The Relationship Between School Spending and Student Achievement: A Review and Analysis of 35 Years of Production Function Research

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Research Article Critique#1

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The main purpose of this article is to review and analyze four decades of research, beginning with the Coleman report in the mid-1960s, to determine if inputs into schooling impact student outcomes, particularly student achievement. “The primary finding of the Coleman study was that school inputs other than student body composition explained little if any of the variance in school achievement.” (Verstegen, 243) A comparison of these findings with other reports over the next 35 years, support both the idea that inputs do not impact student outcomes, thus should not be the focus of educational reform as well as the correlation between the investment of resources into a district and student success.

The research conducted by Card and Krueger is represented as an example to support the idea that there is a correlation, particularly if student success is measured, not by test scores but, by success in the labor market. This longitudinal study over three decades, “found that higher spending on schools translated into higher earnings after school. Specifically, men educated in states with higher-quality schools, defined by low pupil-teacher ratios; greater time in school, and higher teacher salaries, had higher returns for additional years of schooling.” (Verstegen, 243) The results of this study identify inputs not just as an invested dollar amount but as an example of how school inputs should be identified: teacher characteristics, curriculum, class size, and technology. Other research by MacPhail-Wilcox and King have determined that regardless of the type of study, the results “suggest that teachers’ verbal achievement, experience, salary levels, and professional preparation are significantly related to student achievement. Advancements in technology also support more recent research into the correlation between spending and achievement as the researchers have, “taken advantage of improvements in technology, better databases and advancements in methodologies and measurements provides further evidence that school inputs can and do make a difference in education and are positively associated with both advanced student achievement and labor market earnings.” (Verstegen, 245) The article then cites numerous studies which refute the Coleman report and support findings that investments will lead to greater student achievement.
The article goes on to explore the areas where those investments may pay the highest dividends in student performance. Measurement of teachers’ experience, training, education, verbal ability, and salary have shown to be predictors in student achievement. The only table represented in the journal article, *Percentage Distribution of Significant Estimated Effects of Key Resources on Student Achievement, Based on 377 Studies*, highlights the correlation between those measurable teacher characteristics and student performance.

Investment in class size as a measurable input that would positively impact student performance has been supported by Hanushek’s research which “showed that of the studies reviewed with significant effects, the majority (54 percent) found associations between pupil-teacher ratios and student performance.” (Verstegen, 254) The research supports the relationship between class size and student performance more significantly if the smaller classes resulted in the development of more individualized instruction, specific questioning techniques, and more positive teacher-student relationships. Other research into the relationship between per pupil expenditures and outcomes initially yielded mixed results but ultimately supported the notion that the increased expenditures will increase student outcomes.

The author does comment on the limitations associated with much of the four decades of research into this correlation. Particularly that much of the research, “relies on standardized achievement test scores rather than a diverse set of cognitive and noncognitive outputs, and that quantify school and family inputs in ways that possibly ignore variables that may have more to do with teaching and learning processes.” (Verstegen, 259) That said, it is clear that there are positive relationships between funding and achievement. The challenge remains on how to combat the inequities in the resources varying districts have to invest in education, highlighted in the Global Achievement Gap, and for every district to determine how to promote student achievement when the resources that would promote student achievement are limited or absent.