Relating the Middle School Concept to Student Achievement

Middle School Journal, Volume 35, Number 1, September 2003

ON TARGET
STUDENT ACHIEVEMENT

Vincent A. Anfara, Jr., & Richard P. Lipka

While there is substantial literature supporting the implementation of the middle school concept, proving that middle schools are superior to other arrangements for educating young adolescents remains a significant challenge for educational researchers.

Today, questions abound regarding the implementation and effectiveness of middle level reform. Has the reform of middle schools had the intended consequences of improved academic performance and socio-emotional development? The issue of effectiveness is made more public and exacerbated by the results of educational studies like TIMSS (Third International Mathematics and Science Study). Arming themselves with findings from this study, educational researchers and policymakers questioned the "less than rigorous curriculum" alleged to exist in many middle schools and characterized middle schools as "the wasteland of our primary and secondary landscape" (Tucker & Codding, cited in Bradley, 1998), "a crack in the middle" (Killion & Hirsh, 1998), and "muddle in the middle" (Bradley, 1998).

This emphasis on linking the middle level concept to heightened student academic performance is not new. Long before the attacks appeared in *Education Week* in 1998, Williamson, Johnston, and Kanthak (1995) commented, "Middle schools must accept the challenge of addressing student achievement. Student achievement must be given the highest priority in the mission of the middle level school" (p. 6). In their manifesto for middle grades reform, Lipsitz, Mizell, Jackson, and Austin (1997) wrote, "We speak with one voice, grounded in our collective experience and buttressed by compelling research data that demonstrate … that sustainable middle level school reform is achievable" (p. 534). But grounded in realism they continue, "We have not seen the widespread dramatic improvement in academic outcomes we had hoped for" (p. 535).

Responding to her reading of *The Exemplary Middle School* by Alexander and George (1981), Russell (1997) noted that there is the assumption that "according to middle level theory, if the middle level philosophy is implemented, the outcomes of enhanced personal development, group citizenship, and achievement will be attained" (p. 170). But attempts to ascertain the relationship between middle level reform (specifically *Turning Points'* recommendations) and student achievement have yielded ambiguous and conflicting results. There are an insufficient number of studies, a lack of longitudinal studies, weak research designs, difficulties with comparing studies with conflicting designs, and problems with the effects of extraneous variables (like socioeconomic status) on outcomes (Van Zandt & Totten, 1995).

National Middle School Association
4151 Executive Parkway, Suite 300 · Westerville, Ohio 43081 · Tel: 614-895-4730 · FAX: 614-895-4750 · 1-800-528-NMSA · © 2005

ON TARGET
STUDENT ACHIEVEMENT

Indeed, the landscape of this corpus of research is painted utilizing many different brushes and diverse styles with the resulting product being very confusing. But, as mentioned earlier, there is an urgency regarding research in this area. Acknowledging this urgency, Felner, Jackson, Kasak, Mulhall, Brand, and Flowers (1997) wrote, "Although a more well-developed research base does not, by itself, ensure more successful reform efforts, without such a foundation the progress and fruits of reform efforts will continue to be disappointing" (p. 41).

The inconclusive nature of the findings related to the effects of middle school practices on student achievement has been documented (Brown, Roney, & Anfara, 2003; National Middle School Association, 2002; Roney, Anfara, & Brown, 2002; Van Zandt & Totten, 1995). But this is not unusual in the realm of educational research. Reviewing the literature on many different educational topics will reveal research that supports, negates, or shows no difference in the relationship between the variables being studied. Importantly, the inconclusive nature of middle school research should not be adopted as a rationale for inaction or refusal to move forward in the restructuring of middle schools. There is, indeed, a promising body of research that demonstrates positive effects for restructuring middle schools.

In this article we review the literature and then explore the problematic nature of this research by asking three fundamental questions. First, is the inconclusive nature of the research due to the inconsistencies and shortcomings in how we operationalize the variables being studied—for example, student achievement and the "true" middle school? Second, is it the result of the middle school practices themselves (what we measure)? Third, is it a function of the variables that are not controlled for in the research?

WHAT CURRENT RESEARCH SAYS

In reviewing the available research on the relationship between *Turning Points* recommendations and student achievement, we have noted that the literature can be divided into the following categories: (a) studies that consider *Turning Points* recommendations as an interdependent whole versus studies that focus on individual components of *Turning Points*, (b) studies that compare middle schools involved with some restructuring initiative (i.e., Middle Start Initiative, BRIDGES project) to others that are not involved, (c) studies that acknowledge the "necessary but not sufficient" nature of *Turning Points* recommendations, and (d) studies that assign schools to "implemented" versus "non-implemented" categories versus research that acknowledges varying levels of implementation of *Turning Points* recommendations. It should be noted that these categories are not mutually exclusive since a study could possibly fit into two or more of these categories, but intended to give some structure to the vast body of literature on this topic.

Comprehensive implementation of *Turning Points'* recommendations versus research on individual components of *Turning Points*

Felner and 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 what was a network of 31 schools in Illinois during the 1991-92 school year. Schools participating in the Project Initiative Middle Level (PIML) network represent a full range of geographic, demographic, and size characteristics, including rural, suburban, and urban schools.

National Middle School Association
4151 Executive Parkway, Suite 300 · Westerville, Ohio 43081 · Tel: 614-895-4730 · FAX: 614-895-4750 · 1-800-528-NMSA · © 2005

ON TARGET
STUDENT ACHIEVEMENT

Felner and associates (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, socio-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 core of the evaluation is a compressed longitudinal design, obtaining data on sets of schools that are at different levels of maturity (high, partial, or low) in reform implementation. The primary source of data is a set of annual surveys, the High Performance Learning Communities Assessments (HiPLaCes-A). These surveys are administered to teachers, staff members, students, administrators, and selected parents. Additional data are 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 non-implemented 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).

Lee and Smith (1993) 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 (NELS) of 1988. 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 encouraged 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).

In contrast, there is a vast body of literature that focuses on individual components of *Turning Points* recommendations, such as teaming and advisory programs, and their effect on student achievement. The example provided here focuses on the interdisciplinary teaming of teachers (i.e., Alspaugh & Harting, 1998; Arhar, Johnston, & Markle, 1989; Ashton & Webb, 1986; Cotton, 1982; Rosenholtz, 1989) and its effect on student achievement. This example helps to demonstrate the ambiguous and inconclusive nature of this research.

National Middle School Association
4151 Executive Parkway, Suite 300 · Westerville, Ohio 43081 · Tel: 614-895-4730 · FAX: 614-895-4750 · 1-800-528-NMSA · © 2005

ON TARGET
STUDENT ACHIEVEMENT

Looking at the effects of interdisciplinary teaming, Arhar, Johnston, and Markle (1989) found that the teaming of teachers increased student engagement in academic tasks, helped to clarify learning goals, and lead ultimately to higher student achievement. Ashton and Webb (1986) and Rosenholtz (1989) suggested an indirect relationship between teacher collaboration and improved student outcomes. Alspaugh and Harting (1998) studied the effects of interdisciplinary teaming versus departmentalization on student achievement in middle schools. Their findings indicated that no overall statistically significant differences were found for reading, mathematics, science, and social studies in grades six though eight in departmentalized versus teamed schools. But, significantly, the authors noted that teaming merits further investigation as a strategy for mediating student achievement loss associated with the transition to middle school. Cotton (1982) concluded that neither interdisciplinary team organization nor the traditional departmental organization promoted greater student achievement. Clark and Clark (1992), utilizing nine studies conducted between 1964 and 1972, conducted a meta-analysis related to interdisciplinary teaming. They concluded that teaming was related to gains in student achievement.

Comparison of middle schools involved with a restructuring initiative to those not involved

In this category we examine research done in Michigan by the Center for Prevention Research and Development (CPRD) and in North Dakota as part of the Middle Grade School State Policy Initiative (MGSSPI). Mertens, Flowers, and Mulhall (1998) looked at 155 Michigan middle schools that had high numbers of economically disadvantaged students and that were participating in the Middle Start Initiative funded in 1994 by the W.K. Kellogg Foundation. Surveys (the School Improvement Self-Study) were conducted 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, for example, 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 the relationship of this environment to student achievement, behaviors, and attitudes. By design the researchers compared and contrasted the progress of schools that were highly involved in the Middle Start Initiative (a total of 21 schools) to all other Michigan middle schools (134 schools). Their findings indicate that Middle Start schools improved in both reading and math achievement scores over the two-year period, as measured by the Michigan Educational Assessment of Progress. "While 7th-grade reading and math MEAP scores for the non-grant schools matched the state average and were higher than grant schools', grant schools displayed the most dramatic gains in reading and math (+10 and +6 percentage points, respectively)" (p. 3).

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

National Middle School Association
4151 Executive Parkway, Suite 300 · Westerville, Ohio 43081 · Tel: 614-895-4730 · FAX: 614-895-4750 · 1-800-528-NMSA · © 2005

ON TARGET
STUDENT ACHIEVEMENT

CPRD is also a partner in the expansion of this project with the Foundation for the Mid South Middle Start. Starting in 1998, middle schools in Louisiana, Arkansas, and Mississippi participated in this project. 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 statewide group of middle level schools. In Louisiana, Middle Start schools (68 schools) scored about the same on ITBS achievement tests as the statewide group of middle schools. In Mississippi (67 schools), student achievement in language arts, reading, and mathematics was measured by the CTBS/5. Achievement scores for Middle Start schools were nearly identical to the state average for all schools. 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).

Backes, Ralston, and Ingwalson (1999) 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 though 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 and associates (1999) study indicated that the composite grade equivalent score from grade 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 "necessary but not sufficient" nature of *Turning Points*

A handful of studies acknowledge that *Turning Points'* recommendations facilitate, among other positive outcomes, the reform of school culture/climate and improve a teacher's sense of efficacy and job satisfaction. These studies recognize that the recommendations of *Turning Points* are "necessary but not sufficient" to result in improvement in the academic performance of students (see Stevenson & Erb, 1998).

The most significant research to acknowledge the "necessary but not sufficient" quality of *Turning Points*-based middle school reform was conducted by Felner and associates (1997). Additionally, Andrews and Morfield (1991) noted the positive correlation that exists between teachers' satisfaction with the workplace and students' performance in reading and mathematics. Arriving at the same conclusion, Lipsitz, Mizell, Jackson, and Austin (1997) wrote, "the critical components of the reform process enable deeper instructional changes to occur" (p. 535).

Roney, Anfara, and Brown (2002; Brown, Roney, & Anfara, 2003) used a model of organizational health to explore the "necessary but not sufficient" nature of *Turning Points'* reform. They concluded that what really matters in the reform of middle schools has been known for quite some time

National Middle School Association
4151 Executive Parkway, Suite 300 · Westerville, Ohio 43081 · Tel: 614-895-4730 · FAX: 614-895-4750 · 1-800-528-NMSA · © 2005

ON TARGET
STUDENT ACHIEVEMENT

because of a body of research known as "effective schools" research. The model of organizational health used by Roney and associates was developed by Hoy and Hannum (1997) and focuses on issues related to teacher job satisfaction and sense of efficacy, a rigorous curriculum, high expectations of students, a positive school climate, and various school supports and stressors. In short, they attempted to expose what happens when a reform initiative like *Turning Points* is implemented and answer the question of what happens between the phases of implementation and achieved desired results.

Assignment of schools to "implemented" or "non-implemented" categories versus recognition of levels of implementation of *Turning Points'* recommendations

Again, we turn to Felner and associates (1997) who recognized that reform is an evolutionary and developmental process and that schools are at various stages of implementation (i.e., fully, partially, or not implemented). They noted that evaluation research designs that "simply assign schools to categories of implemented or non-implemented … will not be informative" (p. 44). They explained, "In evaluation research on school reform, the manipulation check can and should be the systematic assessment of the degree to which the intended transformations have occurred" (p. 44).

Similarly, Russell (1997) examined the relationship between student achievement and the implementation of the middle school concept (as delineated in Alexander & George, 1981) in 10 middle/junior high schools in a large urban school district. She recognized five levels of implementation (LOI): fully implemented, partially implemented, at the active discussion stage, at the initial discussion stage, and not under consideration. Educators involved in her study were allowed to self-assess their LOI in a survey. She also analyzed student achievement scores (reading, language arts, mathematics, composite battery achievement score) from the school district's data. Her findings indicated that "middle level programming has the potential to enhance student achievement at least to a limited degree" (p. 170). Three middle level program concepts were related positively with two or more student achievement scores. They included appropriate curriculum and learning skills, developmentally appropriate teaching strategies, and interdisciplinary teaming. Mathematics was the area that most frequently showed a positive, statistically significant relationship with the various middle level program concepts. Language arts, on the other hand, had no positive relationship with any of the middle level program concepts. In the final analysis she noted, "Middle level programming likely plays a role in the enhancement of student achievement, although the primary predictor remains students' entering achievement levels" (p. 185). In contrast, another study already discussed, the Backes, Ralston, and Ingwalson (1999) study, assumed that schools could be placed (on the basis of self-reported data) into implemented versus non-implemented categories.

National Middle School Association
4151 Executive Parkway, Suite 300 · Westerville, Ohio 43081 · Tel: 614-895-4730 · FAX: 614-895-4750 · 1-800-528-NMSA · © 2005

ON TARGET
STUDENT ACHIEVEMENT

SUMMARY OF CURRENT RESEARCH

The inconclusive nature of the findings related to the effects of middle school practices on student achievement is evident. As Russell (1997) wrote, "Unfortunately, this model's impact on the education of early adolescents [sic] has not been evaluated thoroughly. Consequently, the relationship of middle level education to student achievement, in particular, remains unclear" (p. 169). While we can criticize much of the research that exists and call for further research, we should be encouraged that there is substantial literature that supports implementing middle school restructuring. We also should not forget that the dilemma we find ourselves in, in the process of developing a strong research foundation for the middle school movement, is not atypical of educational research in general.

There continue to be issues that make establishing a connection between the middle school concept and improved student performance problematic. Importantly, we cannot ignore findings that note that socioeconomic status was found to be the most significant correlate to student achievement (Hough & Sills-Briegel, 1997), that many schools serving large numbers of economically disadvantaged students provide a much less supportive learning environment and, therefore, show lower student achievement (Stephens & Jenkins, 1994), or that previous student achievement is a powerful variable whenever predictions are made about subsequent achievement (Russell, 1997).

The bottom line of this corpus of research is summarized in NMSA's *Research Summary #12: Academic Achievement.* There it is noted that (a) the issue is complex, (b) schools which implement more *Turning Points'* recommendations show greater gains in student outcomes, (c) the aim is equitable high achievement for all types of students, (d) the interrelationship of many factors affects student outcomes, and (e) there is a strong link between socioeconomic status and achievement (National Middle School Association, 2002).

Let us now look at the three questions we posed at the start of this article that focused on how and what we measure when assessing the relationship between the middle school concept and student academic performance and the moderating/confounding variables.

Critical Question #1: Is the inconclusive nature of the research due to how we measure the existence of a "true" middle school and student achievement?

As noted earlier, Van Zandt and Totten (1995), critiquing this research, noted a lack of longitudinal studies, weak research designs, and problems with comparing studies. Felner and associates (1997) also noted a "dearth of empirical research, especially intensive longitudinal studies, on school restructuring that focus clearly on the impact of these changes or informs its design and implementation" (p. 40). In order to make our point about how we define "student achievement" and a "middle school," we refer to three of the studies (Backes, Ralston, & Ingwalson, 1999; Russell, 1997; Stephens & Jenkins, 1994) reported earlier in this article.

In defining "middle school" Stephens and Jenkins (1994) used a self-report survey based on the work of Allen and Sheppard (1991) and Alexander and McEwin (1989). Based on the results of the survey data they divided the schools in their study into those that implemented the middle school concept and those that did not. Student achievement was defined as the score on a criterion-based student achievement test in math, reading, and writing that was developed by the Georgia Department of Education.

National Middle School Association
4151 Executive Parkway, Suite 300 · Westerville, Ohio 43081 · Tel: 614-895-4730 · FAX: 614-895-4750 · 1-800-528-NMSA · © 2005

Backes and associates (1999) defined "middle school" as those that were part of the BRIDGES Project and compared their findings to students in non-BRIDGES schools. Again, achievement was measured by using the Comprehensive Test of Basic Skills, Fourth Edition (CTBS/4). They too assumed that the BRIDGES schools had implemented the recommended middle school practices. Noting that each of the schools had received funding for the purpose of improving instruction, they wrote, "It was assumed that each of the recommended middle schools practices had been implemented" (p. 49).

Consistently we see problems in the research with defining middle school, relying on self-reported survey data, and utilizing a very narrow definition of student achievement—a score on a criterion or norm-referenced standardized test. In many instances we are comparing apples to oranges—schools that have truly restructured to those that have simply changed the name above the schoolhouse door. We need to acknowledge that traditional assessments do not always represent the broader achievement gains of student. To create a more complete picture of student achievement we must utilize alternative forms of assessment and multiple sources of data. We need to be cognizant that educational reforms, like *Turning Points*, do not always get implemented as originally intended and that what we are actually measuring might indeed be something very different. Future research must accommodate the developmental nature of reform and discontinue assigning schools to implemented versus non-implemented categories based on self-reported data.

Critical Question #2: Is the inconclusiveness of the research due to what we measure?

Stevenson and Erb (1998) and Felner and associates (1997) have made us keenly aware of the existence of a "black box" that exists between the implementation of *Turning Points'* reform components on one side and the expected outcomes (improved student academic achievement and socio-emotional development) on the other hand. Qualitative research on the "black box" was conducted by Roney, Anfara, and Brown (2002) and Brown, Roney, and Anfara (2003) who further uncovered the "necessary but not sufficient nature" of *Turning Points* components. According to Stevenson and Erb and Felner and associates, the "black box" is filled with issues related to (a) teacher quality of life and job satisfaction, (b) school and classroom climate, (c) student and school supports, resources, and stressors. To this list, the Roney, Brown, and Anfara group (2002, 2003) added a rigorous curriculum, high expectations and confidence in the ability of students to succeed, commitment to students, and low levels of resistance to reform.

If, indeed, we recognize the "necessary but not sufficient" nature of *Turning Points'* recommendations we must be more concerned that those who are implementing and evaluating this reform understand this dynamic. We need to pay attention to what is in the "black box" that exists between *Turning Points'* recommendations and the desired student outcomes. Pushing this issue to its limits, Roney, Anfara, and Brown (2002) questioned the "necessary" nature of *Turning Points* components and challenged middle level researchers and practitioners to consider the "not necessary and not sufficient" nature of *Turning Points*. In short, what we are looking for, among other things, includes teachers who have a sense of efficacy and experience job satisfaction, a rigorous curriculum, high expectations of students, and a positive school climate. These are the conditions that research has more directly linked to improved student outcomes. How we achieve the desired results, then, becomes somewhat a matter of choice. There are, indeed, multiple paths that may be taken to achieve the desired results.

National Middle School Association
4151 Executive Parkway, Suite 300 · Westerville, Ohio 43081 · Tel: 614-895-4730 · FAX: 614-895-4750 · 1-800-528-NMSA · © 2005

ON TARGET
STUDENT ACHIEVEMENT

Critical Question #3: Is the inconclusiveness of the research due to variables that are not controlled for?

Stephens and Jenkins (1994) concluded their article with the reminder that "the powerful relationship between poverty and diminished school achievement present in this study, though often documented, remains troubling" (p. 71). Hough and Sills-Briegel (1997) also concluded that socioeconomic status is problematic in research of this nature. Roney, Anfara, and Brown (2002) admitted that a limitation of their study was the inability to control for socioeconomic status; finding a high performing middle school (excluding magnet schools) that fit the criteria of being economically deprived. Russell (1997) offered another confounding factor when she wrote, "Middle level programming likely plays a role in the enhancement of student achievement, although the primary predictor remains students' entering achievement levels" (p. 185).

What these aforementioned authors flirt with, but fail to mention, is that from birth to age 18, schooling accounts for about 9% of a student's life experience (Bracey, 1998). Put another way, if schooling accounts for about 9% of the variance on standardized achievement tests what accounts for the other 91% of the variance? The answer resides in such variables as family income, educational level of parents, poverty (as in the setting in which school is situated), motivation, personal hygiene and health, and cultural factors. In terms of the studies we presently have available, any one, or all, of the aforementioned list may become moderating or confounding variables.

We should not forget that "although the SES of the community is important in predicting student achievement, so too are aspects of the organizational health of middle schools. Teacher affiliation, resource support, academic emphasis, and institutional integrity all make significant contributions to various aspects of student achievement independently of the wealth of the district" (Hoy & Hannum, 1997, pp. 307-308). This reminder is especially important because it seems easier to improve the health of middle schools than it is to change the socioeconomic character of a community.

CONCLUDING DISCUSSION

Earlier we quoted Williamson, Johnston, and Kanthak (1995): "Student achievement must be given the highest priority in the mission of the middle level school" (p. 6). While researchers like Felner and associates (1997) and Mertens and associates (1998) have looked at socio-emotional and behavioral outcomes, student academic achievement, as measured by some form of standardized test, has been the primary focus of most of the research reviewed in this article. These two facts in addition to the recent passage of *No Child Left Behind* (2002), with its attendant pre-occupation with academic achievement, compels us to end this article with a brief discussion of standardized testing. For a more complete discussion, readers are encouraged to read Bracey's (1998) book *Put to the Test.*

If student academic achievement must be given the highest priority then the instruments used to measure this achievement should be given the same high priority in our "research of practice and our practice of research." We call upon our colleagues and policymakers to challenge and question the following uses associated with standardized testing:

1. Standardized tests as a tool for monitoring teacher's perceptions and judgments of their students.
2. Standardized tests as a tool for teacher accountability.

National Middle School Association
4151 Executive Parkway, Suite 300 · Westerville, Ohio 43081 · Tel: 614-895-4730 · FAX: 614-895-4750 · 1-800-528-NMSA · © 2005

ON TARGET
STUDENT ACHIEVEMENT

3. Standardized tests as a tool for student accountability (i.e., promotion and retention).
4. tandardized tests as a tool for selection decisions (i.e., placement, ability groups, tracking).

Student academic achievement, as defined and measured by standardized testing, may be our current emphasis (in response to the political context), but it cannot be gained at the expense of bypassing the needed debates regarding how to more broadly and holistically define and assess student achievement—be it in the realm of practice or research of middle level education. This definition is central to answering the question, "Does the middle school concept work?"

We cannot lose sight of what the middle school concept is all about—the development of the whole child. As middle level advocates, policymakers, practitioners, and researchers we must reaffirm our commitment to the desired results of improved academic performance and socio-emotional growth. Long before the *No Child Left Behind Act of 2001*, the Carnegie Council on Adolescent Development (1989) issued a clarion call to "transform middle grade schools … and welcome into the mainstream of society those who might otherwise be left behind" (p. 11). We need to remember the goals that the Carnegie Council established: "Our 15-year-old will be: an intellectually reflective person, a person enroute to a lifetime of meaningful work, a good citizen, a caring and ethical individual, and a healthy person" (p. 15).

REFERENCES

Alexander, W. M., & George, P. S. (1981). *The exemplary middle school.* New York: Holt, Rinehart, Winston.

Alexander, W. M., & McEwin, K. (1989). *Earmarks of schools in the middle: A research report.* Boone, NC: Appalachian State University.

Allen, M. G., & Sheppard, R. (1991). *Profile of Georgia schools in the middle: A research report.* Statesboro, GA: Georgia Southern University.

Alspaugh, J. W., & Harting, R. D. (1998). Interdisciplinary team teaching versus departmentalization in middle schools. *Research in Middle Level Education Quarterly, 21*(4), 31-42.

Andrews, R. L., & Morfield, J. (1991). Effective leadership for effective urban schools. *Education and Urban Society, 23*(3), 270-278.

Arhar, J. M., Johnston, J. H., & Markle, G. C. (1989). The effects of teaming on students. *Middle School Journal, 20*(3), 24-27.

Ashton, P. T., & Webb, R. B. (1986). *Making a difference: Teachers' sense of efficacy and student achievement.* New York: Longman.

Backes, J., Ralston, A., & Ingwalson, G. (1999). Middle level reform: The impact on student achievement. *Research in Middle Level Education Quarterly, 22*(3), 43-57.

Bracey, G. W. (1998). *Put to the test: An educators and consumers guide to standardized testing.* Bloomington, IN: Phi Delta Kappa.

Bradley, A. (1998). "Muddle in the middle." *Education Week* on the Web, Retrieved May 8, 2003, from http://www.edweek.org/ew/vol-17/31middle.h17

National Middle School Association
4151 Executive Parkway, Suite 300 · Westerville, Ohio 43081 · Tel: 614-895-4730 · FAX: 614-895-4750 · 1-800-528-NMSA · © 2005

Brown, K. M., Roney, K., & Anfara, V. A. (2003). Organizational health directly influences student performance at the middle level. *Middle School Journal, 34*(5), 5-15.

Carnegie Council on Adolescent Development. (1989). *Turning points: Preparing American youth for the 21st century.* New York: Carnegie Corporation.

Clark, S. N., & Clark, D. C. (1992). The Pontoon Transitional Design: A missing link in the research on interdisciplinary teaming. *Research in Middle Level Education Quarterly, 15*(2), 57-81.

Cotton, K. (1982). *Effects of interdisciplinary team teaching, research synthesis.* Portland, OR: Northwest Regional Lab. (ERIC Document Reproduction Services No. ED230533)

Felner, R., Jackson, A. W., Kasak, D., Mulhall, P., Brand, S., & Flowers, N. (1997). The impact of school reform for the middle grades: A longitudinal study of a network engaged in *Turning Points*-based comprehensive school transformation. In R. Takanishi and D. A. Hamburg (Eds.), *Preparing adolescents for the twenty-first century: Challenges facing Europe and the United States* (pp. 38-69). Cambridge, UK: Cambridge University Press.

Hough, D., & Sills-Briegel, T. (1997). Student achievement and middle level programs, policies, and practices in rural America: The case of community-based versus consolidated organizations. *Journal of Research in Rural Education, 13*(1), 64-70.

Hoy, W. K., & Hannum, J. W. (1997). Middle school climate: An empirical assessment of organizational health and student achievement. *Educational Administration Quarterly, 33*(3), 290-311.

Killion, J., & Hirsh, S. (1998). A crack in the middle. *Education Week*, pp. 44-48.

Lee, V. E., & Smith, J. B. (1993). Effects of school restructuring on the achievement and engagement of middle-grade students. *Sociology of Education, 66*(3), 164-187.

Lipsitz, J., Mizell, M. H., Jackson, A., & Austin, L. M. (1997). Speaking with one voice: A manifesto for middle-grades reform. *Phi Delta Kappan, 78*, 533-540.

Mertens, S. B., Flowers, N., & Mulhall, P. (1998). *The Middle Start Initiative, phase 1: A longitudinal analysis of Michigan middle-level schools.* (A report to the W.K. Kellogg Foundation). Urbana, IL: University of Illinois.

National Middle School Association. (1982). *This we believe*. Columbus, OH: Author.

National Middle School Association. (1995). *This we believe: Developmentally responsive middle level schools*. Columbus, OH: Author.

National Middle School Association. (2002). *NMSA research summary #12: Academic achievement*. Retrieved May 8, 2003, from http://www.nmsa.org

No child left behind act of 2001, Pub. L. No. 107-110, 115 Stat. 1425 (2002).

Roney, K., Anfara, V. A.`, Jr., & Brown, K. (2002, April). *Revealing what's in the black box: The middle school movement and high student achievement.* Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.

Rosenholtz, S. J. (1989). *Teachers' workplace: The social organization of schools*. New York: Longman.

National Middle School Association
4151 Executive Parkway, Suite 300 · Westerville, Ohio 43081 · Tel: 614-895-4730 · FAX: 614-895-4750 · 1-800-528-NMSA · © 2005

ON TARGET
STUDENT ACHIEVEMENT

Russell, J. F. (1997). Relationships between the implementation of middle-level program concepts and student achievement. *Journal of Curriculum and Supervision, 12*(2), 169-185.

Stephens, J. C., Jr., & Jenkins, S. J. (1994). Affective middle grades program elements and criterion based achievement in Georgia schools. *Reading Improvement, 31*(2), 66-71.

Stevenson, C., & Erb, T. O. (1998). How implementing *Turning Points* improves student outcomes. *Middle School Journal, 30*(1), 49-52.

Van Zandt, L. M., & Totten, S. (1995). The current status of middle level education research: A critical review. *Research in Middle Level Education Quarterly, 18*(3), 1-25.

Williamson, R. D., Johnston, J. H., & Kanthak, L. M. (1995). The agenda: The achievement agenda for middle level schools. *Schools in the Middle, 5*(2), 6-9.

Vincent A. Anfara, Jr., president of the Middle Level Education Research Special Interest Group of AERA and a member of the NMSA Research Committee, is associate professor of educational administration & policy studies at the University of Tennessee, Knoxville. E-mail: Vanfara@utk.edu

Richard P. Lipka is professor of education in the Department of Special Services and Leadership Studies at Pittsburg State University, Pittsburg, Kansas. E-mail: rplipka@pittstate.edu

Original publication information:
Anfara, V. A., & Lipka, R. P. (2003). Relating the middle school concept to student achievement. *Middle School Journal, 35*(1), 24-32.

National Middle School Association
4151 Executive Parkway, Suite 300 · Westerville, Ohio 43081 · Tel: 614-895-4730 · FAX: 614-895-4750 · 1-800-528-NMSA · © 2005