Can Reading Make You Smarter?

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Can simply reading a lot create smarter kids or do smart kids just read more?

More specifically, over against other sources that can increase knowledge and smartness, what does just the volume of reading contribute? Can the volume of reading make you smarter than what would normally be expected? How do we know that increased smartness was specifically related to the amount of reading done and not to other sources of knowledge?

In a recent report entitled, "What Reading Does For the Mind," Anne E. Cunningham, of the University of California, and Keith E. Stanovich, of the University of Toronto, have summarized work that they have done on these questions. This report was supported by the Spencer Foundation and the Social Sciences and Humanities Research Council of Canada and was published in the 1998 spring/summer issue of the American Educator special issue on reading, entitled, "The Unique Power of Reading and How to Unleash It."

This report begins as follows.

"Reading has cognitive consequences that extend beyond its immediate task of lifting meaning from a particular passage. Furthermore, these consequences are reciprocal and exponential in nature. Accumulated over time - spiraling either upward or downward- they carry profound implications for the development of a wide range of cognitive capabilities."

Concern about what the volume of reading does for the cognitive development of a child has implications for the importance of how early children learn to read. In fact, discussions on this topic often use the biblical imagery of the "Matthew effects" that refers to the "rich-get-richer and the poor-get-poorer." In reading, this happens when the sheer volume of reading done by the better reader has the potential of providing an upward spiral advantage, and less exposure to text by poorer readers, caused by unrewarding early reading experiences, lead to a downward spiral in learning and cognitive development. This downward spiraling is difficult, if not impossible, to completely recover. "Lack of exposure and practice on the part of the less-skilled reader delays the development of automaticity and speed at the word recognition level."

As a result of less reading, "reading for meaning is hindered; unrewarding reading experiences multiply; and practice is avoided or merely tolerated without real cognitive involvement." Thus, many differences in cognitive abilities seen in children who read at different levels can be directly attributed to the difference in the amount of reading practiced. It is further contented by these researchers, that this difference is mainly due to the speed in which beginning reading skills are acquired. Delays in learning to read result in delays in the accumulation of reading volume. This places the child behind his or her peers in developing cognitive skills such as vocabulary, background knowledge, and familiarity with complex syntactic structures. Children who begin reading early have a distinct advantage in accumulating reading volume over those who start late, and thus, are more likely to acquire these skills at a higher level.

What are the facts that support this contention?

A major difficulty in establishing evidence of this kind is the fact that increases in reading volume are accompanied with other kinds of characteristics. Finding the unique contribution of reading volume is complicated because avid readers and non-readers are different in many ways other than reading.

Vocabulary growth is one area that has been studied. It is expected that we may find high levels of vocabulary associated with reading volume for several reasons. Studies cited indicate that vocabulary growth is acquired indirectly from language exposure more than actual instruction. Furthermore, printed text contributes to vocabulary more than oral language.

For example, it was found that even children's books and comic books rank higher as sources for vocabulary learning than popular prime-time adult TV shows. Popular magazines and newspapers were found to have 3 times the amount of rare words than TV adult prime-time shows. So reading has the potential of developing greater vocabulary growth than oral language exposure or participation.

Thus, the amount of reading a child does greatly affects his or her vocabulary accumulation over time. Estimates of out-of-school time spent reading can show how this variability works. A 1988 study showed that the amount of

time that the average child in a particular fifth grade class spent reading out-of-school was 4.6 minutes a day, or about a half an hour a week. This is about six times as much as the child at the 20th percentile, who, on the average, read about twenty times less than the child at the 80th percentile. When figuring what this means in terms of the amount of words read a year, it was estimated that the amount of words read a year by a child at the 10th percentile is equivalent to just two days of reading by a child at the 90th percentile. It is fairly easy to see how these differences in reading habits result in large vocabulary differences among children.

In studying reading volume over against more general abilities such as IQ, it was found "that even when performance is statistically equated for reading comprehension and general ability, reading volume is still a very powerful predictor of vocabulary and knowledge differences. …and is not simply an indirect indicator of ability."

It was also found that reading volume predicted individual differences in growth in reading comprehension from grade three to grade five.

Reading volume explained the differences in several other measures of smartness: HS grade average, IQ tests, SAT-type math tests, adult reading tests, a Practical Knowledge test, and misinformation about the population of world religions. It was not surprising to find that TV exposure was related to misinformation. It was even found that reading volume can help to compensate for the effects of aging.

What predicts reading volume? Or, how important is first grade?

All of this emphasizes the importance of volume reading. This may not be particularly surprising. Yet, given these consequences for simply reading a lot, What enables a child to accumulate a high volume of reading?

The authors conclude that the major causes for not acquiring reading volume are a combination of poor decoding skills, lack of practice, and difficult materials in the early grades. The child that is able to learn how to read words accurately and easily sooner will have a head-start in accumulating reading volume. This head start is hard to make up later.

Children who accumulate high levels of reading volume do so because they begin reading earlier. This volume of reading, by itself, has a powerful affect on future learning. In a unique ten-year longitudinal study, the authors found that all three standardized measures of first grade reading ability (decoding, word recognition, and comprehension) predicted eleventh-grade reading volume. They were even stronger predictors of reading volume than IQ measures.

The authors conclude,

"This is a stunning finding because it means that students who get off to a fast start in reading are more likely to read more over the years, and, furthermore, this very act of reading can help children compensate for modest levels of IQ by building their vocabulary and general knowledge. In other words, IQ is not the only variable that counts in making a child smarter. Those who read a lot will enhance the IQ that they were born with; that is, reading will make them smarter."

"A positive dimension of our research is that all of our studies have demonstrated that reading yields significant dividends for everyone - not just for the 'smart kids' or the more able readers. Even the child with limited reading and comprehension skills will build vocabulary and cognitive structures through reading."