
TECHNOLOGY AND A CHILD'S JOURNEY TO LITERACY

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Prior to the arrival of the COVID-19 pandemic, educators and scholars were already considering, with some urgency, how digital environments can enhance education. The pandemic accelerated this discussion, with mandated homeschooling leaving children with less physical access to their classroom teachers. Both schools and caregivers have had to rapidly adjust, and also to evaluate how technology can compensate for the absence of in-person learning.

What are the key issues in literacy as we continue the online adventure? Here are three key considerations for reading-- the single most important skill that children learn in elementary school.

A first is that issues of access are exacerbating inequities that pre-date the arrival of the pandemic. Data from the US and the UK indicate that achievement gaps have widened along racial and economic lines during the pandemic. And this is partly due to the allocation of resources; data from Britain suggests that, even within publicly funded schools, less comprehensive and effective online instruction was provided to children from lower than from higher socioeconomic backgrounds.

Beyond issues of access, there is a promise from technology platforms, in part because they can readily be programmed to present basic learning sequences. The automated, consistent mode of presentation that technology can offer is well-suited to this kind of instruction, particularly in adding game-like features with instant feedback that are so key to motivating children to acquire new skills. There are many phonics apps currently available that can be adapted to various skill levels, and these can optimize the balance of motivating and learning needed to acquire reading skill.

We have likely been under-employing this approach. Findings from Edmonton, Alberta, indicate that reading levels of children in the earlier grades (1-3) were particularly hard-hit when in-person schooling was paused in the spring of 2020.

A second learning from our collective shift to online learning is a caution. A key stage in literacy is the move from decoding single words towards understanding the meaning of whole passages, from those in stories to textbooks. Research consistently demonstrates that people are less able to understand what they read on screens than on paper. This is even the case for the emerging "tech-savvy" generation, and this effect can be amplified; we are also more likely to overestimate what we comprehend on screens, augmenting the deficit in understanding.

A third is the need to complement learning activities with enjoyment and engagement. Some tech options optimize the potential of learning to read online by wrapping games around reading instruction; this has an advantage of retaining the motivational features of tech and embedding targeted teaching within this. Parents can play a key role by encouraging their children to summarise chunks of text as they read or predict what might happen next. Simple questions such as “what just happened?” or “what do you think might happen next?” can activate deeper levels of understanding for children, regardless of whether children are reading on screens or on paper.

Realising the promise of tech has been elusive for educational innovators since the 1960s, though applying solid scientific expertise along with artificial intelligence to digital literacy instruction offers a pivotal opportunity. While we cannot expect technology to entirely direct a child’s journey to literacy, it can be a key support as long as we understand what it can do as well as its limitations.

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