MONTGOMERY COUNTY PUBLIC SCHOOLS

# Evaluation Brief

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## Closing the Racial Achievement Gap in Montgomery County Public Schools: Characteristics of Middle Schools With Sustained Success

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**Executive Summary**

The Office of Shared Accountability conducted a study to identify characteristics of middle schools with sustained success in narrowing the achievement gap between Asian American and White students and African American and Hispanic students. The study explored whether middle schools that closed the gap differed from middle schools that did not close the gap on a variety of policies, strategies, and practices.

During spring 2011, members of the teaching staff at each Montgomery County Public Schools (MCPS) middle school completed an online survey about a variety of school-level policies, strategies, and practices. Survey items were identified from a detailed synthesis of research with empirical evidence for the effectiveness of strategies to narrow the racial achievement gap in middle schools.

Middle schools that closed the gap were identified as those schools in which all students improved over time, while African American or Hispanic students improved at a higher rate, on at least one data point. These data points related to performance on Maryland School Assessment (MSA) tests in reading or mathematics or in Algebra 1 or higher mathematics classes.

The significant differences between middle schools that closed the gap and the remaining middle schools on survey items suggested three characteristic themes. One theme was school leadership for learning, teaching, and equity. Respondents at schools that closed the gap—

- viewed their principals as stronger in supporting student needs and teacher capacity and involving parents and the community,
- reported a greater emphasis on closing the racial achievement gap as a primary goal for the school and setting measurable goals to do so, and
- reported more opportunities to discuss race and ethnicity and more focus on closing the racial achievement gap as part of recent changes at their school.

A second theme was teacher support for use of data. Respondents at middle schools that closed the gap—

- more frequently identified two topics—data analysis and teacher collaboration—as a major focus of recent changes at their school;
- attended more professional development on three topics: analysis of data for underperforming students, linking data on underperforming students with instructional strategies, and monitoring instruction;
- more strongly agreed that school leadership fosters a collaborative work environment;
- more often visited colleagues' classrooms to observe instructional strategies; and
- responded more positively about collaboration as a professional learning community.

The third theme was school culture. The culture at middle schools that closed the gap appeared closer to one of "high academic press and high personalization" (Murphy, 2009, p. 252). Such a culture sets high expectations and standards for students, yet is caring and personalized, for both school staff and students. Respondents at middle schools that closed the gap—

- attended more sessions on ways to communicate high expectations to all students;
- more strongly agreed that they search for students' strengths and talents, they could talk openly with school leaders, and the principal widely communicates high expectations; and
- more frequently used student peer groups and communication with students about the importance of rigorous instruction as ways to encourage enrollment in rigorous courses.

The recommended next step is to collect information that is more detailed on the specific strategies, structures, and processes used by the middle schools that closed the gap to achieve their results.

## Background

The MCPS strategic plan, *Our Call to Action: Pursuit of Excellence* (MCPS, 2011), presents the system's Framework for Equity and Excellence. Equity refers to high expectations and access to meaningful and relevant learning for all students so that outcomes are not predictable by race, ethnicity, gender, socioeconomic status, language proficiency, or disability. Excellence depends on high standards to ensure that all students grow to their highest level every year and graduate ready for college or a career.

To monitor progress in promoting equity and excellence, MCPS has identified a series of milestones of academic success, known as the Seven Keys to College and Career Readiness (Seven Keys) (MCPS, 2009). The Seven Keys, which cover all grade levels, serve as a guide for staff and parents to ensure all students achieve at high levels. Two keys for middle school students are Key 2, scoring advanced on the MSA in reading and Key 4, completing Algebra 1 (or higher) by Grade 8 with a grade of C or higher.

The goal of the Seven Keys is to set advanced rather than proficient standards and to ensure that results are not predictable for any group (MCPS, 2011). MCPS is committed, in particular, to eliminating the achievement gap between Asian and White students and Black or African American and Hispanic/Latino students. Because of MCPS's progress in closing the racial achievement gap, the district was one of five finalists for the 2010 Broad Prize in Urban Education. To build on this success and to provide direction for future success, this study will identify characteristics of middle schools with sustained success in narrowing the racial achievement gap on important middle school data points.

In the 2010–2011 school year, there were 38 middle schools in MCPS serving 30,550 students in Grades 6 through 8. Of these students, 11.6% were enrolled in special education programs, 4.7% were enrolled in the English for Speakers of Other Languages (ESOL) program, and 29.9% received Free and Reduced-price Meals System (FARMS) services. An additional 10.5% had received FARMS services in the past, but were not receiving services in 2010–2011. The middle school student body was racially and ethnically diverse: 0.2% American Indian or Alaskan Native, 14.3% Asian, 22.2% Black or African American, 23.8% Hispanic/Latino, 35.2% White, and 4.3% Two or More (Multiple) Races.

## Review of Literature

A review of literature on the racial achievement gap, with a focus on studies that provided empirical evidence for narrowing the racial achievement gap in middle schools, identified the following school-based policies, strategies, or practices:[1]

- Leadership within school for equity
- Principal's leadership
- Parental involvement in student learning
- Professional development
- School focus
- School's culture
- Teacher and principal expectations
- Teacher use of data

The following study was used to guide data collection. Symonds (2004) examined school-level policies and strategies at 32 K–8 schools in California. Up to three teachers at each school completed a survey about policies and strategies that might contribute to closing the racial achievement gap. Survey responses were analyzed for differences between gap-closing and non-gap-closing schools. The former were defined as those in which all students improved over time, but a significant subgroup (e.g., Hispanic/Latino) improved at a higher rate. Gap-closing schools were distinguished by three factors: teacher support for use of data, leadership for equity, and school focus.

## Study Questions

Based on the literature, this study addressed two questions:

1. Do middle schools that closed the gap differ from other middle schools on academic school-level policies, strategies, or practices? If so, what are those policies, strategies, or practices?

2. Do middle schools that closed the gap differ from other middle schools on environmental or cultural school-level policies, strategies, or practices? If so, what are those policies, strategies, or practices?

[1] The full literature review is available from the author.

## Methodology

*School Identification*

Each of the 38 MCPS middle schools was identified as a middle school that closed the gap or a middle school that did not close the gap using a two-step process. The first step was to identify schools with an increase versus the previous year for all students for each of three school years: 2010–2011, 2009–2010, and 2008–2009. This increase had to be on at least one of the following strategic middle school data points:

- Percentage of students scoring proficient or advanced on the reading MSA
- Percentage of students scoring proficient or advanced on the mathematics MSA
- Percentage of students scoring advanced on the reading MSA
- Percentage of students scoring advanced on the mathematics MSA
- Percentage of students completing Algebra 1 or higher with a grade of C or higher

The second step was to identify schools with three years of gap-closing increases, defined as increases for the subgroups of African American or Hispanic students on the same measure identified in the previous step, but at a higher rate for the subgroup than the increase for all students on that measure.[2]

Thus, middle schools that closed the gap were defined as schools in which all students improved over time, while African American or Hispanic students improved at a higher rate, on at least one strategic, middle school data point. If the rate of increase is the same for all subgroups, gaps between subgroups will remain.

Using the identification process, there were 10 middle schools that closed the gap; performance details for these schools are in Appendix A. For each data point, schools that did not close the gap included those in which, for any of the three years under study, either performance for all students did not increase, performance for the subgroups of interest did not increase, or performance for the subgroups of interest increased at a rate lower than the rate of increase for all students.

*Data Collection*

Data was collected during spring 2011 through an online survey. It concerned a variety of school-level strategies, practices, and policies that reflected findings from the literature review and input from program staff on the Middle School Instruction and Achievement team and in the Equity Initiatives unit. This method increased the content and construct validity of the survey items. Most items referred to the last three school years including 2010–2011.

Respondents were identified using the key informant technique, as in Symonds' (2004) study. The principal at each school identified three staff members to complete the survey, including at least one staff member who was not a current member of the school's Instructional Leadership Team. All respondents had to meet the following criteria:

- Be instructional staff members
- Be in at least the third year of working at the school
- Have been involved with any recent systemic change(s) at the school

Out of 114 (38 times 3) possible respondents, 105 staff members completed surveys, for a 92% response rate. Each survey was identified by school, but specific respondents were anonymous. However, not all criteria for respondents were met. At 11 schools, all respondents were current members of the school's Instructional Leadership Team. Further, five respondents were in their first or second year of working at the school. Four of these respondents were excluded; one was included because his/her school had only one other respondent. Thus, the final sample used for analysis included at least two respondents from each school and totaled 101 respondents: 28 at middle schools that closed the gap and 73 at the remaining schools. Not all respondents answered each survey item. For brevity, the exact number of respondents is not included in the result tables.

[2] Because the study used data from school years 2007–2008, 2008–2009, and 2009–2010, race codes from those years were used.

*Analysis*

The majority of items on the survey used an eight-point scale to measure frequency or extent of agreement with the question. Many items had the following responses options:

- Very strongly agree
- Strongly agree
- Agree
- Slightly agree
- Slightly disagree
- Disagree
- Strongly disagree
- Very strongly disagree

For items with an eight-point response scale, t-tests were used to test for statistically significant differences between respondents at middle schools that closed the gap and those at the remaining schools. For each t-test, the degrees of freedom equal the sum of the respondents in both groups minus two. For example, for a t-test involving 101 respondents, the degrees of freedom equals 99, as shown in the following expression: $t(99) = 1.52$.

For survey items with two response choices (e.g., yes or no), a $\chi^2$ test was used to test for statistically significant differences between respondents from the two groups of schools. For each $\chi^2$ test, the degrees of freedom, which equals the number of response choices minus one, is reported along with the number of respondents, represented as $N$. For example, the degrees of freedom equals one, in the following expression: $\chi^2(1, N = 101) = 6.98$.

The $p$ value for statistically significant differences was set at .10, as used in Symonds (2004).

For all items, Cohen's $d$ was the measure of effect size; the magnitude of the effect size indicated whether differences between the two groups of schools were large enough to be of practical significance to educators (American Psychological Association, 2001). Because sample sizes influence statistical significance, it is useful to consider practical significance as well. Cohen (1988) proposed the following guidelines for $d$: .20, .50, and .80 correspond to small, medium, and large effect sizes, respectively. A value of .25 was used to identify practically significant differences. See Appendix B for details on calculations of effect sizes.

**Results**

*Question 1: Differences in Academic Strategies*

*Principal's leadership*. Respondents at schools that closed the gap rated their principal more highly as a leader on several items than did respondents at other schools (Table 1). Differences between the two groups were statistically and practically significant for three items: placing the needs of students ahead of other interests, $t(97) = 3.28$, $p < .01$, $d = .50$; understanding the needs of adolescent learners, $t(81) = 2.49$, $p < .05$, $d = .44$; and commitment to building teacher capacity, $t(98) = 1.78$, $p < .08$, $d = .39$. The difference was practically significant but not statistically significant for actively promotes parental and community involvement, $d = .32$.

Table 1
Agreement with Items about Principal's Leadership, by Gap-closing Status

| | Gap-closing | | |
|---|---|---|---|
| | Yes $N = 28$ | No $N = 73$ | |
| The principal… | Mean (SD) | Mean (SD) | Diff. in mean |
| places the needs of our students ahead of personal and political interests. | 7.5 (0.6) | 6.7 (1.9) | 0.82*** |
| understands the needs of the adolescent learners in our building. | 7.4 (0.9) | 6.8 (1.5) | 0.62** |
| is committed to building teacher capacity. | 7.4 (1.0) | 6.9 (1.3) | 0.50* |
| actively promotes parent and community involvement. | 7.2 (1.0) | 6.8 (1.3) | 0.38 |
| is the instructional leader in the school. | 6.7 (1.1) | 6.3 (1.9) | 0.35 |
| has confidence in the expertise of teachers in this school. | 7.1 (1.2) | 6.8 (1.3) | 0.13 |

*Note*. SD = standard deviation. Diff. = difference between groups. Response options: Very strongly disagree (1) to Very strongly agree (8)
*$p < .10$. **$p < .05$. ***$p < .01$.

*Leadership within school for equity*. According to teacher reports, leaders at middle schools that closed the gap focused more on equity than those at remaining schools (Table 2). The difference for setting measurable goals for closing the racial achievement gap was statistically, $t(96) = 2.34$, $p < .05$, and practically, $d = 0.51$, significant. The differences for two other items were large enough to be practically significant: closing the (racial) achievement gap as a primary goal, $d = .36$, and providing structured opportunities to discuss race/ethnicity, $d = .29$.

Table 2
Agreement with Items about Leadership for Equity, by Gap-closing Status

| Item | Gap-closing Yes *N* = 28 Mean (SD) | Gap-closing No *N* =73 Mean (SD) | Diff. in mean |
|---|---|---|---|
| Leaders at my school set measurable goals for closing the achievement gap between AA or HI students and W/A students. | 7.1 (1.1) | 6.4 (1.4) | 0.70** |
| Closing the achievement gap between AA or Hisp students and W/A students has been a primary goal for leaders at my school. | 7.4 (0.7) | 7.1 (1.1) | 0.40 |
| Leaders at my school provided structured opportunities for staff members to discuss race and ethnicity. | 6.8 (1.1) | 6.4 (1.5) | 0.36 |
| Leaders at my school encouraged or led schoolwide inquiry into the achievement gap between AA or Hisp students and W/A students. | 6.6 (1.2) | 6.4 (1.4) | 0.27 |
| People of color (i.e., AA or Hisp) hold positions of leadership at my school. | 7.1 (1.1) | 7.1 (1.0) | -0.02 |

*Note*. AA = African American. Hisp = Hispanic. W/A = White or Asian American. Abbreviations not used on survey.
SD = standard deviation. Diff. = difference between groups.
Response options: Very strongly disagree (1) to Very strongly agree (8)
*$p < .10$. **$p < .05$. ***$p < .01$.

*Shared leadership*. Schools that closed the gap and schools that did not had limited differences on the extent of shared leadership (Table 3). There was a higher level of agreement among respondents at schools that closed the gap that leadership fostered a collaborative work environment; this difference was statistically, $t(67) = 1.98$, $p < .05$ and practically, $d = .38$, significant. Differences on the other items were not statistically or practically significant.

Table 3
Agreement with Items about Shared Leadership, by Gap-closing Status

| School leadership… | Gap-closing Yes *N* = 28 Mean (SD) | Gap-closing No *N* = 73 Mean (SD) | Diff. in mean |
|---|---|---|---|
| fosters a collaborative work environment. | 7.1 (1.0) | 6.6 (1.3) | 0.47** |
| believes that using a shared leadership approach for decision making is too time consuming. | 3.5 (2.0) | 3.1 (1.6) | 0.41 |
| seeks input from multiple stakeholders for the decision-making process. | 6.7 (1.2) | 6.4 (1.2) | 0.27 |

*Note*. SD = standard deviation. Diff. = difference between groups.
Response options: Very strongly disagree (1) to Very strongly agree (8)
*$p < .10$. **$p < .05$. ***$p < .01$.

*Focus of recent school changes or reforms.* Respondents provided information about recent changes, reforms, new initiatives, or new programs at their school. For each of several topics, the respondent indicated whether it was a major focus, moderate focus, minor focus, or not at all a focus of recent changes. More respondents at middle schools that closed the gap, compared to those at the remaining schools, identified each of four topics as a major focus of recent changes (Table 4). The differences were statistically and practically significant for two topics: data analysis $\chi^2(1, N = 101) = 6.98$, $p < .01$, $d = 1.28$ and teacher collaboration $\chi^2(1, N = 98) = 2.64$, $p \leq .10$, $d = .40$. The difference between the two groups of schools was practically significant for two other topics: monitoring of instruction $d = .33$ and closing racial achievement gap $d = .32$.

Table 4
Major Focus of Recent School Changes, by Gap-closing Status

| Major focus of recent school changes | Gap-closing Yes *N* = 28 *n* | Yes *N* = 28 % | No *N* = 73 *n* | No *N* = 73 % | Diff. in % |
|---|---|---|---|---|---|
| Data analysis | 27 | 96.4 | 53 | 72.6 | 23.8*** |
| Teacher collaboration | 15 | 53.6 | 25 | 34.2 | 19.4* |
| Monitoring of instruction | 16 | 57.1 | 31 | 42.5 | 14.6 |
| Closing racial achievement gap | 23 | 82.1 | 52 | 71.2 | 10.9 |
| Literacy or reading instruction | 14 | 50.0 | 30 | 41.1 | 8.9 |
| Rigorous instruction | 15 | 53.6 | 37 | 50.7 | 2.9 |
| School climate | 8 | 28.6 | 20 | 27.4 | 1.2 |
| Mathematics instruction | 22 | 78.6 | 58 | 79.5 | -0.9 |
| Shared leadership | 6 | 21.4 | 18 | 24.7 | -3.3 |

*Note*. Diff.in % = difference in percentage points between groups.
*$p < .10$. **$p < .05$. ***$p < .01$.

Respondents also described the strategies that they thought were most important for their school's focus to close the achievement gap between African American or Hispanic students and White or Asian students. Each strategy was coded as inside-school or outside-school. The former are within the control of school staff and include reading programs or instructional strategies. The latter, which are outside the control of school staff, include parental involvement or home support of student learning. More respondents at middle schools that closed the gap (75%) than at the remaining schools (64%) identified only inside-school factors as most important for closing the racial achievement gap. This difference was practically significant $d = .28$, but not statistically significant.

*Activities to ensure access to rigorous instruction.* Activities to ensure access to rigorous instruction for students of all racial/ethnic groups differed between the two groups of schools (Table 5). More respondents at middle schools that closed the gap reported using activities with students. The

difference for using student peer groups was statistically significant, $\chi^2(1, N = 101) = 3.16$, p< .10, and practically, $d = .55$. The difference for meetings or other communications with students was practically significant, $d = .25$. Fewer respondents at middle schools that closed the gap reported using meetings or other communications with parents; this difference was practically significant, $d = -.29$. Lastly, fewer respondents at middle schools that closed the gap reported using staff meetings on placement; this difference was statistically $\chi^2(1, N = 101) = 4.51$, $p < .05$ and practically significant $d = -.60$.

Table 5
Use of Activities to Ensure Access to Rigorous Instruction, by Gap-closing Status

| | Gap-closing | | | | |
|---|---|---|---|---|---|
| | Yes $N = 28$ | | No $N = 73$ | | Diff. in % |
| Activity | *n* | % | *n* | % | |
| Using student peer groups to encourage enrollment in rigorous courses | 7 | 25.0 | 8 | 11.0 | 14.0* |
| Meetings or other communication with students about the importance of rigorous instruction | 22 | 78.6 | 51 | 69.9 | 8.7 |
| Use of a structured tool or approach to make articulation decisions | 19 | 67.9 | 47 | 64.4 | 3.5 |
| Staff meetings to discuss student work | 19 | 67.9 | 47 | 64.4 | 3.5 |
| Consistently using the same data points to place students | 20 | 71.4 | 56 | 76.7 | -5.3 |
| Meetings or other communication with parents about the importance of rigorous instruction | 14 | 50.0 | 46 | 63.0 | -13.0 |
| Staff meetings on placement and articulation | 19 | 67.9 | 63 | 86.3 | -18.4** |

*Note*. Diff.in % = difference in percentage points between groups.
Response options: Yes or No for each activity.
*$p < .10$. **$p < .05$. ***$p < .01$.

*Teacher attendance at professional development*. Respondents at middle schools that closed the gap, compared to respondents at the other schools, attended more professional development sessions on three topics (Table 6). The difference for ways to communicate high expectations to all students was statistically, t(35 = 1.73, $p < .10$, and practically, $d = .47$, significant. Two other differences were practically significant: linking data with instructional strategies, $d = .46$, and analysis of data for underperforming students, $d = .33$.

Table 6
Number of Professional Development Sessions Attended, by Gap-closing Status

| | Gap-closing | | |
|---|---|---|---|
| | Yes $N = 28$ | No $N = 73$ | Diff. in mean |
| Topic of session | Mean (SD) | Mean (SD) | |
| Ways to communicate high expectations to all students | 11.6 (15.7) | 6.2 (9.2) | 5.4* |
| Linking data on underperforming students with instructional strategies | 12.6 (16.1) | 7.7 (7.3) | 4.9 |
| Analysis of data for underperforming students | 18.0 (17.8) | 13.2 (12.7) | 4.8 |
| Instructing racially & culturally diverse groups of students | 12.2 (11.9) | 10.2 (12.0) | 2.0 |
| Literacy programs or strategies | 7.6 (8.8) | 7.3 (9.7) | 0.3 |
| Understanding race and racial identity | 8.4 (7.6) | 8.6 (10.5) | -0.2 |

*Note*. SD = standard deviation. Diff. = difference between groups.
Response options: Self-selected number; range was 0 to 60.
*$p < .10$. **$p < .05$. ***$p < .01$.

*Teacher use of data*. Teachers reported on the annual frequency of several activities that support the use of data. Their response options were: Never, Once or twice a year, Three or four times a year, About once a month, A few times a month, A few times a week, Almost every day, or Every day. The frequency of most of these activities did not differ significantly between the two groups of schools (Table 7). Respondents at middle schools that closed the gap did visit colleagues' classrooms more frequently; this difference was practically significant, $d = .32$.

Table 7
Annual Frequency of Teacher Activities That Support Use of Data, by Gap-closing Status

| | Gap-closing | | |
|---|---|---|---|
| | Yes $N = 28$ | No $N = 73$ | Diff. in mean |
| Activity | Mean (SD) | Mean (SD) | |
| Visit colleagues' classrooms to observe instructional strategies | 24.6 (48.6) | 13.8 (24.7) | 10.8 |
| Use data to understand the skill gaps of underperforming students, disaggregated by racial/ethnic groups | 44.5 (59.6) | 37.5 (54.2) | 7.0 |
| Discuss with colleagues achievement data on underperforming students, disaggregated by racial/ethnic groups | 30.9 (44.6) | 31.4 (45.0) | - 0.5 |
| Administer ongoing formative assessments to students | 76.4 (64.4) | 89.1 (58.3) | -12.7 |

*Note*. SD = standard deviation. Diff. = difference between groups.
Response options: Eight point scale, ranging from never to everyday.

*Teacher collaboration*. Collaboration as a professional learning community was somewhat higher at schools that closed the gap than at the other schools (Table 8). The difference for the item on ground rules and protocols was practically significant, $d = .25$, and close to practically

significant for the item on working interdependently, $d = .24$.

Table 8
Agreement with Items about Collaboration as a Professional Learning Community, by Gap-closing Status

| Item | Gap-closing Yes $N = 28$ Mean (SD) | Gap-closing No $N = 73$ Mean (SD) | Diff. in mean |
|---|---|---|---|
| I am a member of teams that develop, adopt, and observe ground rules and protocols that clarify how we will work together and fulfill our responsibilities. | 6.8 (1.5) | 6.4 (1.3) | 0.34 |
| I am a member of collaborative teams that work interdependently to achieve common goals set by the team. | 7.0 (1.1) | 6.8 (1.2) | 0.29 |
| School improvement is viewed as a collective responsibility of all staff members. | 6.5 (1.0) | 6.4 (1.3) | 0.10 |

*Note*. SD = standard deviation. Diff. = difference between groups. Response options: Very strongly disagree (1) to Very strongly agree (8).

*Question2: Differences in Environmental or Cultural Strategies*

*Teacher and principal expectations.* There was a higher level of agreement among respondents at middle schools that closed the gap that the principal widely communicates high expectations, than among teachers at the other schools (Table 9). This difference was practically significant, $d = .35$. Responses about teacher expectations did not differ significantly between the two groups of schools.

Table 9
Agreement with Items about Teacher and Principal Expectations, by Gap-closing Status

| Item | Gap-closing Yes $N = 28$ Mean (SD) | Gap-closing No $N = 73$ Mean (SD) | Diff. in mean |
|---|---|---|---|
| The principal widely communicates high expectations for all students. | 7.4 (0.8) | 7.0 (1.4) | 0.43 |
| I widely communicate that I have high expectations for every student's academic performance. | 7.7 (0.6) | 7.5 (0.7) | 0.15 |
| Even if parents can't make it to school for a visit, I make sure that they understand what my expectations are for their student's academic performance. | 7.0 (1.2) | 7.0 (1.1) | 0.04 |

*Note* SD = standard deviation. Diff. = difference between groups. Response options: Very strongly disagree (1) to Very strongly agree (8).

*School culture*. The culture at middle schools that closed the gap was described as more caring and trusting, than at the other schools (Table 10).

Table 10
Agreement with Items about School Culture, by Gap-closing Status

| Item | Gap-closing Yes $N = 28$ Mean (SD) | Gap-closing No $N = 73$ Mean (SD) | Diff. in mean |
|---|---|---|---|
| I can talk openly with my school leaders about school-related matters. | 7.4 (1.0) | 6.8 (1.3) | 0.56** |
| I feel comfortable sharing my ideas with other staff members at my school. | 7.2 (0.8) | 7.0 (1.0) | 0.26 |
| I search for strengths and talents in each of my students. | 7.5 (0.7) | 7.3 (0.9) | 0.24 |
| It's important for me to know something about each student and his or her life. | 7.3 (1.2) | 7.2 (1.3) | 0.08 |
| I have so many students that it is impossible to help each one succeed. | 3.0 (1.8) | 3.3 (1.9) | -0.30 |

*Note*. SD = standard deviation. Diff. = difference between groups. Response options: Very strongly disagree (1) to Very strongly agree (8).
*$p < .10$. **$p < .05$. ***$p < .01$.

The difference between schools on ability to talk openly with school leaders was statistically $t(67) = 2.36$, $p < .05$, and practically, $d = 0.42$, significant. Differences for two more items were practically significant: sharing ideas with other staff members, $d = .27$, and searching for students' strengths and talents $d = .29$.

On average, respondents were mentors for 1.9 years at middle schools that closed the gap and for 1.7 years at the other schools, out of the last three years. Among mentors, the average number of meetings with mentees (during the most recent year as a mentor) was 87.1 at middle schools that closed the gap and 75.9 at the other schools. However, these differences were nonsignificant.

*Parental involvement in student learning.*

In an open-ended question, respondents described their school's three most recent after-school or evening meetings or events for parents and students; the focus of each event was coded as academic (e.g., learn about school curriculum), partially or potentially academic (e.g., book fair), or non-academic (e.g., sporting event). On average, more of the reported parent activities at middle schools that closed the gap had an academic focus (mean = 2.3), than at the other schools (mean = 1.7). This difference was practically significant, $d = .45$, but not statistically significant.

For other items about parental involvement in student learning, responses at schools that closed the gap were similar to other schools (Table 11).

Table 11
Agreement with Items about Parental Involvement in Student Learning, by Gap-closing Status

| Item | Gap-closing Yes *N* = 28 Mean (SD) | Gap-closing No *N* = 73 Mean (SD) | Diff. in mean |
|---|---|---|---|
| Parents of our students understand that we expect all students to achieve at high levels. | 6.7 (1.0) | 6.5 (1.3) | 0.18 |
| School staff extend themselves to make school a comfortable and welcoming place for parents. | 6.6 (1.0) | 6.5 (1.1) | 0.14 |
| School staff are proactive and skilled in collaborating with parents on ways to support student learning. | 6.2 (1.2) | 6.3 (1.1) | -0.12 |
| School staff are active in removing barriers that hinder parental involvement in school activities. | 5.9 (1.1) | 6.0 (1.2) | -0.14 |
| Parents are partners in the educational decisions that affect their students. | 6.1 (1.4) | 6.3 (1.1) | -0.23 |

*Note*. SD = standard deviation. Diff. = difference between groups. Response options: Very strongly disagree (1) to Very strongly agree (8).

*Limitations*. In interpreting the results, note that principals did not provide direct input nor did the respondents indicate their positions. The results were based on self-reports which can be self-serving; this limitation should not affect comparisons between the two groups of schools, but may affect the absolute levels reported.

**Discussion**

As detailed above, middle schools that closed the gap differed significantly from the other schools on some but not all of the survey items. The differences suggested three themes, as described below.

*School leadership for learning, teaching, and equity*. The first theme related to leadership for learning, teaching, and equity. Respondents at middle schools that closed the gap viewed their principals as stronger in supporting student needs and teacher capacity and involving parents and the community, as indicated by differences on the following items:

- The principal understands the needs of the adolescent learners in our building.
- The principal places the needs of our students ahead of personal and political interests.
- The principal is committed to building teacher capacity.
- The principal actively promotes parent and community involvement.

Further, stronger leadership for equity was described at middle schools that closed the gap. Respondents at these schools reported a greater emphasis on closing the racial achievement gap as a primary goal for the school and setting measurable goals to do so. In addition, staff at middle schools that closed the gap reported more opportunities to discuss race and ethnicity and more focus on closing the racial achievement gap as part of recent changes at their school. These differences reflected responses to the following items:

- Leaders at my school set measurable goals for closing the achievement gap between African American or Hispanic students and White or Asian students.
- Closing the achievement gap between African American or Hispanic students and White or Asian students has been a primary goal for leaders at my school.
- Leaders at my school provided structured opportunities for staff members to discuss race and ethnicity.
- Closing the racial achievement gap was classified as a major focus of recent changes, reforms, new initiatives, or new programs at their school at the school.

*Teacher support for use of data*. The second theme reflected teacher support for the use of data. More respondents at middle schools that closed the gap identified data analysis as a major focus of recent changes, reforms, new initiatives, or new programs at the school. Further, respondents at middle schools that closed the gap attended more professional development sessions on three topics: analysis of data for underperforming students, linking data on underperforming students with instructional strategies, and monitoring instruction. Such training would help teachers to know not only which students are struggling, but which skills they lack, and how to connect their instruction to their students' needs. Specifically, the two groups of schools differed on the following items:

- Number of professional development sessions on linking data on underperforming students with instructional strategies
- Number of professional development sessions on analysis of data for underperforming students
- Number of professional development sessions on monitoring instruction
- Data analysis as a major focus of recent changes at the school

Further, there was more collaboration for discussion and observation among teachers at middle schools that closed the gap. These respondents more

frequently identified teacher collaboration as a major focus of recent changes and more often visited colleagues' classrooms to observe instructional strategies. These differences are based on responses to the following items:

- Teacher collaboration as a major focus of recent changes at the school
- Frequency of visits to colleagues' classrooms to observe instructional strategies

Lastly, respondents at middle schools that closed the gap responded more positively about a collaborative work environment and collaboration as a professional learning community. A collaborative work environment should make it easier for teachers to share challenges and successes, and find ways to achieve success for all students. Specifically, there were differences between the two groups of schools on the following items:

- School leadership fosters a collaborative work environment.
- I am a member of teams that develop, adopt and observe ground rules and protocols that clarify how we will work together and fulfill our responsibilities.
- I am a member of collaborative teams who work interdependently to achieve common goals set by the team.

*School culture of high academic press and high personalization.* Murphy (2009) recommended a culture of "high academic press and high personalization" (p. 252) as one strategy to close the black-white achievement gap. Such a school emphasizes high standards, high expectations, and success for all students, but also is caring, trusting, personalized, and nurturing for students as well as staff. The culture at middle schools that closed the gap appeared closer to this recommendation, as described below.

With respect to expectations, respondents at middle schools that closed the gap more strongly agreed with the following item about their principal's expectations.

- The principal widely communicates high expectations for all students.

Although responses about teacher expectations did not differ significantly between the two groups of schools, respondents at middle schools that closed the gap attended more sessions on ways to communicate high expectations to all students. This focus on expectations may explain why schools that closed the gap more frequently used activities with students to ensure access to rigorous instruction. Specifically, the two groups of schools differed on the following items:

- Number of professional development sessions on ways to communicate high expectations to all students
- Use of student peer groups to encourage enrollment in rigorous courses
- Use of meetings or other communication with students about the importance of rigorous instruction

School culture at middle schools that closed the gap appeared to be more caring and trusting. There was more evidence of collaboration among teachers at middle schools that closed the gap, as noted above. Further, respondents at these schools more strongly agreed that they could talk openly with school leaders and other staff members and that they search for students' strengths and talents. These differences reflected responses to the following items:

- I can talk openly with my school leaders about school-related matters.
- I feel comfortable sharing my ideas with other staff members at my school.
- I search for strengths and talents in each of my students.

Lastly, differences between the two groups on the following measures, although not significant, do suggest a more caring culture at middle schools that closed the gap:

- Number of years as a mentor
- Number of meetings with mentees

**Recommendation**

The recommended next step is to collect information that is more detailed on the specific strategies, structures, and processes used by the middle schools that closed the gap to achieve their results. To understand better their sustained success in closing the racial achievement gap, the next study will examine what schools did, how they did it and what the results were. The goal is to produce detailed descriptions that will be useful to all MPCS middle schools in their efforts to close the racial achievement gap.

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## Appendix A
## Performance of Middle Schools That Closed the Gap

| School | Data Point & Benchmark | Difference in Percentage Points vs. Previous School Year In Percentage of Students that Met Benchmark on Data Point: All Students 2008–2009 | All Students 2009–2010 | All Students 2010–2011 | Subgroup | Subgroup 2008–2009 | Subgroup 2009–2010 | Subgroup 2010–2011 |
|---|---|---|---|---|---|---|---|---|
| 1 | Proficient or advanced on mathematics MSA | 1.0 | 3.3 | 6.8 | AA | 6.2 | 12.8 | 8.4 |
| 2 | Advanced on reading MSA | 2.5 | 12.6 | 8.2 | Hisp | 4.6 | 30.4 | 10.0 |
| 3 | Proficient or advanced on reading MSA | 0.6 | 0.2 | 1.0 | AA | 1.5 | 2.9 | 6.1 |
| 4 | Proficient or advanced on mathematics MSA | 1.0 | 2.8 | 6.3 | Hisp | 1.7 | 3.7 | 7.6 |
| 4 | Proficient or advanced on reading MSA | 2.5 | 6.2 | 1.6 | Hisp | 6.9 | 7.5 | 4.6 |
| 5 | Proficient or advanced on reading MSA | 2.1 | 0.9 | 2.8 | Hisp | 11.6 | 5.3 | 6.5 |
| 6 | Complete Algebra 1 or higher with a grade of C or higher | 16.0 | 5.5 | 0.7 | AA | 37.0 | 12.3 | 2.5 |
| 7 | Proficient or advanced on reading MSA | 4.0 | 4.5 | 0.5 | Hisp | 6.4 | 5.1 | 1.5 |
| 8 | Proficient or advanced on mathematics MSA | 2.5 | 1.7 | 3.1 | Hisp | 8.2 | 8.7 | 6.2 |
| 8 | Proficient or advanced on reading MSA | 2.4 | 1.8 | 2.4 | Hisp | 5.7 | 5.5 | 7.6 |
| 8 | Advanced on mathematics MSA | 8.9 | 8.5 | 4.7 | Hisp | 4.0 | 10.8 | 19.5 |
| 8 | Proficient or advanced on reading MSA | 2.4 | 1.8 | 2.4 | AA | 6.6 | 1.9 | 4.3 |
| 9 | Proficient or advanced on reading MSA | 1.1 | 3.0 | 1.7 | AA | 7.7 | 3.1 | 5.5 |
| 10 | Complete Algebra 1 or higher with a grade of C or higher | 19.0 | 19.1 | 13.0 | Hisp | 32.0 | 61.2 | 28.5 |

*Note*. AA = African American. Hisp = Hispanic.

## Appendix B

### Calculation of Effect Sizes

For survey items with an eight-point response scale, Cohen's *d* was calculated as follows:

$$(\text{Mean}_{GC} - \text{Mean}_{NGC})/\text{SD}_{ALL}$$

where $\text{Mean}_{GC}$ is the mean of the responses from middle schools that closed the gap, $\text{Mean}_{NGC}$ is the mean of the responses from schools that did not close the gap, and $\text{SD}_{ALL}$ is the standard deviation of the responses from all schools (Vacha-Hasse & Thompson, 2004).

For survey items with two response choices, Cohen's *d* was calculated as follows (Kline, 2005).

$$\ln (OR)/[pi/\sqrt{3}\ ]$$