iPads and Tablets in Elementary vs. Secondary Schools: What Research Says About Learning Outcomes

Since their introduction in 2010, iPads and similar tablets have become common tools in elementary and middle schools, particularly through one to one (1:1) device initiatives that expanded rapidly during and after the COVID 19 pandemic. While tablets can support engagement, accessibility, and differentiated instruction when used strategically, research consistently shows that technology does not improve learning outcomes by itself. Educational value depends on how, when, and for whom devices are used (Falloon, 2023; Tamim et al., 2015).

Most U.S. public schools now provide students with digital devices, though tablets are less common than laptops. National data indicate that approximately 85–90% of schools operate 1:1 programs in grades 3–12, with somewhat lower but still substantial access in elementary grades (Consortium for School Networking, 2023; Institute of Education Sciences, 2025). Many districts now face sustainability challenges as federal pandemic funding has expired, prompting renewed scrutiny of educational value relative to cost.*

This document summarizes research findings on the use of iPads and tablets in elementary and secondary schools, with emphasis on learning outcomes, engagement, and instructional conditions. It draws on peer reviewed systematic reviews, meta analyses, and large scale studies.

ELEMENTARY SCHOOL (K–5 / K–6)

Research on benefits suggest that tablets have potential for

Potential Benefits

- supporting early literacy and numeracy when used for targeted practice and feedback
- producing small to moderate gains in math and literacy under structured use
- increasing engagement and motivation during interactive activities

In addition, built in accessibility tools benefit young learners, including students with disabilities and those developing bilingual capabilities.

But research also underscores potential cautions.

Cautions

- reading comprehension, particularly for longer and informational texts, often favors print over screen reading
- young students have limited self regulation, increasing risks of distraction and surface learning
- overuse may displace handwriting, hands on learning, social interaction, and play

Elementary Summary – Tablets can be beneficial as supplemental tools when tightly scaffolded, but excessive or poorly structured use may undermine foundational skills.

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*The material in this document builds on work done by Clara McKoy a participant with the national Center for MH in Schools & Student/Learning Supports at UCLA in 2025.

The center is co-directed by Howard Adelman and Linda Taylor and operates under the auspices of the School Mental Health Project, Dept. of Psychology, UCLA.Website: https://smhp.psych.ucla.edu/

SECONDARY SCHOOL (MIDDLE AND HIGH SCHOOL)

Studies focused on potential benefits for secondary students suggest

Potential Benefits

- tablets support inquiry based science and math learning
- tablets are "well suited" for writing, revision, multimedia production, and collaborative research
- one to one programs can increase student independence, collaboration, and digital literacy

Among the concerns research cautions about

Cautions

- distraction and multitasking are common and linked to reduced comprehension and retention
- as with younger students, deep reading comprehension often favors print
- achievement gains are inconsistent without clear instructional alignment

Secondary Summary – Tablets are most effective when used for higher order learning tasks, not as simple replacements for textbooks or lectures.

What Practitioners Should Know and Do

Research to date stresses that

- Tablets are pedagogically neutral; outcomes depend on instructional design and teacher expertise.
- Engagement gains do not automatically translate into achievement gains.
- Print remains superior for sustained, deep reading across age groups.
- Blended models that balance digital, print, discussion, and hands on activities show the strongest results.

With respect to guidance for responsible use, a brief synthesis suggests

- Use tablets selectively, when they clearly add value to specific learning goals (Tamim et al., 2015).
- Prioritize shared or targeted access, especially in younger grades (Falloon, 2023).
- Distinguish structured educational uses from recreational screen time (AAP, 2025).
- Invest in sustained professional development for teachers to use tablets strategically and spend sufficient time preparing students for appropriate use (Consortium for School Networking, 2023).
- Embed technology use within a broader system of student and learning supports to ensure individual differences and disabilities are accounted for and learning, behavior, and emotional problems are reduced (Adelman & Taylor, 2014).

Concluding Comments

Research syntheses show modest positive effects on academic outcomes when tablets are used for specific, well aligned instructional purposes—such as skill focused interventions, structured inquiry, collaborative projects, and assistive or accessibility supports (Aspiranti & Larwin, 2021; Tamim et al., 2015).

Elementary schools benefit most from limited, purposeful tablet use that protects foundational development. Secondary schools benefit when tablets support inquiry, creation, and collaboration. Across levels, tablets work best as part of coherent learning support systems rather than as stand alone solutions.

Tablets are neither inherently beneficial nor inherently harmful. Evidence suggests they can support specific instructional purposes when used intentionally, sparingly, and developmentally appropriately. Overreliance on devices without strong pedagogy and learning supports offers little benefit, can increase problems, and may undermine students' learning and long term success.

*Screen use among children has risen sharply over the past two decades. A 2025 Pew Research Center report found that 60% of parents say their child age 12 or younger uses a tablet, including 3 in 10 parents who report use among children younger than age 2. Tablet use is especially common among early elementary-aged children: roughly 8 in 10 parents say their child ages 5 to 7 and 8 to 10 uses a tablet. Among parents of children ages 5 to 12, 22% believe their child spends "too much" time on a tablet, compared with 15% of parents with children under age 5.

Many experts warn that excessive screen time can be particularly problematic for younger children. Research suggests that too much screen exposure may contribute to symptoms associated with attention deficit disorders, hinder social–emotional development, increase vulnerability to technology overuse or addiction, disrupt sleep patterns, and potentially affect healthy brain development.

It is important, however, to distinguish between recreational screen time and academic screen use. Unstructured "for fun" screen time tends to be more harmful than screen exposure in educational settings. This is largely due to the fast-paced, highly stimulating nature of much recreational digital content. Phones and tablets can provide artificial levels of stimulation that may not align with the needs of the developing brain. Children benefit from rich offline experiences, including learning activities that involve hands-on exploration and face-to-face interaction. Studies have found that activities such as watching television and playing digital games are most strongly associated with negative learning outcomes (Adelantado-Renau et al., 2019). For students who already spend significant time on screens outside of school, adding substantial iPad use in the classroom may amplify these concerns.

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