



A Case Study of the Relationship Between a School Learning Environment and Academic Achievement

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Initial research conducted in nearly 200 schools by the Center for the School of the Future (CSF) demonstrates quite clearly that the school learning environment, as measured by the Indicators of School Quality (ISQ) survey system, is strongly associated with standardized academic performance even after the effects of social and economic risk are statistically removed. From these data, researchers also drew tentative conclusions about cause and effect for individual schools. Schools that used ISQ as a foundation for change were identified to determine if changes in their ISQ data were mirrored by changes in their student's academic performance. This is a case study of one of those schools.

Description

ISQ is a survey system that measures the perceptions of parents, students, and school staff concerning the school learning environment. Past research has shown ISQ to be an accurate assessment of school attributes and practices that relate to and potentially affect academic achievement. Specifically, ISQ measures perceptions in seven critical domains: Parent Support, Teacher Excellence, Student Commitment, School Leadership, Instructional Quality, Resource Management, and School Safety. ISQ also assesses social and economic risk. These data are important in that they provide for any school employing ISQ to be compared to schools of similar risk.

Rich Middle School, which is located in northern Utah, has conducted ISQ for the last 5 school years. Data from the surveys are presented in reports that are easily interpreted by administrators, faculty, and parents. Throughout these years, district administrators and the local school board members have learned about ISQ results through meetings and presentations conducted by CSF staff. This coordinated effort lent support to the school principal who employed the ISQ data to design and monitor school change unique to their school's needs.

To assess academic performance, this study employed annual State of Utah Criterion Referenced Tests (CRT) in language arts. Unlike standardized tests given in 3rd, 5th, 8th, and 11th grades, these test results made it possible to track a cohort of students throughout their three years (6th, 7th, and 8th grades) at the school. These data offer a valid assessment of change in student performance over time. Additionally, the language arts CRT was the only uniform content taken by all students that spanned those three grades. The math and science CRTs did not allow for comparisons across all 3 years for all students at the school.

Application

Table 1, below, demonstrates how the Rich Middle School learning environment compared to other middle schools with similar social and economic risk profiles for the seven ISQ domains across all 5 years. In 2002, Rich Middle School was a typical school operating at norm in all areas of the school environment. By the next year, the school had improved School Leadership and Instructional Quality well beyond the norm group. In subsequent years, more areas of the environment improved until finally, this current school year, all domains were operating above norm.

ISQ Domains	2002	2003	2004	2005	2006
Parent Support	At Norm	At Norm	Above Norm	Above Norm	Above Norm
Teacher Excellence	At Norm	At Norm	Above Norm	Above Norm	Above Norm
Student Commitment	At Norm	At Norm	Above Norm	At Norm	Above Norm
School Leadership	At Norm	Exemplary	Above Norm	Above Norm	Exemplary
Instructional Quality	At Norm	Exemplary	Above Norm	Exemplary	Exemplary
Resource Management	At Norm	At Norm	At Norm	At Norm	Exemplary
School Safety	At Norm	At Norm	At Norm	Above Norm	Above Norm

Table 1

Figure 1, summarizes the relationship between the school learning environment, as measured by ISQ, and the language arts CRT data. The bars represent the ISQ results aggregated for 31 items for the parent, teacher, and student audiences. Each bar represents the entirety of ISQ results for that school year, and all bars are the same length, as the same numbers of items were given each year. For the purposes of this graphic display, the green and purple portion of each bar was placed above a single line. By doing this, one can easily see how perceptions of school quality changed each year. The progress displayed here mirrors the progress seen in Table 1. During the 2002 school year, most areas of the school learning environment were perceived as typical. As years went by, more and more areas were being perceived as superior and exemplary.

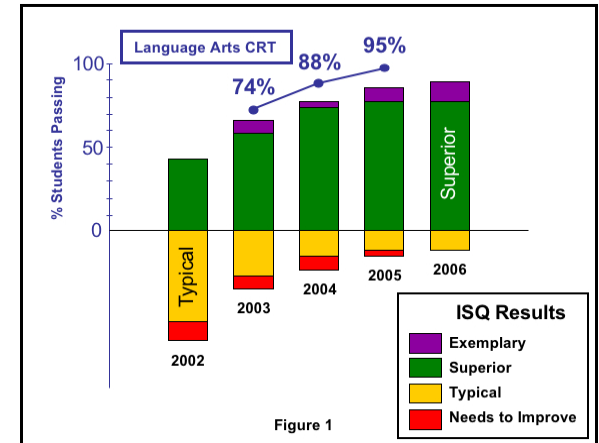


Figure 1

In addition, Figure 1 displays the Language Arts CRT passing rates for the study cohort for the 3 years they went to the school. During the 2003 school year, 74% of the 6th graders passed the language arts CRT, which was just below what was expected for low-risk middle schools. By the time these same students were in 8th grade, 95% of them passed. This pass rate is much higher than for other schools in the comparison group.

Discussion

Although these data come from only one school, they are impressive. This school used ISQ as a guide to school improvement over the course of several years. The results displayed in ISQ reports showed obvious and dramatic improvements in the school environment as perceived by all school stakeholders. In addition, academic scores rose significantly. Given the strong relationship between ISQ data and academic achievement data across many schools, and the results shown here, it is clear that improvement of the school learning environment in a single school can directly influence the academic performance of students in that school.