

Research That Looks at the Middle School Concept as an Integrated Reform Model

Research and Resources in Support of This We Believe



NMSA Research Committee

Four major studies examined the middle school concept as an integrated reform model and its effects on student academic and social-emotional performance. These studies include research conducted by Lee and Smith (1993), Felner et al. (1997), Mertens, Flowers, and Mulhall (1998), and Backes, Ralston, and Ingwalson (1999).

In 1993 Lee and Smith evaluated how middle school policies and practices influenced the students who attend them, focusing specifically on achievement, engagement, and equity issues. The sample for this study was drawn from the *National Education Longitudinal Study of 1988* (NELS:88). Because of the nature of this database Lee and Smith acknowledged that they are “not sure whether the sample of students in schools that reported that they engage in practices like heterogeneous grouping and team teaching actually encountered instruction in this way” (p. 180). Neither did they know the level of implementation of these practices. Specifically they looked at reduced departmentalization, heterogeneous grouping, and team teaching as a “composite measure” of restructured middle schools.

Lee and Smith’s (1993) findings indicated that the elements of restructuring were positively associated with academic achievement and engagement with schooling of eighth graders. Students who attended schools that encourage team teaching evidenced higher achievement. Additionally, less grouping by ability and a less rigid departmental structure appeared to promote social equity in achievement among students. In relation to engagement, Lee and Smith found that “although attending restructured schools may positively influence academic engagement, this engagement may coexist with higher levels of at-risk behaviors” (p. 180).

Felner and his associates (1997) conducted significant and compelling research that acknowledges the necessity of implementing Turning Points’ recommendations as a comprehensive reform initiative. This team of researchers studied a network of 31 Illinois middle schools during the 1991-1992 school year. These schools represented a range of geographic, demographic, and size characteristics, including rural, suburban, and urban schools.

Felner’s group (1997) sought to “assess and evaluate the process of implementation of the recommendations of Turning Points for middle grades reform, as well as their impact on students’ academic achievement, social-emotional development, and behavioral adjustment” (p. 42). Of particular concern was the association between the levels of implementation of the reform that participating schools attained and relevant student outcomes. The researchers obtained data on sets of schools that were at different levels of maturity (high, partial, or low) in reform implementation. The primary source of data was a set of annual surveys, the *High Performance Learning Communities Assessments* (HiPLaCes-A). These surveys were administered to teachers, staff members, students, administrators, and selected parents. Additional data were obtained from student records, attendance, and scores (reading, mathematics, and language arts) on local and state achievement tests.



Results of this longitudinal study indicated, "...across subject areas, adolescents in highly implemented schools had higher achievement (as measured by the Iowa Test of Basic Skills and the California Test of Basic Skills) than those in nonimplemented schools and substantially better than those in partially implemented schools" (p. 55). Felner and associates (1997) concluded, "...broad-range enhancements and adjustment are not obtained until implementation is quite mature, comprehensive, and conducted with a high degree of fidelity" (p. 67).

Researchers at the Center for Prevention Research and Development (CPRD) looked at 155 Michigan middle schools that participated in the Michigan Middle Start Initiative funded in 1994 by the W. K. Kellogg Foundation. Surveys (the School Improvement Self-Study) were administered to principals, teachers, and students in 1994-95 and in 1996-97 by the Center for Prevention Research and Development. This self-study uses 24 scales to measure progress in dimensions of reform including curriculum, school climate, instruction, family involvement, professional development, and school organization.

Specifically, Mertens, Flowers, and Mulhall (1998) focused on trends related to teaching practices and learning environments and their relationship to student achievement, behaviors, and attitudes. By design the researchers compared and contrasted the progress of two groups of Middle Start schools: grant schools and non-grant schools. The "grant" schools group consisted of 21 schools that received intensive comprehensive school reform services, including individual school grants, on-site technical assistance, professional development, and networking opportunities. The "non-grant" group contained 134 schools that participated in the self-study but did not receive any other school reform services. Their findings indicate that the 21 Middle Start grant schools improved in both reading and math achievement scores over the two-year period, as measured by the Michigan Educational Assessment Program (MEAP). "Compared to the non-grant schools, the Middle Start grant schools showed dramatic gains in both seventh grade reading (+10 %) and math (+6 %) MEAP scores from 1994-95 to 1996-97" (p. 92).

Students reported higher levels of stress to succeed academically but felt safer at their schools in 1996-97 than they did in 1994-95. Additionally, Middle Start grant schools displayed several positive improvements in the areas of student adjustment, behavior, and substance use (a decrease in the reported use of alcohol). Students reported more positive self-esteem and academic efficacy. Lastly, teachers reported working more effectively to serve the needs of early adolescents and having more contact with parents and guardians. Schools implementing the Middle Start Initiative are showing improved capacity for continuous improvement.

CPRD is also a partner in this project's expansion with the Foundation for the Mid-South's Middle Start Initiative. Middle schools in Louisiana, Arkansas, and Mississippi began participating in this project in 1998. In the area of academic achievement, the Arkansas Middle Start schools (80 schools) scored slightly higher on the 1998 reading and language achievement tests (SAT9) than the state-wide group of middle level schools (Center for Prevention Research and Development, 1999a). In Louisiana, Middle Start schools (68 schools) scored about the same on ITBS achievement tests as the state-wide group of middle schools (CPRD, 1999b). Mississippi Middle Start schools (67 schools) had slightly higher student achievement scores (CTBS/5) in language arts, reading, and mathematics as compared to the state-wide group of middle level schools (CPRD, 1999c). In short, these



findings seem to suggest that Middle Start schools, despite their higher percentages of economically disadvantaged students, are keeping pace with the state averages (state averages include a higher percentage of more affluent schools).

Finally in 1999, Backes, Ralston, and Ingwalson examined the impact of middle school practices on student achievement in North Dakota's Middle Grade School State Policy Initiative (MGSSPI) schools, called BRIDGES schools. The major question asked was, "What effect has the implementation of middle level practices by BRIDGES Project schools had on student achievement in grades six through eight compared to non-BRIDGES schools in North Dakota?" The authors of this study admit that they "...assumed that each of the recommended middle school practices had been implemented, [and] that students in BRIDGES Project systemic change schools should have measurable gains in student achievement because of the implementation of these practices..." (p. 49).

The findings of the Backes, Ralston, and Ingwalson (1999) study indicated that the composite grade equivalent score from grades six to eight was higher in BRIDGES Project schools than in non-BRIDGES schools in the areas of reading vocabulary, language mechanics, study skills, science, and social studies. There was no difference in composite grade equivalent scores in reading comprehension and spelling. Non-BRIDGES students outperformed BRIDGES students in the areas of language expression, math computation, and math concepts and applications.

The results of these four studies are promising. They provide middle level practitioners, scholars, advocates, and policymakers with a firm foundation that links the middle school concept to improved student academic and social-emotional development. These studies also provide a point of departure for the design and conduct of future research. In 1995 Van Zandt and Totten concluded that middle school research included an insufficient number of studies, weak research designs, difficulties comparing studies with conflicting designs, and too little attention to the effects of extraneous variables (i.e., socioeconomic status) on outcomes. While three of the four studies reported here were conducted since 1995 more research is needed.

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