Education and Equity

The mission of the James C. Kennedy Institute for Educational Success at the Morgridge College of Education at the University of Denver is to identify innovative and cost-efficient solutions to the challenge of keeping vulnerable learners on the pathway to educational success. In this position paper, we address several questions: Who are these learners? Just how vulnerable are they? What needs to be done to put and keep them on a path to a successful career in education and beyond?
The issue is simple but pernicious: Some children come to school far less prepared to learn than others. For most, these differences do not disappear, and, in fact, they increase. That is, the "achievement gap" does not close; it widens (1). To begin, we examine differences between groups, such as those from low-resource and higher-resource communities and those from different ethnic and racial groups (other groups, such as those who are English Language Learners, will be discussed in future papers). The common theme is equity.

**Poverty and Minority Status**

Children who live in poverty and who are members of racial and ethnic minority groups demonstrate significantly lower levels of achievement (2-12). These “achievement gaps” widened in the 1990s (13).

The achievement gap is most pronounced for U.S. children living in economically deprived urban communities (14-18). The differences are striking as these children typically score .55 standard deviations below middle-income children and 1.24 standard deviations below high-income children (16). The latter is approximately the difference
between being at the 50th percentile and the 90th percentile.

A lack of resources—not just educational, but nutritional, medical, and so forth—affects children before birth and throughout their lives. Along with levels of toxic stress (19), these factors not only negatively affect children’s learning and development, but can become biologically embedded (14). They are most insidious in the early childhood years. The reason is partially because these years are so important to the development of cognitive and non-cognitive competencies, but also because schools classify children very early, and a negative impression due to perceived low ability in verbal skills and knowledge affects the course of schooling for these children throughout their lives (14).

These differences are, unfortunately, easily noticed. As an example, first-graders from families with higher socio-economic status are more likely to recognize words by sight than first-graders from poor families (20). The same is true for addition and subtraction; children from higher resourced families perform significantly higher on basic skills tests involving addition and subtraction than their counterparts from poor families. Moreover, about half as many first-graders from lower socio-economic status (SES) households are proficient at understanding words in context and performing multiplication and division as their higher SES peers (3).

There are also differences by children’s race or ethnicity. White, non-Hispanic children are more likely than Black or Hispanic children to recognize words by sight, understand words in context, solve addition and subtraction problems, and solve multiplication and division problems by the spring of first grade (3). Asian children are more likely than Black or Hispanic children to recognize words by sight, understand
words in context, and solve multiplication and division problems. In the spring of first grade, Hispanic children are more likely than Black children to demonstrate proficiency in these particular reading and mathematics areas (3).

Of course, race and ethnicity are related to SES. For example, African-American children are three times more likely to live in poverty than White children in the U.S. (5). And low-income African-American children are three times more likely to be in classes for the intellectually disabled, and are at least twice as likely to drop out of school.

**Families and Parenting**

Parenting behaviors matter. Families that are stressed often do not provide high-quality learning experiences, such as problem solving with emotional and cognitive support (citation). Such stress also provokes harsh, punitive interactions, which are strongly related to lower IQ scores in children (14). Both general parent attitudes, such as expectations for academic success, as well as specific parent behaviors, such as monitoring and scaffolding, predict children’s development (5, 21-24). These can be changed. Optimistic parent appraisals of achievement may serve as a protective factor for children in general (5). Such positive appraisals may serve as a model of motivation and persistence (5). In addition, it is important that families have access to educational resources. The number of books in the home is a predictor of later reading and school success (5).

Although sensitive, we believe it is important to address another issue about parents—could it be that they simply have lower IQ scores themselves and that is the real “problem”? 
The IQ Myth

"We advise the editor to reject this article simply because the authors haven't seen the obvious: differences between the low- and higher-income groups stem from IQ. The parents are low-income because they are not intelligent enough to get better jobs. They pass their low IQ to their children."
[from a review of one of the author’s research papers]

What is the role of ability, or IQ, in explaining lower achievement of certain groups? Genetic factors that in part determine ability, such as IQ, probably influence achievement. Among middle-class students, such factors, rather than family or neighborhood, correlate with academic performance (25). But that is not true for the lowest income groups. Poverty and lack of opportunities to learn that accompany it are strong predictors. Even small reductions in poverty lead to increases in positive school behavior and better academic performance (25). Income, even more than parental education and other indicators of lower SES, is the most powerful (26). Indeed, SES is a better predictor of future school performance in the U.S. than in other countries. Furthermore, even when IQ is controlled, children’s cognitive functioning is influenced by their mother's income and the home environment she provides (and, incidentally, her IQ is affected by these same factors). Finally, these effects are strongest in early childhood (citation). This is important, as schools classify children right out of preschool, and being identified as low achieving affects their entire course of schooling (14). Thus, some have argued that the achievement gap should be reframed as an opportunity gap (27, 28).

The lack of early learning might even change brain structure—early deficits in opportunities to learn may become biologically embedded (14, 29). Children's environments, of course, determine what they have the opportunity to learn. That does
not mean these children have no competencies, far from it. Allowing children to be "off by one" eliminated differences between groups in one study of early mathematics (30). This is why high-quality education, in additional to support for parents, is critically important.

_Schools and Educational Equity_

Compared to schools serving middle- and high-income students, schools serving low-income students receive fewer resources, have far greater difficulties attracting qualified teachers, must attend to many more challenges in addressing students' needs, and receive less support from parents (16).

Further, schools serving low-income students are facing inequality “at the starting gate” (16). They need more resources to close these gaps. However, the children they serve are relegated to low-resource schools, magnifying the initial inequality. This leads to the gaps widening (1, 16, 31). Nevertheless, there are examples of schools that serve poor communities in the U.S. that have demonstrated that high achievement in mathematics does not occur only in high-resourced communities and schools (citation #). Such exemplary schools offer insights into how teachers, parents and community leaders can work together to structure schools to productively serve poor and diverse student populations.

We can address these problems. For instance, center-based programs for young children with academic content reduce inequalities (16, 32). We need to dramatically increase children’s access to these programs. Note that school choice does not appear to help. In some cases, it actually hurts, as it always leads to greater social stratification of educational programs and outcomes, not less (16, 32). Instead we need more
resources to these programs. “There is a serious mismatch between the preparation (and the compensation) of the average early childhood professional and the growing expectations of parents and policy makers” (7, p. 261). That is, educators of young children are being asked to do more, but their resources and wages are low and not increasing.

A good early start is necessary, but not sufficient. The “fade-out” of early gains is due to the lack of well-funded, high-quality schools throughout students’ lives (8). Follow-through into the elementary, middle, and high schools is critical (32, 33). That is, early (usually academic) gains often weaken as children progress through the primary grades, disappearing by fourth grade (8, 34-37). Consider the educational trajectories of children who benefited from a successful pre-K experience as they move into kindergarten. The kindergarten curriculum they experience often assumes little or no mathematical competence when they start school, so low-level skills are taught, often unnecessarily. Their teachers are often required to follow such curricula rigidly and remain unaware that some of their students have already mastered the material they are about to “teach” (32, 38-40). Further, biases may negatively affect the subsequent school experiences of children during pre-K. For example, kindergarten teachers rated Head Start children’s mathematics ability as lower than that of other children, even though direct assessments showed no such differences (37). Even if the children are assigned to a kindergarten teacher who recognizes their competencies, pressure to increase the number of children passing minimal competency assessments may lead this teacher to work mainly with (and/or mainly at the level of) the lowest performing children—that is, to work mainly with children who have the best chance of “making the grade” on minimal
competency requirements. Within this context and without continual, progressive support, early gains are frequently “lost.” In this way, we believe the present U.S. educational system unintentionally but insidiously reinforces the gap between students from low- and higher-resource communities.

In summary, the notion of early gains "fading" usually ignores the lack of follow-up planned and implemented for these children. We believe this mistakenly treats initial effects of interventions as independent of the future school contexts. That is, they treat the gains as something the child “has” and should “hold on to” unless they are too "weak.” This is nonsense. No early gains can inoculate students against poor formal schooling experiences. We need consist, well-funded, high quality schools from early childhood through college.

**Final Words**

We are racing against catastrophe (8). More children are in deep poverty in the U.S. than other countries. The effects are devastating (14). There is no time to wait, no time to debate. We need action, now.

Many things can wait. Children cannot. Today their bones are being formed, their blood is being made, and their senses are being developed. To them we cannot say tomorrow. Their name is today.

*Gabriella Mistral, a famous Chilean poet who won the Nobel Prize of Literature in 1945*
References


15. D. C. Geary, C. C. Bow-Thomas, L. Fan, R. S. Siegler, Even before formal


