

Review of another look of Valirie Lee, Julia Smith and Robert Croninger at high school restructuring: More evidence that it improves student achievement and more insight into why

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Abstract: High schools have over the past few decades been discredited with institutionalization, standardization, and academic-orientation (Manno, 1995; NASSP, 1996). As a result, it has failed to prepare students for the society which has been undergoing exponential change. A majority of students have been either neglected or left uncared for because of their relatively low academic achievement. To meet with the persisting educational problems, the authors endeavor to investigate whether high schools, which have adopted the following four characteristics, are able to produce better-performing students than traditional institutionalized high schools. (1) More interactions between different members of the school. (2) Everyone holds responsibility for students' total development. (3) More teacher feel satisfaction and higher morale. (4) Less dropouts and fewer class-cuttings and lower rates of absenteeism. Based on the statistical data collected from 9,570 students in 781 high schools, the authors find that in both mathematics and science, academic gains are substantially higher in schools with higher levels of these four characteristics. One more important finding is that students are learning more in smaller schools, and the performance gaps between students from different backgrounds are smaller as well.

Key words: high school; performance gaps; student achievement

1. Introduction

The purpose of this article is to investigate the students' performance differences between the traditional high schools and restructured high schools. This paper follows the formal procedures of quantitative analysis:

- (1) It provides the background of the study.
- (2) It utilizes related literature and earlier findings.
- (3) It presents hypothesis.
- (4) It implements methodology—target population, statistical instrument procedure and tables.
- (5) It proposes new findings and some suggestions.

According to the authors, over the past forty years, the majority of American high schools have tended to adopt the bureaucratic model (Webster, 1994). This model calls for the creation of large, comprehensive schools, which offer students a wide choice of courses and activities. These bureaucratic schools are characterized by:

- (1) Being managed by professional administrators—the principal.
- (2) Adopting a top-down through formalized goals and procedures.

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- (3) Departmentalization of the school.
- (4) Student tracking based on academic abilities and career objectives.

However, over the past years there has been increasing dissatisfaction with the performance of U.S. schools, especially at the high school level. The call for schools to boost students' achievement results in the need for school reforms or restructuring. As a result, an organic or communal model has arisen to meet the need for school restructuring. According to the authors, in the organic model teachers should be encouraged to work together to examine the challenges they face, then decide—as a team of thoughtful, committed professionals—how best to proceed. They are not merely directed to follow specific, rigid rules and respond blindly to the decrees of administrators. (Bolman & Deal, 1991).

The authors further mention that there are two important aspects of schools—academic organization and social organization. Schools which operate under more organizational models are found to possess certain qualities. According to the authors, academic organizational features consistent with an organic model would include:

- (1) Common academic curriculum: clearer, common focus on high-level learning for all students.
- (2) Academic press—less specialization makes it easier for staff members to develop and communicate common expectations.
- (3) Authentic instruction—students are asked to move beyond reciting fragments of information for memory, and to learn instead how to engage in sustained, disciplined, critical thought on topics relevant beyond school. Teachers who want to pursue authentic instruction must think, invent, and reflect on their work.

Communally organized schools, according to the authors, seek to promote an environment where students and staff are committed to the mission of the school and work together to strengthen that mission. They are characterized by:

- (1) More interactions between different members of the school.
- (2) Everyone holds responsibility for students' total development.
- (3) More teacher satisfaction and higher morale.
- (4) Less dropouts and fewer class-cuttings and lower rates of absenteeism.

This study is a follow-up of “High School Restructuring and Student Achievement,” which based on the data from National Education Longitudinal Study Conducted in 1988 and 1990, examined the academic progress made, and levels of student engagement with school, for 11,794 students in 820 secondary schools through the country. According to that study, which identified 30 reform practices and classified them as traditional, moderate or restructuring, the results were clear and consistent: schools that implement three or more restructuring practices posted significantly higher academic achievement than other schools. Also, students in smaller schools posted significantly higher academic gains, and that these gains were more equitably distributed. That study only followed students through 10th grade, so we hadn't explored whether the effects of restructuring carried over into learning in the last two years of high school. This more recent study of high school restructuring followed the same students through 12th grade.

2. Research questions and methodology

Overall, this study is mainly concerned with four research questions:

- (1) To what extent do high schools with low, average and high levels of common curriculum differ from each other with respect to math and science achievement gains?
- (2) To what extent do high schools with low, average and high levels of academic press differ from each other with respect to math and science achievement gains?
- (3) To what extent do high schools with low, average and high levels of authentic instructional practice differ from each other with respect to math and science achievement?
- (4) To what extent do high schools with low, average and high levels of collective responsibility differ from

each other with respect to math and science achievement gains?

The study, which targets 9,570 students in 781 high schools as the sampled population, utilizes statistical methods and procedures: This study examines students' achievement growth since 8th grade by examining their scores on mathematics and science questions drawn from the National Assessment of Educational Progress (NDEP). For comparison, the authors use "scale scores" derive from a statistical method called Item Response Theory (IRT). Moreover, to represent the actual advantage to students attending schools with high, medium and low levels of the four traits, the authors look at the results for an "average" student, one whose performance and socioeconomics status falls at the mean of all students who were studied.

3. Findings

The authors find that both mathematics and science, academic gains are substantially higher in schools with higher levels of these four characteristics. For example, an average student in a school with high levels of authentic instruction would learn about 78 percent more mathematics between 8th and 10th grade than a comparable student in a school with high levels of collective responsibility would learn more than twice as much science between 10th grade and 12th grade as a similar student at a school with low collective responsibility. One more important finding is that students are learning more in smaller schools, and the performance gaps between students from different backgrounds are smaller as well.

In general, we agree with the authors' research method, proposed questions, methodological procedures and findings. We are sure authentic instruction, academic press, collective responsibility and common academic curriculum combined together will contribute to students' performance. However, there are many elements involved in student test performance, especially on a paper-and-pencil standardized test. According to Herrnstein and Murray (1994), most standardized tests, including SAT and ACT, and primarily based on students' intelligence. Therefore, IZ is a critical factor concerning students' performance or achievement. They mention that intensive remedial instruction may help students gain at most 5-10% more scores on the average. It is undoubtedly that students attending restructured schools will spend more time on math and science. However, it should be kept in minds that within any school the IZ distribution remains even. It is surprising that the study seems to invalidate Herrnstein and Murray's findings. The only plausible reason may be that traditional schools are so dysfunctional that they turn out a lot of under-achievers, who are no less intelligent than their counterparts in restructuring schools.

Based on the findings derived from the research, organic models seem to be the best choice for high schools. For large high schools, I would suggest them to divide schools into several houses to facilitate the implementation of the four traits. If schools can turn out high-performing students, no matter what their IQ, socioeconomic or ethnic backgrounds are, we do welcome school restructuring based on the four traits. After all, schools exist because of teaching and learning. If traditional models become dysfunctional, we must modify or even discard them. Otherwise, our schools will fall behind the current and our students are likely to meet with failure both academically and socially (Buch & Wetzel, 2001).

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