

The Latest Dismal NAEP Scores: Can We Narrow the 4th-Grade Reading Gap?

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This article first appeared in Education Week, May 2, 2001, Vol. 20, number 33. It was reprinted in Common Knowledge, the Core Knowledge Foundation's newsletter, Vol. 14, number 3, under the title "Is the 4th-Grade Reading Gap Actually a Vocabulary Gap?"

The latest fourth-grade reading scores for U.S. students made the front page of the *New York Times* with the headline:

GAP BETWEEN BEST AND WORST WIDENS ON U.S. READING TEST

The reporter, Kate Zernike, observed that after a "decade-long emphasis on lifting the achievement of all students ... the release of the scores led to a round of finger pointing over the cause of the growing gap."

That would lead to some tired fingers. The gap has persisted for half a century. On that front — nothing new.

The Gap has been Persistent

If not exactly news, the continued verbal gap between rich and poor students *does* deserve to be on the front page, not because of anything that happened or didn't happen last year, but because the fourth-grade reading gap (which widens in each succeeding grade) represents the single greatest failure in American public schooling, and the most disheartening affront to the ideal of democratic education.

NAEP's latest reading report documents a steady state. It shows no significant overall shift in American students' reading proficiency, nor any drastic widening of the already large reading gap in fourth grade between rich and poor students. In 2000, there were minor gains at the top, and slight declines at the bottom, but no global change in overall achievement or in the gap between middle-class and low-income students, a gap that has been a disturbing feature of American schooling for at least 50 years.

Before NAEP began to record such findings, the 4th-grade reading gap had been documented by Walter Loban in the 50s and 60s, then by Jeanne Chall in the 70s and 80s. In 1964, Loban published a graph that still defines early reading in the United States. It co-ordinated achievement along the vertical axis and student age along the horizontal. On this matrix, he plotted two lines showing the performances of low- and high-income students. The graph looks like a tilted funnel with the narrow end at the left starting at kindergarten. At kindergarten, the two sides of the tilted funnel are fairly close. They begin to separate sharply around grade four. After that, the gap keeps the same heartbreaking trajectory. Jeanne Chall called this sharp widening "the fourth-grade slump." The latest news from NAEP about fourth-grade reading is, in short, anything but new.

Have Any Schools or Programs Overcome the 4th-grade Gap?

For the past four years I've taught a graduate course at the UVA School of Education that has focused on the causes and cures of the test-score gap. Over those years, my students and I have looked at the work of the most distinguished researchers in sociology, economics, social psychology, cognitive psychology, and educational history. We have also looked at reports from the field.

Some of the news from the field is promising. A few schools, even a few districts such as Inglewood, California — which serve many low-income students on free and reduced price lunch — have made inroads into the test-score gap. And some reading programs like "Open Court," "Success for All," and "Direct Instruction" have,

when well implemented, raised reading skills (i.e. decoding) — up to a point. But the early gains from those programs tend to fade by fourth grade, and students still suffer the Chall "fourth-grade slump."

Even the most effective public schools like Nancy Ichinaga's Bennett-Kew school in Inglewood have not been able to raise the verbal scores of disadvantaged students up to the level of their math scores. On the other hand, the gap closing scores from some Core Knowledge schools are very promising. But as the president of the Core Knowledge Foundation, I am not the proper person to press that point. Rather, I shall summarize how the early reading gap *can* be reduced in all schools, if they will combine intimately a carefully worked out reading (decoding) curriculum with a carefully worked out content curriculum that develops academic knowledge and oral language during the long periods in the early grades that are currently (and very ineffectively) devoted to "language arts."

Although such an approach will greatly reduce the reading gap in all schools, no schools that I know of, including those calling themselves "comprehensive," and those calling themselves "Core Knowledge" have effectively integrated the time spent on reading "skills" with time spent on "subject matters" during the long periods devoted to "language-arts" in the early grades. Instead, those critical periods of the day are devoted to a fragmented hodge-podge of mainly fictional stories — on the unexamined assumption that fiction is the essence of "language arts." This emphasis on "imaginative fiction," and this lack of emphasis on history and science, or even on systematically enhancing basic speaking and listening skills, is yet another vestige of the romantic movement's emphasis on natural development and "creative imagination," and yet another barrier to narrowing the equity gap.

To understand what needs to be done, it's necessary first to grasp the cause and character of the current reading gap.

It Isn't Precisely a Reading Gap

To view the reading gap accurately, it's essential to give it a new name. The gap can't be confined to reading, because it starts long before children are readers, and continues long after they have mastered decoding skills. From age two on, there exist large differences in children's familiarity with unusual words, standard pronunciation, and complex syntax, a fact that was long suspected, but not well documented and quantified until the monumental research of Betty Hart and Todd Risley, as summarized in their book "Meaningful Differences." Many a low-income child entering kindergarten has heard only half the words and can understand only half the meanings and language conventions of a high-income child. Our schools, as currently constituted, do not reduce this original knowledge/vocabulary gap.

The verbal gap is not effectively compensated for by programs like "Direct Instruction" and "Success For All" that bring children to fluency in decoding skills, yet do not sufficiently and systematically enlarge their vocabularies. Low-income children who read with fluency still typically show big deficiencies in vocabulary and comprehension. Hence, instead of the term "reading gap," clarity would be better served by using a more descriptive term like "language gap" or "verbal gap." Such a shift in terminology might reduce public confusion between "reading" in the sense of knowing how to decode fluently, and "reading" in the sense of being able to comprehend a challenging diversity of texts. It is the second, comprehension, deficit, based chiefly on a vocabulary deficit, that constitutes the true verbal gap indicated in the NAEP scores.

Why Does the Verbal Gap Widen in School?

The widening of the verbal gap as students progress through the grades is the archetypal example of the so-called Matthew effect in education, "unto every one that hath shall be given, and he shall have abundance, but from him that hath not shall be taken away even that which he hath."

Cognitive psychologists have explained the mechanism for the Matthew effect, which is made even more acute by subsequent social and emotional influences on the low-vocabulary child. Experts in vocabulary estimate that to understand spoken or written speech, a person needs to know about 95% of the words. The other five per cent of word meanings can then be inferred from context. If we assume that an advantaged kindergartner knows 95% of the words in a teacher's remarks, or in a passage read aloud from a book, the result is that the

child is not only gaining new knowledge from the exposition, she is also gaining new word meanings, by being able to infer the meaning of the other five per cent of the words — achieving a gain in both world knowledge and in word knowledge. The less advantaged child, by contrast, suffers a double (or triple) loss. The exposition is puzzling from the start, because the child doesn't know enough of the words. He therefore fails to gain knowledge from the exposition, and also fails to learn new word meanings from the context. And to intensify that double loss, the child loses even that which he hath — his interest, self-confidence, and motivation to learn.

Multiply that experience by dozens of similar daily experiences, and the underlying cause of the widening verbal gap becomes clear.

How Can the Gap be Reduced?

The "Coleman Report" of 1966 disclosed that a child's initial advantage of family and peers was more important to academic achievement than the school he or she attended. Then, in his later career, James Coleman, a hero to my students who have studied the test-score gap, devoted his extraordinary scholarship to qualifying that conclusion. Schools could reduce the academic achievement gap, he found, by becoming more "intensive," by devising explicit academic standards for each grade, and making sure that every child meets those expectations. Since children are not at school all day and all year, school time must be effectively used. Coleman found that schools, both public and private, that maintained this "intensiveness" provided much greater equality of educational opportunity than those that didn't.

Coleman's conclusion has been amplified by cognitive psychologists. The advantaged child has gained knowledge and a correspondingly large vocabulary chiefly by gradual, implicit means. The child has been read to, has heard complex syntax, and has been told about the natural and cultural worlds in the ordinary course of growing up. This indirect and implicit mode of learning is excellent if one has lots of exposure and lots of time, as an advantaged child typically does. But the disadvantaged child has to make up for lost time, and cognitive psychologists tell us that this requires a very systematic, analytical, and explicit approach to early learning. If you want to learn fast — be explicit. Break down each domain to be learned into manageable elements that can be mastered. Then systematically build on that knowledge with new knowledge. This is the most efficient mode of learning for everybody, but it is the essential mode if the aim is making up for lost time in knowledge and vocabulary. That is the basic principle for overcoming the verbal gap. First, define the deficit by determining what knowledge and words are lacking. Then effectively teach that knowledge and those words.

My students and colleagues have some definite ideas about how to do this, ideally starting in pre- school. Some enabling words and concepts will need to be taught directly, and we must do this systematically as Andrew Biemiller has recommended. Yet we are well aware that most words will continue to be learned indirectly, in context, which is all the more reason to make sure that the context is carefully and cumulatively sequenced so that every child understands it, and makes new gains in knowledge and vocabulary. Children learn and remember what is meaningful to them. History and science become meaningful if they are taught in a sustained and coherent way. All those currently fragmented hours devoted to "language arts" need to include the worlds of nature and history, literature, art and music that will build the knowledge and vocabulary of children, and enable them to become readers in the true sense.

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My graduate course on the verbal gap always ends in optimism. By the time we have gone through the relevant research my students (who are mostly teachers or teachers-to-be) have concluded that the main barriers to equal educational opportunity are those that have been erected by unfortunate habits of mind in the schools, and by an unfortunate tendency to believe that the job can't be done. While Chall and Coleman (and others) are my students' heroes, their only villain is the complacency caused by social determinism and IQ determinism — views which have currency only because we haven't yet managed to narrow the verbal gap. Before giving way to way to determinism, however, we need to transform the hours devoted to the literacy block in preschool and in the early grades by doing what works best, according to the ablest researchers — providing an explicit, coherent, and carefully cumulative approach to a broad range of knowledge and language.