulary outcomes in certain groups, especially younger children and learners with varied needs. The overall picture was more nuanced than the claim that print always performs better.

This newer review is a useful reminder that 'better reading' can mean several things. A digital text with audio support or an interactive dictionary may help a child remain engaged or understand a word, even if comprehension scores do not improve across every task. Results from children also cannot automatically be applied to adults, and studies of typical readers may not describe multilingual readers or those with reading difficulties. The most defensible view is that outcomes depend on the person, the material, the purpose of reading and how the digital text is designed.

PISA 2022 adds a broader educational concern, but it answers a different question. Across 35 OECD countries with comparable data, average reading performance among 15-year-olds fell by about 10 points between 2018 and 2022. The OECD described this as an unusually large change: before 2018, consecutive-assessment changes in reading had not exceeded five points (OECD, 2023). PISA measures reading literacy; it does not isolate the effect of print, e-books or social media. Its results reinforce the need to support young people's reading, but they cannot establish that digital devices caused the decline.

### 5.3. Evidence summary

Table 1 brings together the most relevant findings and shows what each source can—and cannot—tell us. Survey data describe participation and format; meta-analyses compare comprehension under specified conditions; PISA measures broader reading literacy; and regional studies help put the discussion in context. These evidence types complement one another, but they should not be treated as if they measured the same outcome.

| Source and scope | Main result | What it contributes | Important limitation |
|---|---|---|---|
| Delgado et al. (2018): 54 studies; 171,055 participants; studies published 2000–2017 | Small average paper advantage ($g \approx -0.21$); stronger for informational and time-limited reading. | Large synthesis of experimental medium comparisons. | Older evidence base; substantial variation among studies; not every task showed an effect. |
| Clinton (2019): 33 comprehension studies; n = 2,799 | Screen effect $g = -0.25$ overall; expository $g = -0.32$; narrative $g = -0.04$; paper better calibration. | Adds a measure of readers' accuracy in judging their own comprehension. | Overlaps the wider research field and date range of prior meta-analysis; not an independent population survey. |
| Hare et al. (2024): 88 studies; ages 1–17; studies published 2000–2023 | No difference was the most common finding across many outcomes; print advantage more likely for older children and informational text; digital could support engagement and vocabulary. | Recent synthesis that highlights reader and task differences. | Applies to children and adolescents; results depend on how outcomes and digital enhancements are defined. |
| NEA (2023): U.S. adults; 2022 SPPA | 48.5% read at least one book in print or electronically in 2022; 53.0% read literature and/or books of some kind. | Official population survey with comparisons over time and demographic detail. | Survey items cover related but non-identical forms of reading; not a direct test of comprehension. |

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|---|---|---|---|
| Pew Research Center (2026): 8,046 U.S. adults; Oct. 2025 | 75% read all or part of at least one book in the previous year; print 64%, e-book 31%, audiobook 26%. | Recent format mix and demographic variation. | Format categories overlap; web/phone mode in 2025 differs from earlier telephone surveys. |
| Arab Reading Index (2016): 148,294 electronic questionnaire responses across 22 Arab countries | Sample averages: 35.24 reading hours and 16.08 books per year; 19.45 hours electronic and 16.03 hours printed. | Original regional source, with information about language and format. | Online self-selected response, self-report, old fieldwork; not a current population-representative estimate. |
| Divya & Haneefa (2020): 700 postgraduate students in Kerala | Respondents reported better concentration and comprehension with print. | Adds an India- and Kerala-specific perspective. | Questionnaire-based local sample; reported experience is not equivalent to an experimental causal estimate. |
| Khatri (2021): 384 undergraduates in three Delhi colleges | Documents students' sources, platforms and format preferences for academic reading. | Shows digital reading as part of students' everyday information practices. | Descriptive survey; not a direct print-versus-screen comprehension test. |
| OECD PISA (2023): 15-year-olds; 2018–2022 | Average reading performance fell by about 10 points across 35 OECD countries with comparable data. | Shows the wider educational importance of reading proficiency. | Does not identify digital reading as the cause of the decline. |

## 6. Arabic textual heritage: reading as a written, oral and social practice

Arabic and Islamic textual history offers a richer picture of reading than the image of a solitary person silently reading a printed book. For many centuries, knowledge moved through handwritten texts, recitation, memorisation, dictation, commentary, teacher-led study and public reading. The written page mattered, but it was often part of a wider practice in which a learner listened, read aloud, asked questions, received correction and discussed meaning with others. This history is important to the present debate because it shows that reading has long involved both a text and a community of interpretation.

Hirschler's (2012) study of medieval Arab lands documents the growth of reading audiences in Egypt and Syria between the eleventh and fifteenth centuries. Drawing on documentary, narrative and normative sources, he describes individual and communal reading, schooling, libraries and the circulation of written works. George (2012), writing about illustrated Arabic maqāmāt, shows how manuscript text and image could work within settings shaped by performance and social use. Fedeli et al. (2025) further examine the interaction of written and oral transmission in sacred textual traditions of the medieval Middle East. El Shamsy (2020) further shows how the arrival of print altered the circulation and recovery of classical Islamic scholarship. Together, these studies caution against treating manuscripts or printed books as isolated objects: their historical meaning also lies in the ways people read, taught, heard, edited and interpreted them.

The Islamic perspective adds a clear normative dimension to this history. The opening verses of Sūrat al-ʿAlaq (Qur'an 96:1–5) connect the command to read or recite with the name of God, the pen and the teaching of what human beings did not know. In Qur'an 20:114, the prayer 'My Lord, increase me in knowledge' appears in the context of receiving revelation without haste. Qur'an 38:29 presents reflection on the verses of the revealed Book as a purpose of its revelation, while Qur'an 39:9 asks whether those who know are equal to those who do not. These passages do not prescribe a modern device or prove a psychological effect. They do, however, frame learning as something more demanding than collecting words: knowledge calls for attention, reflection, humility and understanding.

Prophetic traditions also connect learning to teaching and shared study. Sahih al-Bukhari records the saying that the best are those who learn the Qur'an and teach it (hadith 5027). Sahih Muslim 2699a describes a gathering in which people recite the Book of God and study it together. For the present article, the significance is not that these reports provide experimental evidence about print versus screens; they do not. Rather, they express an ethic of learning in which reading can be communal, disciplined and directed toward understanding. In educational terms, this perspective offers a useful complement to research on comprehension: it asks not only whether a reader can recall a text, but also how knowledge is studied, shared and put to responsible use.

## 7. Five values to preserve and how strongly the evidence supports them

The five values in this section are an interpretive framework developed from the evidence and the cultural discussion; they are not a validated psychological scale. The empirical literature gives some support to claims about comprehension and the conditions that help readers understand a text. Islamic sources provide a different kind of support: they express a normative view of knowledge, reflection and shared learning. Keeping these forms of support separate prevents a religious principle from being mistaken for an experimental result, while still allowing both to inform a careful account of why reading matters.

| Value | Evidence connection | What can reasonably be concluded | What remains to be tested |
|---|---|---|---|
| Sustained attention | Print–screen reviews found a modest paper advantage on some demanding, time-limited informational tasks (Delgado et al., 2018; Clinton, 2019). Qur'an 38:29 also frames reflection as a valued purpose of engaging with scripture, but this is a normative source rather than a comprehension experiment. | For complex material, readers need time and conditions that allow them to remain with the text. Islamic sources reinforce the value of reflection, but do not establish which device works best. | Whether protected reading time, notification blocking or dedicated reading environments improve comprehension across age groups, languages and devices. |
| Reflection and comprehension monitoring | Clinton (2019) reported better calibration of readers' comprehension judgements after paper reading. Qur'an 20:114 expresses the prayer for increased knowledge; Qur'an 38:29 emphasises reflection on the verses. | Readers should pause to test what they have understood rather than relying on fluency or speed alone. The religious texts supply a value framework, not a measured effect size. | Whether self-questioning, annotation, summaries or guided commentary help readers monitor understanding on screens. |
| Respect for the whole text | Hayles (2012) and Liu (2005) describe close reading and hyper-reading as different practices that can serve different purposes. Islamic study traditions also connect a passage with recitation, explanation and wider textual context. | Search and excerpts are useful for locating information, but they may not be enough when structure, context or interpretive tradition matters. | Whether links from excerpts to complete works increase full-text reading and reduce quotation taken out of context. |

| | | | |
|---|---|---|---|
| Continuity with heritage | Historical studies describe Arabic manuscript culture, communal reading and the interaction of oral and written transmission (Hirschler, 2012; George, 2012; Fedeli et al., 2025). Qur'an 96:1–5 connects recitation, the pen and learning in an Islamic normative framework. | Heritage preservation should retain provenance, language, context and interpretive practices—not merely store images of pages. | Which metadata, transcription, commentary and community-learning practices improve meaningful and long-term access to Arabic and Islamic texts. |
| Shared reading culture | Pew reported that 7% of U.S. adults participated in a book club in the previous year. Sahih Muslim 2699a describes shared recitation and study of the Qur'an; Hirschler (2012) documents communal reading practices in medieval Arab lands. | Reading is shaped by social settings as well as individual choice. Religious sources provide a cultural value for shared study, but do not prove a universal learning advantage. | Whether in-person or digital reading circles improve persistence, comprehension or access across different communities and age groups. |

## 8. A bridge model for preserving reading values in digital environments

The evidence does not justify abandoning print, nor does it justify assuming that access to digital material automatically produces deeper understanding. The bridge model set out here is a practical framework for retaining important reading habits while taking advantage of digital access. Its recommendations are informed by existing evidence and by the cultural and Islamic perspectives discussed above, but the model itself has not yet been validated. Each proposal should therefore be treated as a direction for practice and a question for future research, not as a proven solution.

### 8.1. Reader practices

Readers can start by matching the medium to the work in front of them. For complex informational material, an unfamiliar text or a passage that demands close comparison, it may help to set aside enough time, take notes and return to difficult sections. Print or a dedicated reading app may provide a more focused setting; on a phone or computer, readers can silence non-essential notifications, use focus mode and pause to restate the main argument in their own words. In an Islamic learning setting, a reader studying a Qur'anic passage or classical text might also compare a translation with the Arabic, consult a reliable commentary and discuss questions with a qualified teacher. The aim is not to make every act of reading slow or formal, but to avoid confusing quick exposure with understanding.

### 8.2. Design and platform choices

Digital tools can be designed to support sustained reading instead of pulling every text into fragments. Helpful features include clear headings, a visible progress indicator, dependable search within the full work, bookmarking, annotation, adjustable type and a distraction-free mode. When a quotation or short extract is shared, a direct path back to the complete source helps readers recover its context. Accessibility options should remain central to the design, since they make reading possible for people with different needs. For Arabic and Islamic collections, accurate right-to-left display, reliable text encoding, manuscript metadata, transliteration where appropriate and links to trusted editions or commentaries can also make a digital text more usable without flattening its context.

### 8.3. Education

Schools and universities can teach students to move deliberately between two complementary skills: searching widely and reading closely. Digital search helps a student find material and compare sources; close reading helps the student follow an argument, interpret language and judge the strength of evidence. In class, learners can be asked to explain a passage in their own words, identify the lines that support their interpretation, and note what remains unclear. Where religious or classical texts are part of the curriculum, teachers can show how translation, historical context and commentary affect interpretation, while making clear the difference between a text's wording and a reader's inference. These methods are educational proposals, not results already proven by the review, and should be evaluated with appropriate learning measures.

### 8.4. Libraries, publishers and heritage institutions

Libraries, publishers and cultural organisations can protect fragile originals while broadening access through carefully prepared digital editions. A useful edition should provide more than page images: catalogue records, provenance, transcription, translation where appropriate, scholarly notes and links to related materials help a reader understand what the object is and how it has been interpreted. For Arabic and Islamic heritage, digitisation should involve people with relevant linguistic, historical and manuscript expertise and should respect the needs of the communities connected to the texts. Reading initiatives can also connect online discovery with in-person teaching, family reading, library sessions and study circles. Such programmes preserve the social dimension of reading without assuming that every community must follow the same religious or cultural model.

### 8.5. Testable propositions for future studies

To keep the model from being mistaken for a list of proven effects, the following propositions are offered for future testing. They translate broad recommendations into questions that could be investigated through controlled studies or carefully designed comparisons.

P1: For readers working with informational texts, protected reading time and fewer interruptions will be associated with better comprehension, whether the text is printed or digital.

P2: On-screen annotation, progress indicators and prompts that ask readers to summarise or check their understanding will improve comprehension monitoring compared with unrestricted scrolling alone.

P3: Explicit teaching about when to scan for information and when to read closely will improve students' ability to choose a suitable strategy for different tasks.

P4: Digital editions that include provenance, transcription, commentary and links to full works will support more accurate interpretation of Arabic textual heritage than collections containing page images alone.

P5: Guided reading groups that combine careful reading, explanation and discussion will support stronger recall or interpretation than exposure to isolated quotations alone; this proposition could be examined in secular, literary and religious learning settings without assuming the same effect in each.

## DISCUSSION

Taken together, the evidence supports neither the claim that people have stopped reading nor the claim that print is always superior. Pew's findings suggest that book reading remains common in the United States, while the NEA reports declines in several of its measures. Those figures reflect different questions and cannot be treated as direct substitutes. Digital and audio formats have grown in Pew's series, while experimental reviews find a modest paper advantage for particular comprehension tasks. Hare et al. (2024), however, found that no difference was the most common outcome across many child and adolescent measures. The best conclusion is conditional: what happens depends on the text, the reader, the purpose and the conditions in which reading takes place.

The various sources become easier to interpret once their different jobs are recognised. Surveys tell us how many people report reading and which formats they use; experiments compare comprehension under specific conditions; PISA measures wider reading literacy; and historical studies show how reading functioned within particular communities. The drop in PISA scores deserves attention, but cannot be attributed to screens without evidence designed to test causation. In the same way, increased use of e-books or audiobooks shows that access and format are changing, not that comprehension has automatically improved or declined.

The regional findings call for similar restraint. The Arab Reading Index is unusually broad for its time, but its online self-selected sample and age make it unsuitable as a current estimate for all Arab readers. The Kerala study offers a closer view of postgraduate students' preferences, yet it cannot settle the question for the wider population. These sources help broaden the debate beyond U.S. data; they also expose how much better comparable, current research in South Asia and Arabic-speaking settings is needed.

The Islamic and Arabic heritage discussion adds something that comprehension tests alone cannot provide. It reminds us that texts have been preserved not only as physical objects, but through people who recited, taught, copied, questioned and interpreted them. Qur'anic calls to read or recite, seek knowledge and reflect give this practice a clear place in Islamic intellectual and spiritual life. Historical scholarship shows how those values were lived through teaching, libraries, manuscripts and shared study. Digital tools can support this inheritance, but preservation is incomplete when a page is detached from its language, provenance or interpretive tradition. The bridge model therefore includes individual habits, educational practice, platform design and institutional responsibility.

### 10. Limitations and future research

Several limits should guide how the findings are used. The paper synthesises published material rather than reporting new participant data or an original statistical analysis. Its search was targeted and narrative, not exhaustive or preregistered, so relevant work may have been missed. The sources also vary in sample, definition, measure and design; the two print–screen meta-analyses cover related periods and should not be counted as wholly separate evidence. Much of the experimental literature comes from particular language and educational settings. The Kerala and Delhi studies add Indian context but cannot represent every learner in India. The Arab Reading Index covers a wide region but is based on online self-report from 2016, and its reading-time measure excluded some religious reading. Finally, Qur'anic verses and hadith provide normative religious perspectives; they should not be treated as data proving that a particular format improves comprehension. This distinction is essential to the paper's argument.

Future research could compare print and digital reading within the same samples while recording age, language proficiency, text genre, reading purpose, time, device, interruptions, note-taking and measured comprehension. In Arabic-speaking settings, researchers could examine Modern Standard Arabic alongside local language backgrounds and compare classical texts with contemporary writing. Studies should also distinguish silent individual reading from recitation, listening, teacher-led reading and group discussion, rather than placing them all under one broad label. Intervention studies could test whether focus modes, annotation prompts or guided study groups improve learning. Regional surveys would be more useful if they reported sampling methods clearly and separated leisure, academic, professional, religious and social reading.

## RECOMMENDATIONS

- For readers: choose a format that suits the task, leave enough time for demanding material, and check comprehension by summarising, annotating or revisiting difficult passages. For reading that carries religious or cultural significance, consult reliable editions and contextual resources rather than relying only on short quotations circulated online.
- For teachers, schools and universities: teach both digital research skills and sustained close reading. Assess whether students can explain an idea and support their interpretation with the text, not merely how quickly they can find a phrase. In Islamic learning settings, structured recitation, explanation, discussion and

opportunities to ask questions can be used to connect reading with understanding, while remaining attentive to the purpose and level of the learners.

- For digital designers and publishers: make complete works easy to navigate, retain accessibility and focus tools, and connect excerpts back to their sources. Interfaces for Arabic texts should handle right-to-left layout and script reliably, and should make it possible to distinguish the original text from translation, commentary and user-generated interpretation.
- For libraries and heritage institutions: preserve print where it remains useful and digitise materials with accurate catalogue information, provenance, transcription and scholarly context. Arabic and Islamic collections benefit from collaboration among librarians, language specialists, historians, manuscript experts and relevant communities. Online access should lead readers toward deeper study, not replace the context that makes a work intelligible.
- For researchers and policymakers: collect comparable data over time on reading participation, format and comprehension, with stronger coverage of Arabic and South Asian contexts. Keep religious or cultural interpretations distinct from empirical claims, and avoid attributing population-level literacy changes to digital media unless the study design can support that conclusion.

## CONCLUSION

The move from traditional to digital reading is better understood as a change in format and reading conditions than as the end of reading. Recent surveys show that book reading remains common in the United States, although the NEA and Pew report different rates because they ask different questions and use different survey designs. Research reviews identify a modest paper advantage in some informational and time-limited tasks, but newer findings also show that outcomes vary by age, genre, accessibility needs and digital design. The evidence does not support a rule that one medium is always better, nor does it show that digital media alone caused broader declines in reading proficiency.

An Islamic perspective deepens the article's central point without replacing the empirical evidence. The Qur'an connects reading or recitation with the pen, learning and reflection; prophetic traditions place value on learning the Qur'an and teaching it; and the history of Arabic-Islamic scholarship shows how texts have lived through recitation, commentary, libraries and shared study. These sources present reading as an intellectual and ethical practice, not merely the act of seeing words on a page. Sustained attention, reflection, respect for the complete text, continuity with heritage and shared reading culture can be cultivated in print or digital environments. The challenge is to use technology in ways that widen access while protecting understanding, context and the human relationships through which knowledge is passed on. That is a practical aim for readers, educators, designers and institutions—and one that future research can test more precisely.

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