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Are American Schools Making Inequality Worse?

WASHINGTON, D.C., September 30—The answer appears to be yes. Schooling plays a surprisingly large role in short-changing the nation's most economically disadvantaged students of critical math skills, according to a study published today in *Educational Researcher*, a peer-reviewed journal of the American Educational Research Association.

Findings from the study indicate that unequal access to rigorous mathematics content is widening the gap in performance on a prominent international math literacy test between low- and high-income students, not only in the United States but in countries worldwide.

Using data from the 2012 Programme for International Student Assessment (PISA), conducted by the Paris-based Organisation for Economic Co-operation and Development (OECD), researchers from Michigan State University and OECD confirmed not only that low-income students are more likely to be exposed to weaker math content in schools, but also that a substantial share of the gap in math performance between economically advantaged and disadvantaged students is related to those curricular inequalities.

The authors—William H. Schmidt, Nathan A. Burroughs, and Richard T. Houang, all of Michigan State University, and Pablo Zoido, of OECD—found that in almost every one of the 62 countries examined, including the United States, a significant amount was added to the social class-related performance gap because of what students studied in schools. The 2012 PISA was the first international study to include student-level indicators of exposure to math content. The authors relied on data from more than 300,000 students, who ranged in age from 15 years and 3 months to 16 years and 2 months.

"Our findings support previous research by showing that affluent students are consistently provided with greater opportunity to learn more rigorous content, and that students who are exposed to higher-level math have a better ability to apply it to addressing real-world situations of contemporary adult life, such as calculating interest, discounts, and estimating the required amount of carpeting for a room," said Schmidt, a University Distinguished Professor of Statistics and Education at Michigan State University. "But now we know just how important content inequality is in contributing to performance gaps between privileged and underprivileged students."

In the United States, over one-third of the social class-related gap in student performance on the math literacy test was associated with unequal access to rigorous content. The other two-thirds was associated directly with students' family and community background.

On average, across the 33 OECD countries studied, roughly a third of the relationship of socioeconomic status (SES) to math literacy was due to inequalities in math coverage, with sizeable variation across countries, ranging from nearly 58 percent in the Netherlands to less than 10 percent in Iceland and Sweden. **(See Table 1 below for complete OECD country ranking.)**

Among the 33 OECD participating countries, the U.S. ranked 11th in the relative importance of schooling to SES inequality.

There are striking differences in how countries group their students and structure their instructional opportunities, meaning that in countries like the U.S. there are greater within-school inequalities in content coverage, while in other countries such as France, Germany, and Japan inequalities are larger between schools.

Regardless of whether unequal learning opportunities for lower-income students were found within or between schools, they exacerbated inequitable student outcomes.

"In the United States, public school curricular and tracking policies are contributing to the growing performance gap between poor and rich students," said Schmidt.

"Because of differences in content exposure for low- and high-income students in this country, the rich are getting richer and the poor are getting poorer," said Schmidt. "The belief that schools are the great equalizer, helping students overcome the inequalities of poverty, is a myth."

Burroughs, a senior research associate at Michigan State University, noted that the findings have major implications for school officials, given that content exposure is far more subject to school policies than are broader socioeconomic conditions.

Table 1: Percentage of Total Socioeconomic Inequality Contributed by Unequal Access to Rigorous Mathematics

Rank	COUNTRY	% Contributed
1	Netherlands	58%
2	Korea	56%
3	Australia	52%
4	Austria	47%
4	United Kingdom	47%
6	Belgium	43%
6	Germany	43%

6	Japan	43%
9	Spain	42%
10	New Zealand	40%
11	Canada	37%
11	United States	37%
13	Czech Republic	36%
14	Ireland	35%
14	Italy	35%
16	France	34%
17	Finland	32%
17	Switzerland	32%
19	Slovak Republic	31%
20	Hungary	30%
21	Chile	29%
22	Denmark	26%
23	Mexico	25%
24	Luxembourg	24%
25	Israel	23%
25	Portugal	23%
27	Slovenia	20%
27	Turkey	20%
29	Estonia	16%
29	Poland	16%
31	Greece	13%
32	Iceland	9%
33	Sweden	1%
	OECD Average	*32%*

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