Delaware Middle Schools

Beating the Odds

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Acknowledgments

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Executive Summary

A steadily growing body of research finds that what happens during the middle school years can predict both positive and negative academic outcomes in a child's future.

Every year, thousands of Delaware middle school students struggle to achieve. In 2007, the Alliance for Excellent Education reported that more than 1 in 4 Delaware eighth grade students fell short on measures of reading and/or math achievement. In 2009, according to Delaware Department of Education, nearly 20 percent of Delaware's eighth graders scored below the reading standard on Delaware's state test, while on the National Assessment of Education Progress (NAEP) almost 70 percent were at or below basic for reading.

However, there are also signs of progress. For example, the Delaware Department of Education reports that between 2005 and 2009, scores for Hispanic, special education and low income students have improved on the state's eighth grade standardized reading test, and the achievement gap compared to white students from higher income families has narrowed. The gap has also narrowed in math for African-American, Hispanic and low income eighth graders during the same period.

Prior research conducted by Delaware Education Research and Development Center has looked at the practices that distinguish successful elementary and high schools in the state. Building on these, this study examines the practices in a group of successful Delaware middle schools where students scored significantly higher for the past three years on state tests of reading and mathematics when compared to schools with similar student populations. Those successful schools are referred to here as "Beating the Odds" schools. There are three questions which guide the study:

1. Which Delaware middle schools are "Beating the Odds" when compared to middle schools with demographically similar student enrollment?
2. How do middle schools that are "Beating the Odds" differ from other middle schools?
3. What do educators and students at "Beating the Odds" middle schools say accounts for the success of their schools?

Findings

1. Which Delaware middle schools are "Beating the Odds" when compared to middle schools with demographically similar student enrollment?

DERDC used publically available demographic and testing data to identify which of Delaware's 40 public and charter middle schools meet the study definition of "Beating the Odds."

- Forty public and charter middle schools fell into three demographic clusters when student population was compared by race and income. The clusters generally corresponded to high income/ high percent white students, middle income/middle percent whites students, and low income/low percent white students.
- Eight of the 40 public and charter middle schools met the study criteria to be labeled "Beating the Odds": Two from the low income cluster, two from the middle income cluster, and four from the high income cluster.
- Five of the eight schools that were identified had either a reform model of curriculum or a school-wide curricular theme. Two were charters and three were public magnet schools.

2. How do middle schools that are "Beating the Odds" differ from other middle schools?

The study examines the differences between six Beating the Odds (BTO) schools and six comparison middle schools. Principals and teachers from all 12 schools responded to an online survey which examined practices and beliefs in a number of domains shown to be important to successful middle schools: collaboration, high expectations, data use, leadership, teacher role, instructional support, and district influence.

Significantly more educators from Beating the Odds schools agreed that 18 specific practices and beliefs were typical of their schools when compared to educators from comparison schools. Fourteen of these were found in three domains: high expectations, data use, and collaboration. Some examples of these differences include the following:

High expectations
- The community and school share a common vision.
- Each student at their school is expected to achieve high standards.
- High quality instruction can be seen in classrooms every day.
- Teachers here believe their students can achieve.
- Our principal communicates expectations for student achievement.

Data use
- Teachers receive student data disaggregated by subgroups and skills.
- Teachers use data to make instructional decisions such as creating student groups and focusing their instruction.
- Specific intervention plans are in place for students who do not meet expected proficiency levels.
- Our school routinely uses disaggregated data to assess how well we are doing.
- Our school uses tests aligned with the state standards to monitor students' progress during the school year.

Collaboration
- Teachers and parents work together to improve student learning.
- There is a high level of trust among administrators, teachers, and parents in our school that supports working together.
- Teachers are involved in making important decisions at this school.

Importantly, on 40 of the 48 items, the two samples of schools differed in the intensity of their responses. That is, Beating the Odds respondents significantly more often than comparison school respondents "strongly agreed" to these 40 statements. Many of these items fell under the domains of teacher role, leadership, district influence, and instructional support. Examples include the following:

Teacher role
- Teachers take responsibility for student achievement.
- Teachers make adjustments in their instruction based on areas where students encounter problems.
- Teachers intentionally provide support to students as they transition to middle school from elementary grades.

Leadership
- The principal encourages teachers to take a leadership role in this school.
- The principal communicates a clear vision for this school and sets high standards for student learning.
- The principal ensures that teachers have time for planning and visits classrooms each week in our school to monitor instruction.

Instructional support
- Each one of my students has a copy of the textbooks.
- Our school creates an environment that encourages all students to learn.
- The purpose of professional development programs is to improve student achievement.

District influence
- The district provides instructional resources and support.
- The district expects all schools to improve student achievement.
- The district provides up-to-date instructional materials.
- The district encourages teachers to take a leadership role in the district.

3. What do educators and students at "Beating the Odds" middle schools say accounts for the success of their schools?

This question looks at interviews with principals and randomly selected teachers and students at each of the six BTO schools to determine what they believe accounts for their school's success.

While there are essential local differences, what most of these schools share is an organizational climate shaped by leadership that identifies compelling educational approaches and brings educators, students and parents together around those approaches.

- Effective leadership includes, but extends beyond, one or two dynamic individuals and feeds into organizational qualities such as trust and collaboration and the valued relationships of the local school community.
- A core educational vision, grounded in a school's unique circumstances, supports adaptive responses to broader mandates and opportunities.
- The investment of parents in their children's success is seen as necessary for the ongoing success of these BTO schools. Alternately, parents are seen as barriers to school success when they are believed to be inadequately involved in their children's education.

Recommendations

These six middle schools that are beating the odds in student achievement remind us that practices, policies, supports and beliefs work in concert. Changes in a few areas will impact all the others. Consideration of the local culture is critical for the outcomes to be favorable. Recommendations are offered that connect and build upon the study findings:

- Focus on supporting key foundational domains of practice.
- Focus on teacher empowerment to build a collaborative culture.
- Focus on each school's culture and vision.

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Introduction

A steadily growing body of research finds that what happens during the middle school years can predict both positive and negative academic outcomes in a child's future.

- Information found in sixth grade student records (attendance, disciplinary actions, or failing grades in mathematics or English) can predict late graduation and, eventually, without effective intervention and proper support, probability of dropping out.[1]
- Eighth grade academic achievement has a larger impact on a student's college and career readiness than anything that happens academically in high school.[2]
- Many students have already decided by eighth grade and some as early as sixth, whether to drop out or graduate, or whether to take courses that increase potential for success in college.[3]

Every year, thousands of Delaware middle school students struggle to achieve. In 2007, more than 1 in 4 Delaware eighth grade students fell short on measures of reading and/or math achievement.[4] In 2009, nearly 20 percent of Delaware's eighth graders scored below the reading standard on Delaware's state test, while on the National Assessment of Education Progress (NAEP) almost 70 percent were at or below basic for reading.[5]

However, there are also signs of progress. For example, the Delaware Department of Education reports that between 2005 and 2009, scores for Hispanic, special education and low income students have improved on the state's eighth grade standardized reading test, and the achievement gap compared to white students from higher income families has narrowed. The gap has also narrowed in math for African-American, Hispanic and low income eighth graders during the same period.[6]

Middle schools have the unique challenge of meeting the developmental and educational needs of young adolescents. They are expected to promote healthy social and physical growth, foster creativity, curiosity and independence and encourage their students'

intellectual and moral development[7] at a time when the students' need for peer acceptance may lead them to distance or detach themselves from school and home.[8]

But middle schools also have unique opportunities. Efforts to improve middle schools can have long term positive impacts in two important ways— first, by enabling students to transition to and succeed in high school and second, by preparing them for postsecondary education, the workplace, and citizenship.[9]

To effectively direct policy and funding towards improvement, it is important to identify and describe those schools that are already making a difference for Delaware's middle school students. What characteristics and practices are found in Delaware's successful middle schools? What helps students in these programs to succeed when compared to students from similar demographic backgrounds at other schools?

Purpose of this study

This study examines the practices in a group of six successful middle schools, called "Beating the Odds (BTO)" schools, where students score significantly higher year after year when compared to schools with similar student populations. Through this, it seeks to better understand the everyday routines, policies, and processes that help this group succeed and ultimately, to inform the action of Delaware's education leaders and policymakers. There are three study questions:

1. Which Delaware middle schools are "Beating the Odds" when compared to middle schools with demographically similar student enrollment?
2. How do middle schools that are "Beating the Odds" differ from other middle schools?
3. What do educators and students at "Beating the Odds" middle schools say accounts for the success of their schools?

More information on survey and interview analysis is in the sections which follow. Table 1 lists the questions and data sources for this study.

Table 1.Data sources and analysis for Delaware Middle Schools Beating the Odds

Question	Data Source	Data Analysis
Which middle schools are Beating the Odds in Delaware?	School level demographic data (2009) from DE DOE website	Identify groupings of demographically similar middle schools
	Grade level DSTP total math and reading, 2007- 2009, from DE DOE website	Determine cluster average scores and identify school scoring significantly above cluster average
How do middle schools that are "Beating the Odds" differ from other middle schools?	Online surveys with administrators and teachers at DE middle schools	Compare responses of staff from schools with DSTP scores at or below demographic average with those from schools significantly above average
What contributes to the success of BTO middle schools?	Administrator, teacher, student interviews at middle schools "Beating the Odds"	Identify and describe school contexts and practices related to successful student achievement

In order to better focus data collection and ensure cohesiveness across the study questions, DERDC staff initially identified earlier studies of schools where poor and minority students succeeded at rates well above other schools serving similar students. [10] Also, because this study focused exclusively on middle schools, researchers investigated middle school policy recommendations from two professional organizations, the National Middle Schools Association[11] and National Association of Secondary School Principals.[12] Eight domains from the studies were shown to impact student achievement: leadership, teacher role, climate, collaboration, high expectations, data use, instructional support, and beliefs about middle schools. Another domain, district influence, was added to examine questions regarding the impact of varying districts support, which were examined in an earlier DERDC study of successful elementary schools.[13] For originally proposed domains and their sources, see Appendix A.

Because the data, subjects, and methods used differ with each evaluation question, both methodology and findings of this study are reported in four sections:

Part One describes the methods used to identify the middle schools that are "Beating the Odds" and the results of that work.

Part Two describes the survey development and provides a comparison between BTO and other middle schools by examining administrator and teacher survey responses related to eight domains.

Part Three explains the process used in interview administration and analysis. It also identifies major patterns in the views of faculty, administrators and students across six successful BTO schools. Although examples from all of the 6 schools illustrate the findings, this report offers a picture of the BTO schools as a group, not case studies of individual schools.

Part Four discusses implications for Delaware's school leaders based on what we have learned from these exemplary middle school programs.

Part 1: Which middle schools are Beating the Odds in Delaware?

To identify which middle schools in Delaware out-perform other middle schools with similar student demographics, we adopted a method from an earlier study of Delaware schools that were "Beating the Odds."[14] The research team first gathered publicly available information regarding student populations of 33 public and 7 charter middle schools: percent white/non-white students and percent of students who qualify for the federal Free or Reduced-price Lunch Program.

These schools were then plotted on a chart with the x-axis denoting the percentage of students from low income families and the y-axis denoting the percentage of white students. Three clusters were formed reflecting school differences in socioeconomic status and the percentage of white/non-white students. Figure 1 illustrates the resulting groups or clusters.
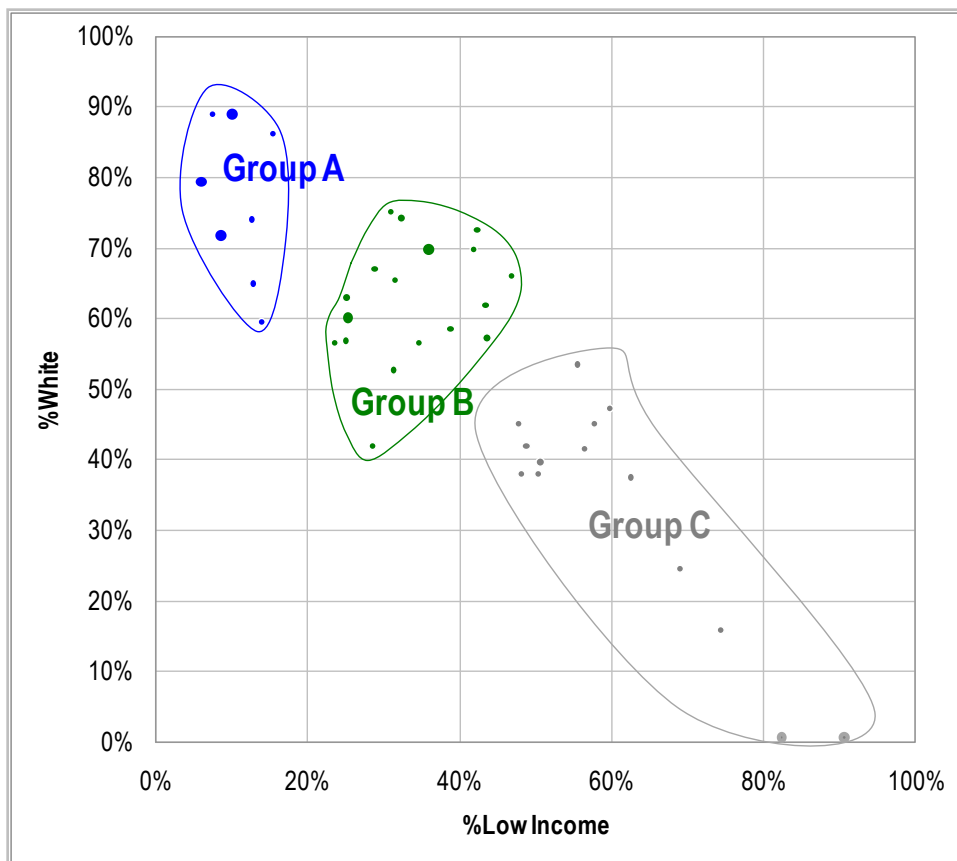
Figure 1.DE Middle school clusters based on 2009 student demographic characteristics

Group A had few students from low-income families and moderate to high percentages of white students (labeled High SES); Group B was made up of moderate percentages of low-

income and white students (labeled Middle SES); and Group C included high percentages of students from low-income families and low percentages of white students (labeled Low SES). Table 2 presents the number of schools in each cluster as well as the range and mean of white and low-income percentages for each.

Table 2.Public and charter middle schools: 2009 student demographic clusters

School Level Cluster	Number of Schools	White Students		Low-Income Students	
		Range	Mean	Range	Mean
High SES	8	60-90%	77%	6-15%	11%
Middle SES	18	42-75%	65%	24-47%	34%
Low SES	14	1-54%	42%	48-74%	62%

Three years of DSTP total Math and Reading scores for grades 6, 7, and 8 were then compiled and averaged for the public schools in each cluster. Each school within the cluster was compared to its group's averages. Statewide, eight schools were found to be significantly above the group average achievement scores for most or all DSTP measures for the past three years (2007-09), four in the high income group and two in both middle and low income groups. In addition, three of the eight were traditional public middle schools, three were public magnet schools, and two were charter schools.

The original proposal was to study two schools from each demographic cluster for a total of six BTO middle schools. When one of the two low income BTO schools declined to participate, only high income schools were available to replace it. The final revised sample consisted of three high, two middle, and one low SES schools. Table 3 describes the characteristics of the six schools identified as "Beating the Odds" (BTO) that participated in the study.

Table 3.Characteristics of the BTO schools in this study

School Characteristic	Public Middle Schools				Charter Middle Schools	
	School #1	School #2	School #3	School #4	School #5	School #6
Grade levels	6-10	6-8	6-8	1-8	6-8	K-8
Number of teachers	40	50	30	30	20	80
Percent of teachers with masters degree	40	50	70	40	60	40
Percent of teachers with 10 or more years of experience	20	70	60	50	50	30
Number students Gr. 6-8 [school total, if different]	530 [620]	860	530	170 [410]	320	490 [1290]
Percent of students from low income families	60	25	30	20	10	10
Percent of LEP students	20	5	5	5	0	5
Percent of special education students	10	10	20	10	10	5
Percent of students enrolled for full year	90	99	90	99	99	99
Student attendance percent days present	90	90	90	90	99	99

Note. 2008- 2009 school level Information from http://profiles.doe.k12.de.us/SchoolProfiles/State
Numbers are rounded to mask school identities.

Nine additional schools performing at or below the group average were recruited for online teacher and administrator surveys. Researchers attempted to match schools in terms of size and student demographics. In addition, they were selected to represent all three demographic clusters, all three Delaware counties, and both public and charter schools. Because of very low response rates, three were not included in final analyses. The six remaining comparison schools are further described in Table 4 below.

Table 4. Characteristics of six middle schools at/below their cluster's average DSTP

School Characteristic	Public Middle Schools				Charter Middle Schools	
	School #7	School #8	School #9	School #10	School #11	School #12
Grade levels	6-8	6-8	6-8	6-8	K-8	1-12
Number of teachers	50	10	50	50	40	40
Percent of teachers with masters degree	50	80	60	60	40	40
Percent of teachers with 10 or more years of experience	50	50	20	30	30	40
Number students Gr. 6-8 [school total, if different]	760	240	900	840	220 [680]	170 [600]
Percent of students from low income families	40	20	50	60	10	30
Percent of LEP students	5	0	10	10	5	5
Percent of special education students	10	5	10	20	5	10
Percent of students enrolled for full year	90	90	90	90	99	99
Student attendance percent days present	99	99	90	90	99	90

Note. 2008- 2009 school level Information from http://profiles.doe.k12.de.us/SchoolProfiles/State
Numbers are rounded to mask school identities.

Part 2: How do BTO middle schools differ from other middle schools?

Survey development

DERDC reviewed previous studies to identify potential items to include in the present study's survey. Items were selected that measured one of the nine study domains. In all, 48 survey items representing nine domains were selected or adapted from previous studies of successful BTO schools.[15] For this sample, all item domains except one (climate) were found to be internally consistent. Eight domains remained when the 'climate' domain was eliminated. For more on these analyses, see Appendix B.

Survey administration

In December 2009 and January 2010, researchers contacted district and school level administrators from the eight BTO schools and 11 comparison schools to invite their participation in the study. As stated earlier, the study sample was planned to include two BTO schools from each demographic cluster, but was revised when one school declined to participate. In all, six BTO and nine comparison schools agreed to take part in the survey.

In February or March of 2010, principals or administrators forwarded an email from DERDC to their staff explaining the purpose of the survey and inviting them to respond online. In one school, the principal requested that the survey email come directly from DERDC. In that instance, teacher email addresses were entered into survey software for automatic distribution. In all cases, teachers and administrators were free to respond or to decline the survey.

In all, 291 middle school teachers and administrators responded to an online survey which asked if they "strongly agree, agree, disagree, or strongly disagree" with statements describing how their schools and their districts typically operate. Teachers were also asked about their instructional practice and their classrooms. Finally, all were asked to respond to an open- ended question, "Does working in a middle school offer any opportunities or challenges to you or your colleagues?" The survey items and results by domain can be found in Appendix C.

While all respondents were anonymous, the numbers of responses per school site were recorded and response rates were calculated. Three comparison schools with response rates below 20% were not included in the final analysis. Twelve schools remained: 6 BTO schools and 6 comparison schools. Response rates for BTO schools ranged from 67 to 100% and for comparison schools from 40 to 78%. For school level response rates, see Appendix D.

Analysis- Overall survey responses

Independent sample t-test demonstrated that total survey responses of BTO teachers significantly differed (M=149.47; SD=19.34) from total survey responses of non-BTO teachers (M=136.93; SD=14.94). The degree of difference was small (eta squared=0.02). Administrator responses were not included in this first level of analysis because their version of the survey had fewer items.

Analysis- Domain responses

This section summarizes the findings by domain. In order to easily compare differences between the two groups, BTO schools and Comparison schools, all of the findings in Part Two are reported by domain. Items presented in figures *all* differ significantly on numbers who "strongly agree." Many items *also* significantly differ at the combined level of "agree/strongly agree" and those are indicated with a star (*). There are a small number of items that do not fit this pattern of significant differences. For simplicity these are referred to in the discussion section and reported in Appendix C where the complete survey results, organized by domain, can be seen.

Finding 1. Significantly more educators at BTO schools agreed that their school and community share a common vision and high expectations for their students to achieve than did educators at comparison middle schools.

Teachers and administrators were asked to respond to six items regarding high expectations at their schools. On five of six items, significantly more BTO staff agreed that the statements were typical of their schools. On all six items, significantly more <u>strongly agreed</u> these statements were typical. (See Figure 2)

High expectations

Items (left to right):
- *High quality instruction is seen in our classes everyday — BTO 62%, Comparison 18%
- *Principal communicates expectations to teachers for student achievement — BTO 58%, Comparison 32%
- *Teachers here believe their students have ability to achieve — BTO 58%, Comparison 31%
- *Community and school share a common vision for their students — BTO 48%, Comparison 14%
- *Each student expected to achieve high standards — BTO 61%, Comparison 27%
- School has clear vision for student learning — BTO 68%, Comparison 31%

Beating the Odds — ■ Strongly Agree ■ Agree
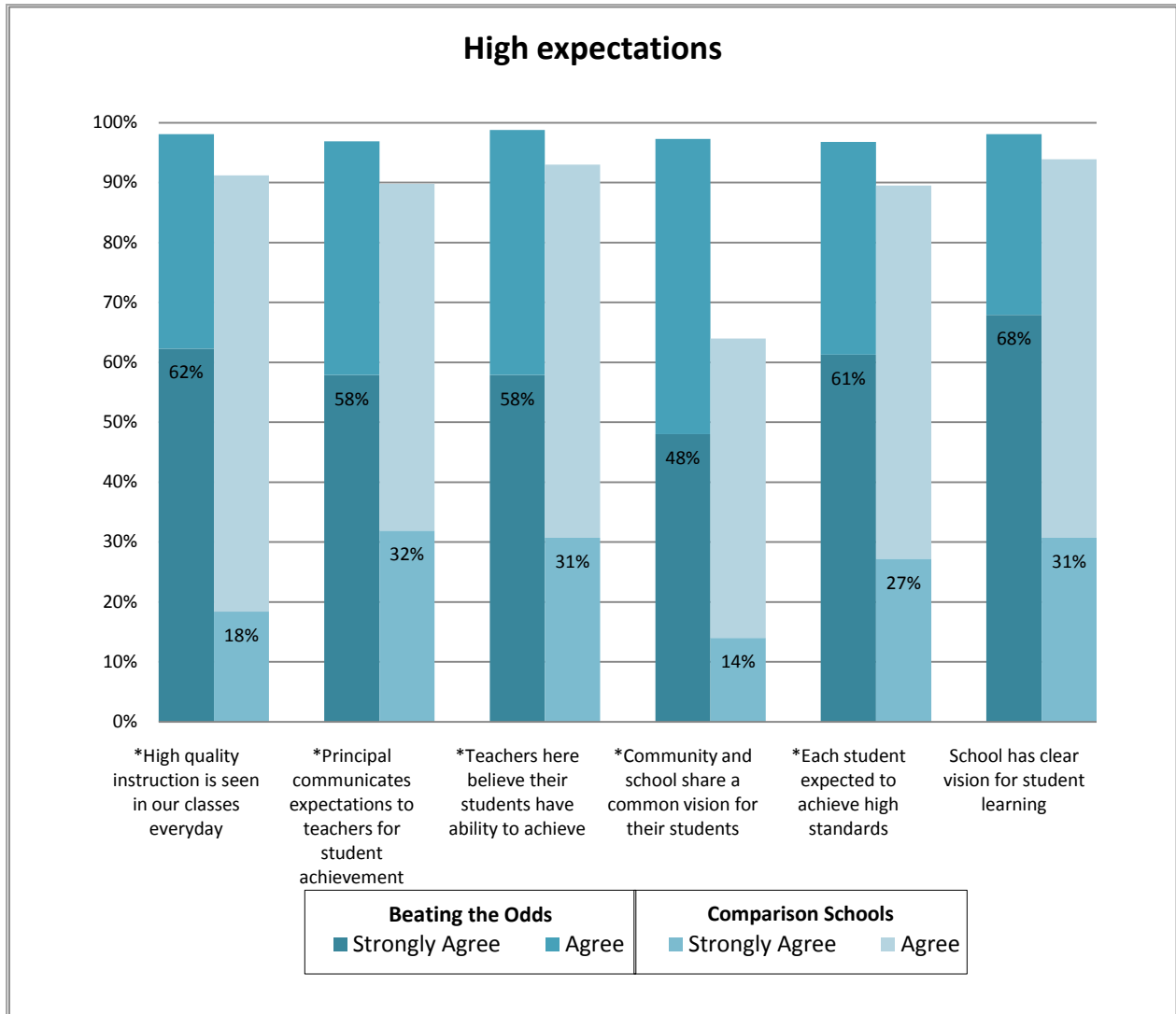**Comparison Schools** — ■ Strongly Agree ■ Agree

Figure 2. BTO middle schools hold high expectations [a]

Note. Every item presented in the figures differs significantly (p<.05) on numbers who "strongly agree." Items which also significantly differ (p<.05) at the combined level of "agree/strongly agree" are indicated with a star (*).Significance values for each item are presented in Appendix E.

Finding 2. Significantly more staff members at BTO schools agreed that their school climate includes a high level of trust and support when contrasted with staff at comparison middle schools. They report that parents, teachers, and leaders effectively work together to improve student learning (See Figure 3).

The survey included eight items related to collaboration in schools. On three of those items, significantly more BTO staff agreed overall that these statements were typical of their schools. In addition, on six of the eight, significantly more <u>strongly agreed</u> that the statements typify their BTO schools. For example, while staff in both groups agreed that "grade levels meet to plan instruction" and that they have "identified essential standards for each grade," at BTO schools significantly more respondents <u>strongly agreed</u> that these practices occur.

On the other hand, there was little difference between numbers of BTO and comparison respondents who reported they had detailed knowledge of methods used by other teachers at their schools. This can be seen in Appendix C (all items with responses by domain).
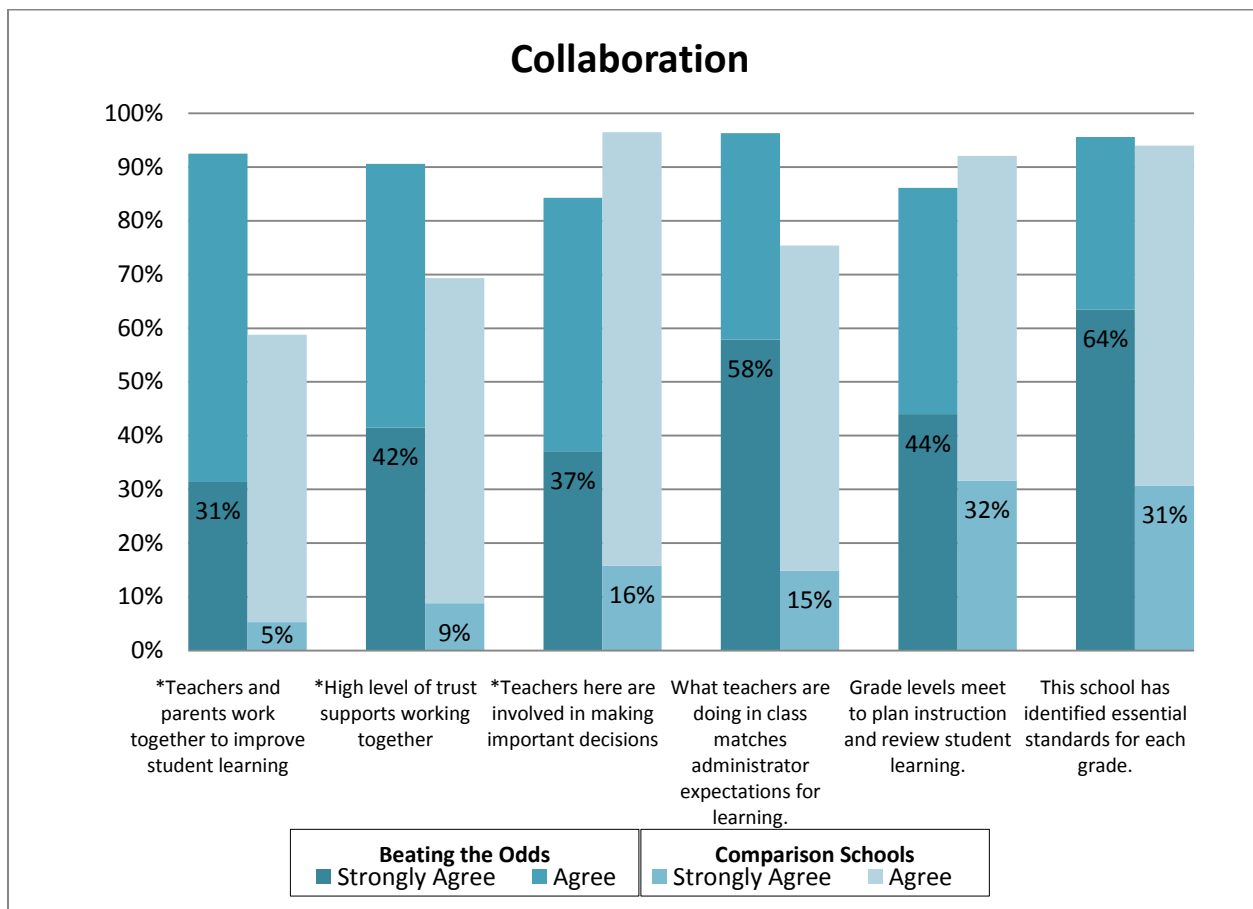
Figure 3. BTO middle school educators work collaboratively to achieve student learning.[b]

Note. Every item presented in the figures differs significantly (p<.05) on numbers who "strongly agree." Items which also significantly differ (p<.05) at the combined level of "agree/strongly agree" are indicated with a star (*).Significance values for each item are presented in Appendix E.

Finding 3. At BTO middle schools, significantly more staff members reported routinely using disaggregated student data to assess how well they're doing and to support instructional decisions than did staff members at non-BTO schools.
Significantly more educators at BTO schools agreed that teachers receive disaggregated student data than at comparison middle schools.

On all six items referring to data use, significantly more members of BTO schools agreed that these statements described their school practices regarding data use *and* significantly more <u>strongly agreed</u> than teachers and administrators at comparison middle schools (See Figure 4).

Data use

Legend:
- **Beating the Odds**: Strongly Agree, Agree
- **Comparison Schools**: Strongly Agree, Agree
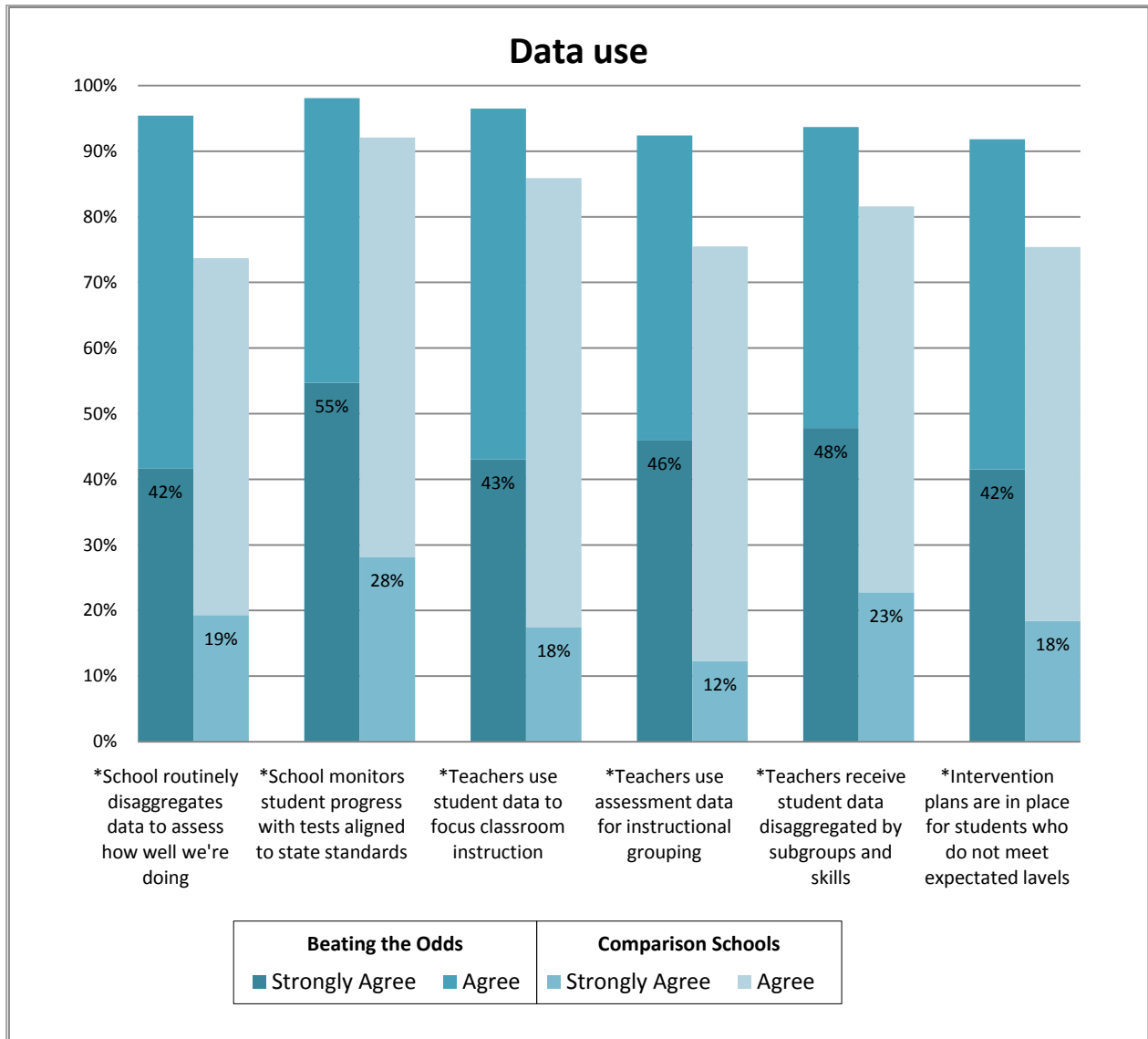
Figure 4. BTO middle school use data to make decisions and guide teaching and learning. [c]

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[c] *Note*. Every item presented in the figures differs significantly (p<.05) on numbers who "strongly agree." Items which also significantly differ (p<.05) at the combined level of "agree/strongly agree" are indicated with a star (*).Significance values for each item are presented in Appendix E.

Finding 4. Significantly more educators at BTO middle schools strongly agreed that teachers there believe that students have the ability to achieve than did staff members at non-BTO schools. (See Figure 5)

Six items referred to teacher roles. On five of the six, the groups did not significantly differ regarding statements about how teachers typically work at their schools. However, on all five items, they *did* differ in intensity. For example, significantly more BTO staff members strongly agreed that "teachers take responsibility for student achievement" and that teachers there "are committed to teaching middle school students."

On one item responses did not differ. It asked if teachers use state standards to guide their teaching content. This can be seen in Appendix C (all items with responses by domain).

Teacher role

Categories (left to right):
- Teachers take responsibility for student achievement — BTO: 56%, 21%; Comparison: (labels shown)
- Special education students instructional needs are addressed — 45%, 26%
- Teachers intentionally provide support for student transitions to middle school — 54%, 19%
- Teachers adjust their instruction based on areas where students have difficulty — 58%, 31%
- Teachers here are committed to teaching middle school students — 64%, 32%

Beating the Odds: Strongly Agree, Agree
**Comparison Schools:** Strongly Agree, Agree
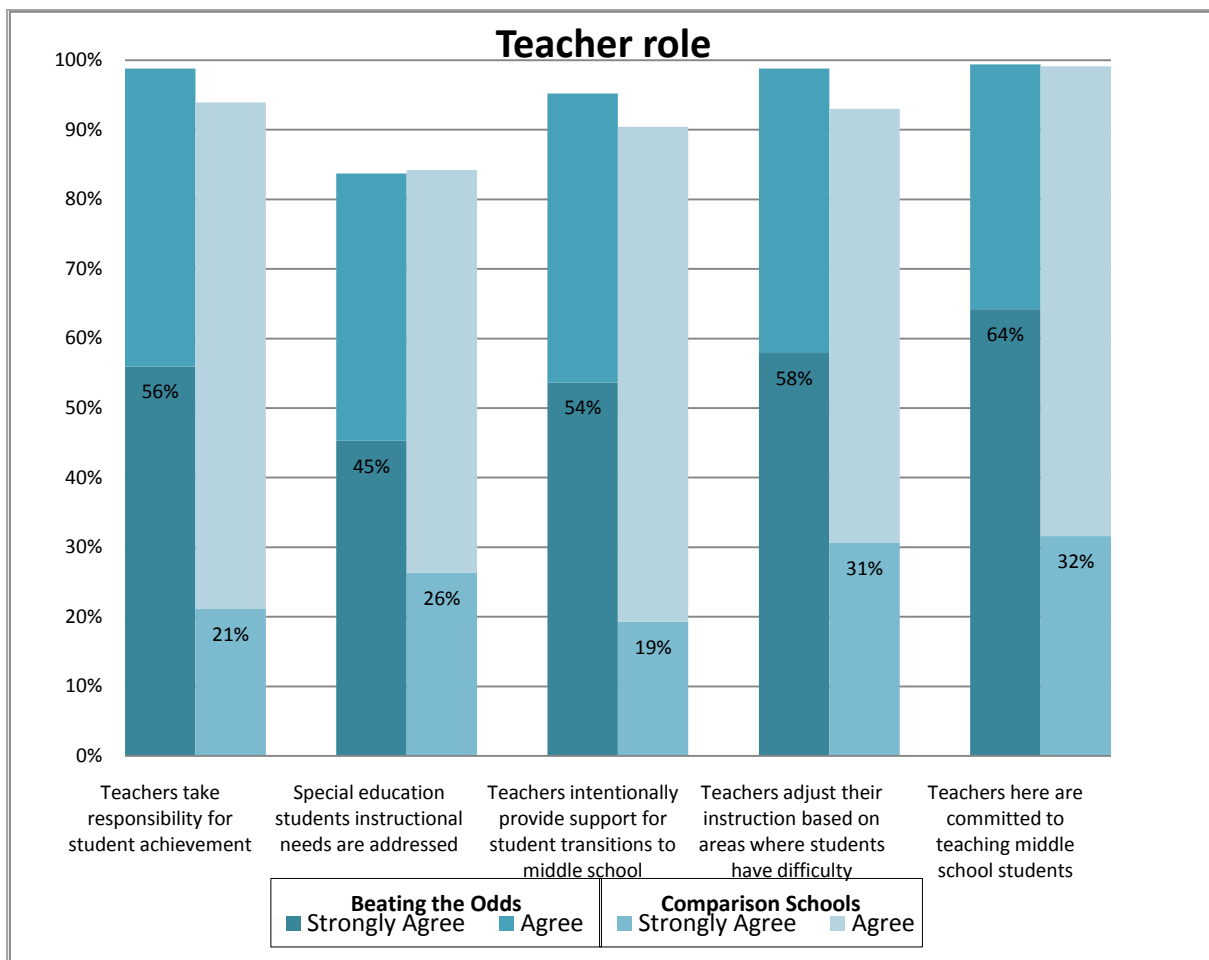
Figure 5. At BTO schools, teachers take responsibility for student learning.[d]

Note. Every item presented in the figures differs significantly (p<.05) on numbers who "strongly agree." Items which also significantly differ (p<.05) at the combined level of "agree/strongly agree" are indicated with a star (*).Significance values for each item are presented in Appendix E.

Finding 5. Significantly more teachers at BTO middle schools agreed that their principals review student data with them than did teachers at non-BTO schools. At comparison schools fewer than half of the teachers agreed that this occurs (See Figure 6).

While eight survey items made up the domain of leadership, there was an overall difference on one: More BTO teachers agreed that their principals review student data with them. On seven of the eight items, the levels of intensity were again seen to be significantly different. That is, significantly more BTO respondents <u>strongly agreed</u> that their principals communicate a clear vision, set high standards for achievement, visit classrooms weekly, and encourage teachers in leadership roles.

In contrast, there was little difference between the two groups on one point — whether principals suggest instructional classroom strategies. These can be seen in Appendix C (all items with responses by domain).
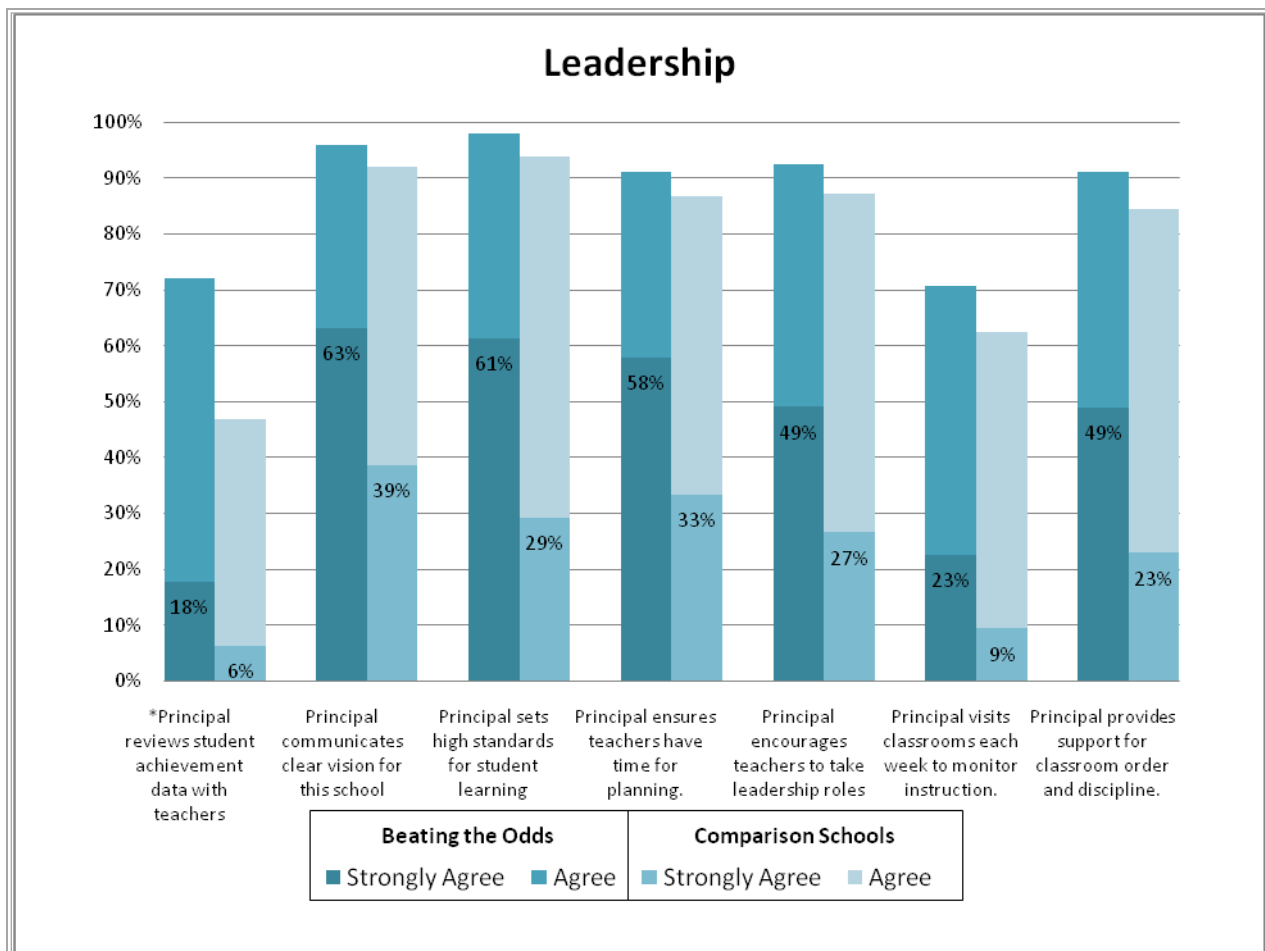
Figure 6.BTO school principals review student data.[e]

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[e] *Note*. Every item presented in the figures differs significantly ($p<.05$) on numbers who "strongly agree." Items which also significantly differ ($p<.05$) at the combined level of "agree/strongly agree" are indicated with a star (*).Significance values for each item are presented in Appendix E.

Finding 6. Significantly more BTO staff members reported that the budget supports school priorities and that instruction is protected from interruption than did at non-BTO schools.

In addition, significantly more BTO middle school educators <u>strongly agreed</u> that all five items regarding instructional support described their schools, including professional development and an organizational environment that support student learning (See Figure 7).
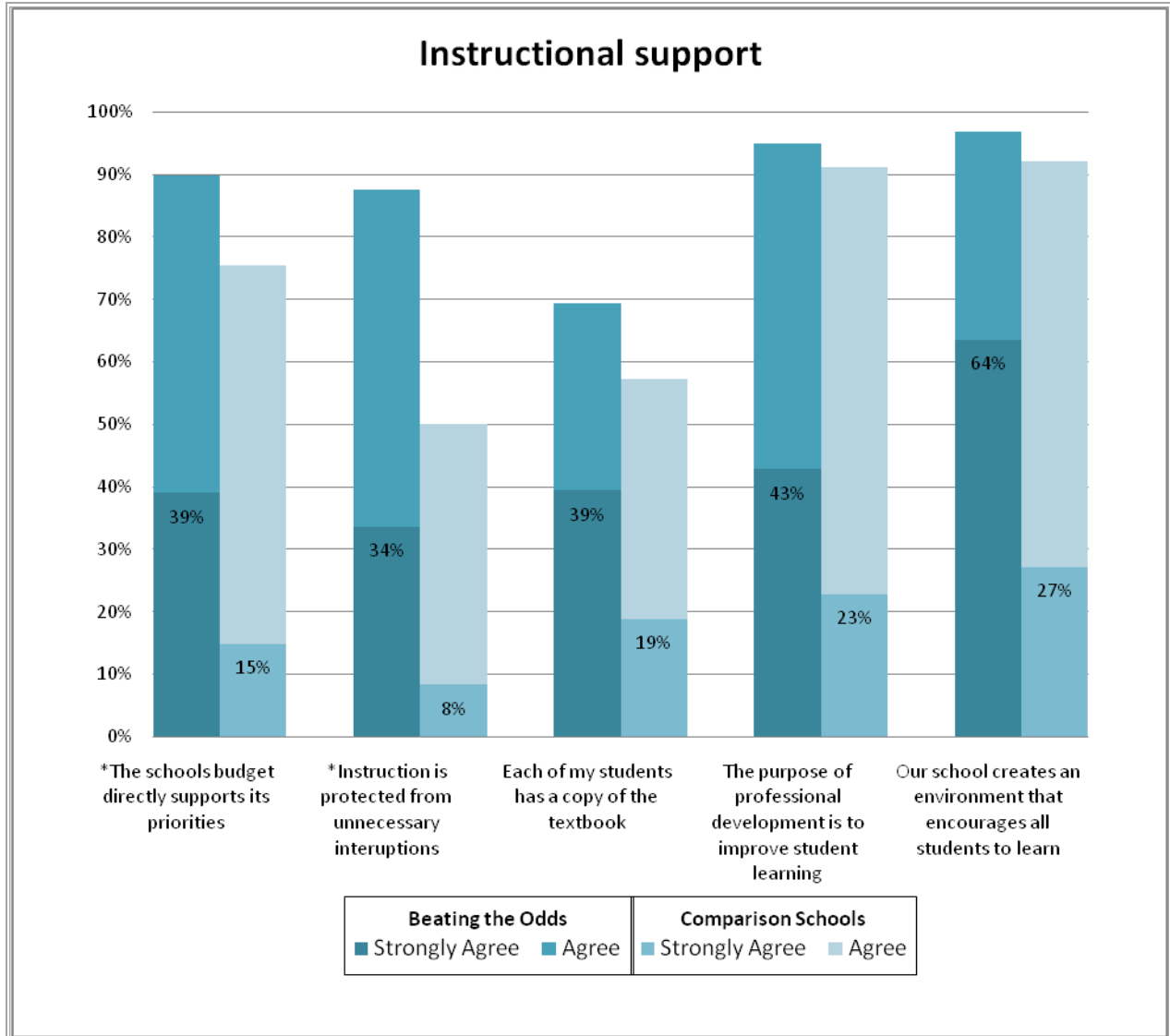
Figure 7. At BTO schools, routines and resources are seen to support instruction and learning.[f]

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[f] *Note*. Every item presented in the figures differs significantly (p<.05) on numbers who "strongly agree." Items which also significantly differ (p<.05) at the combined level of "agree/strongly agree" are indicated with a star (*).Significance values for each item are presented in Appendix E.

Finding 7. More often, educators from BTO schools strongly agree that their district expects schools to improve student achievement than did those at non-BTO schools. (See Figure 8) BTO and comparison schools disagreed significantly on one point: whether the district recognizes teacher contributions to student learning.

On the other hand, on five of seven district-related items, the two groups agreed in general, but differed in intensity. For example, overall, the middle school teachers and administrators <u>agreed</u> about district support, expectations of achievement, and encouragement for teacher leadership, but significantly more often, those who were from BTO schools <u>strongly agreed</u>.

Finally, on two of the seven statements, there was little difference— first, in their views of district professional development, and second, in their beliefs regarding the district's awareness of the school's challenges. These can be seen in Appendix C (all items with responses by domain).
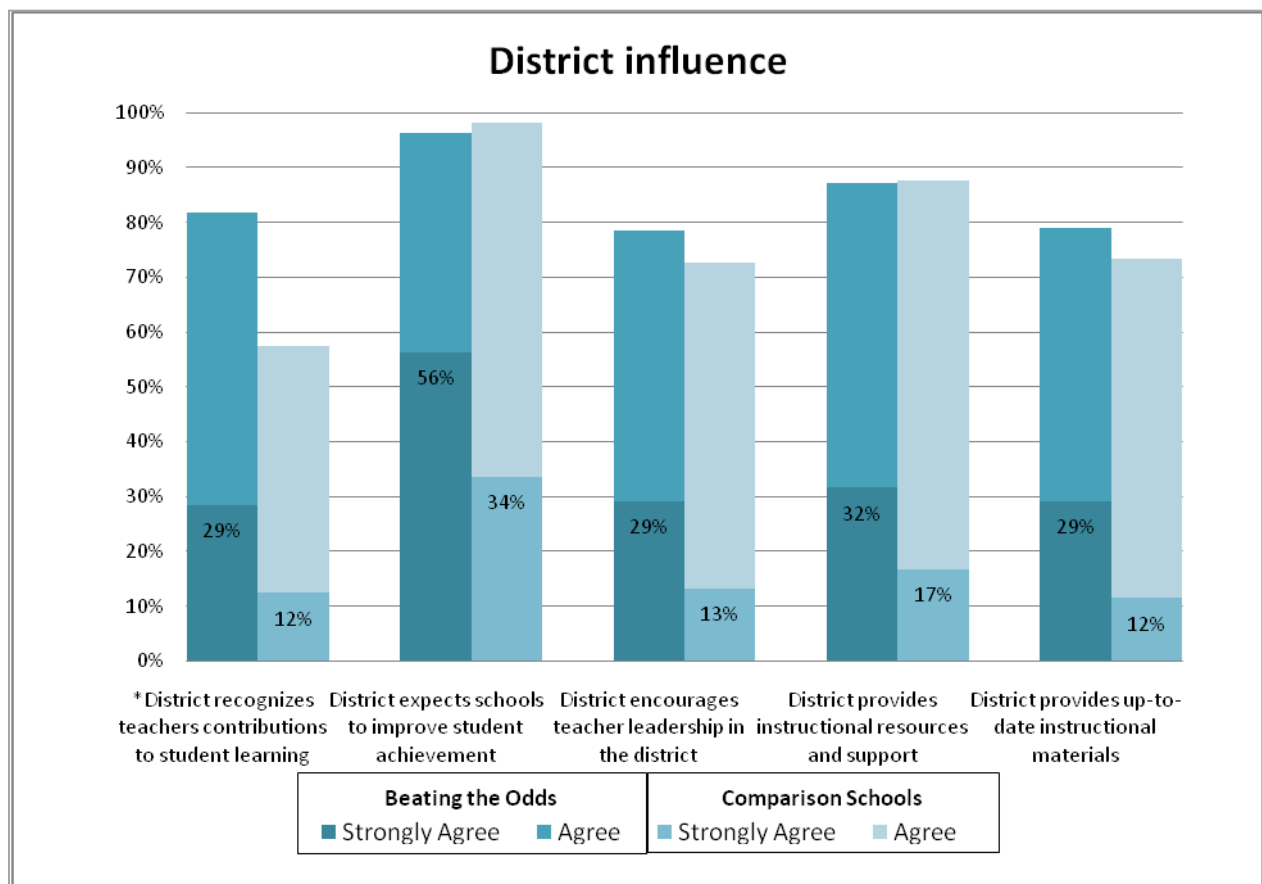
Figure 8. Views of district support[g]

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[g] *Note*. Every item presented in the figures differs significantly (p<.05) on numbers who "strongly agree." Items which also significantly differ (p<.05) at the combined level of "agree/strongly agree" are indicated with a star (*).Significance values for each item are presented in Appendix E.

Finding 8. The majority of teachers and administrators in both groups described challenges presented in a middle school (See Table 5).

Table 5. Number responses by type of school: Does being in a middle school present any opportunities or challenges to you or your colleagues?

	Beating the Odds schools		Comparison schools	
Responded to question	66/166	39.8%	56/130	43.1%
Yes	58/66	87.9%	55/56	98.2%
No	8/66	12.1%	1/56	1.8%

Similar challenges were seen. For example, both groups commented on middle school students' difficulty transitioning from elementary school, their misbehavior, and their many developmental changes. Both identified concerns related to special education. One teacher wrote:

> I am unsure of the curriculum I should be following for Special Ed middle school students. I follow our curriculum guide, but I feel that I need to be doing more hands-on activities with these types of students.

Both groups reported similar opportunities, such as the chance to help students through a transition time and into high school, or the opportunity to work with students in a specific discipline or field of study.

In this section, we revisit the findings to develop a clearer picture of the contrast between BTO and comparison schools. In the section below, which is organized by domain, are two columns. The first, "*All middle schools*," describes the middle schools as a whole, listing the domain and items of *general agreement* between the BTO group of middle schools and the comparison schools.

The second column, "*BTO middle schools,*" describes the beliefs or practices within the same domain where the two groups broadly differed. These statements were either about *additional* policies, practices, and beliefs that significantly more people in the BTO group agreed were typical of their schools, or they describe differences in intensity or degree. Often, in BTO schools, staff not only agreed with statements about the policies, practices, or beliefs, but they "strongly agreed" in significantly larger numbers.

In order to help organize the domains, we grouped them into levels. The domains at the top are key processes and beliefs that are held in common: high expectations, collaboration, and data use. Domains in the middle are related to the actors who *hold* the central values and practices— the administrators and teachers which are represented by the domain labels leadership and teacher role, respectively. At the third level, related but removed somewhat from the local school's community and sometimes outside of their direct control, are important enabling or sustaining domains—district influence and instructional support.

School community's common practices and beliefs

High expectations- all middle schools

There was one area of agreement in this domain: Similar percentages in BTO and comparison groups *generally* agreed that their school has a clear vision for student learning.

High expectations- BTO middle schools

The picture presented by BTO middle schools regarding a clear vision and high expectations was strikingly different from that of the comparison schools. Nearly two-thirds (62%) *strongly* agreed that high quality instruction can be seen in classrooms every day. The majority (58%) *strongly* agreed that their teacher colleagues believe students can achieve, and that their principals communicate expectations for student achievement. Other differences related to the extent to which these expectations are shared beyond the staff. For example, almost all *agreed* (98%) and nearly half (48%) *strongly* agreed that the community and school share a common vision and that each student at their school is expected to achieve high standards (61%).

Data use- all middle schools

There were no statements regarding data use in which the two groups agreed in similar numbers.

Data use- BTO middle schools

In BTO schools, more than 90% of educators generally *agreed* with every statement related to data use. There were striking differences between BTO and comparison schools in response to the item, "Teachers receive student data disaggregated by subgroups and skills." In BTO schools, significantly more staff *agreed* that this was available and nearly half (48%) *strongly* agree. BTO staff members *agreed* that teachers use this data to make instructional decisions such as creating student groups and focusing their instruction. In addition, more of them *agreed* that student intervention plans are in place for those middle schoolers who do not meet expectations. The school as a community uses disaggregated data to assess how well they are doing.

School community's common practices and beliefs (cont.)

Collaboration - all middle schools

On one item regarding collaboration, the two groups responded similarly: "I have detailed knowledge of instructional methods used by other teachers at my school." There were three more items that respondents from BTO and comparison schools *generally* agreed were typical practices in their schools: a) their schools have identified essential or key standards for each grade, b) grade levels meet to plan instruction, and c) what teachers are doing in classrooms matches their administrators' expectations.

Collaboration - BTO middle schools

Interestingly, significantly <u>fewer</u> people from BTO schools *generally* agreed that the teachers there "are involved in making important decisions" when contrasted with comparison schools, but significantly more of them *strongly agreed* that this is typical of their school. In addition, BTO schools differ from comparison schools when asked about their school's climate and parental involvement. Ninety percent or more *agreed* that a high level of trust supports working together and that teachers and parents work together to improve student learning. When taken together, the differences in collaborative practice and in the intensity with which they are identified paint a picture of collegiality and shared effort in these BTO middle schools that is built on trust.

Actors within the community

Leadership - all middle schools

Generally speaking, there was little difference between how the two groups regarded their principal's actions. That is, they generally agreed that their principals communicate a clear vision and set high standards for student learning. They visit classes each week to monitor instruction. Principals in these schools were seen to provide support for classroom order, encourage teachers to take leadership roles and ensure that teachers have time for planning.

Leadership - BTO middle schools

There is one practice that was significantly different. Significantly more teachers in BTO schools agree that their principals review student achievement data with them. Also notable was the pattern of "*strongly agree*" regarding almost every leadership item. On some statements, nearly half of BTO teachers *strongly* agreed that their principals support and encourage them. Nearly two out of every three BTO teachers *strongly* agree that their principal communicates their shared vision (63%) and high standards (61%). The strength of the teachers' agreement stands out, and points to an important but subtle possibility. It might be that there are no half measures in leadership at BTO schools and that the principal is critical to building and maintaining the community's shared expectations and high standards. Comparison schools *generally* agreed with many of these statements, but not with vehemence that led educators at BTO schools to indicate that many of them *strongly* agree.

Actors within the community (cont.)

Teacher role - all middle schools

In both groups, it is *generally* agreed that teachers perform similar actions and hold similar views. All agree that teachers take responsibility for student achievement and are committed to teaching middle school students. They adjust their instruction based on student needs and support student transitions to middle school. There was no difference between the two groups when asked if teachers use state standards to guide their teaching content. In addition, both groups *generally* agreed that the needs of special education students are met at their schools.

Teacher role - BTO middle schools

At BTO schools, educators differed again in the power or intensity of their responses regarding teacher roles when compared to those at comparison schools. More than half *strongly agreed* on almost every item- 56% had little doubt that teachers take responsibility for student learning. Two-thirds (64%) were confident that teachers there are committed to teaching middle school students. If teachers are critical actors in the school community, then together with administrators, they define, build, and maintain the collaborative community and environment of trust that characterizes BTO middle schools. Although comparison schools *generally* agreed with all the same statements, many at BTO schools *firmly* agreed about the role their teachers play.

External Elements

Instructional support - all middle schools

There were similar numbers of educators in both types of schools who generally agreed that each student has a copy of the text and that the purpose of professional development is to improve student learning. They also agreed that their schools create an environment that encourages all students to learn.

Instructional support - BTO middle schools

In BTO schools, there were additional instructional supports that were identified by significantly more people than in other comparison schools. Their school's budget directly supports its priorities. Their instruction is protected from unnecessary interruptions. As in the examples above, the numbers who *strongly* agreed were also significantly different in these middle schools, e.g., almost two-thirds (64%) *strongly* agreed that their school creates an environment that encourages all students to learn. In comparison schools, this was less than one third (27 %).

District influence- all middle schools

Both groups held *generally* similar views of their district's influence and support. They *generally* agreed that their district expects schools to improve student achievement, that it encourages teacher leadership in the district, and that it provides up-to-date instructional materials.

District influence- BTO middle schools

On three items, BTO staff members *generally* agreed in significantly larger numbers. More often, they agreed that the district recognizes teacher contributions; that it is aware of their challenges; and that it provides helpful professional development. They also *strongly* agreed with many but not all of these points. Noticeably, the majority (56%) of teachers and administrators at BTO schools *strongly* agreed that their district expects schools to improve student achievement contrasted to about one third (34%) of the staff in comparison schools who *strongly agree.*

Discussion- Part 2

A picture of Delaware middle schools that are 'Beating the Odds' begins to take shape from the survey results. They are schools marked by shared practices and a central core vision of how to support learning. They are clearly <u>different</u> from other middle schools; their healthy, trust filled environment supports collaboration and collegiality. The staff members hold high expectations and use student data in their decision making and self evaluation.

Interestingly, these six 'Beating the Odds' schools <u>are similar</u> to other middle schools in many ways, too. Both groups generally agree that their principals and teacher perform the same tasks and hold the same beliefs. In these domains, what separates the BTO schools is the *intensity* with which they hold these views. They strongly agree that their teacher colleagues are responsive and hard working, and that their principals not only communicate high standards but they work to support their attainment.

Educators in BTO and comparison schools hold similar views of district influences and external supports. Two practices however, are clearly reported more often in BTO schools. Instruction is protected from interruption, and budgeting and instructional priorities are closely aligned. It appears that district influences and instructional support contribute to a strong central vision and shared expectations for achievement that characterize BTO schools. This should lead us to be attentive to the ways that administrators and teachers in BTO may try to engage with and influence external factors to support and sustain the deeply held commitments and shared practices that seem to set BTO schools apart.

Part 3: What do educators and students at BTO middle schools say contributes to the success of their schools?

To develop deeper understandings of the climate and practices at the six Delaware middle schools that are described in the introduction above as "Beating the Odds" (BTO schools), a research team from DERDC conducted on-site interviews in January-February 2010. District and school administrators at these four public and two charter middle schools agreed to allow researchers to invite randomly selected teachers and students to participate in the study. All teachers and students signed formal consents prior to their interviews. The student participants were also required to have a parent's written permission.

Methodology

At each school researchers spoke with school administrators in one-to-one interviews. Teachers represented different grade levels and were often, but due to scheduling concerns, not always, interviewed separately. The interviews lasted about 30 minutes and focused on individuals' perceptions of the characteristics of their schools that helped so many of their students to do well on the DSTP. Teams also interviewed 8- 15 randomly selected students at each school to hear what they thought about their school and how it helped them learn. In all, 111 educators and students were interviewed. See Table 6 for numbers of interviewees by role and school site.

As in the survey described in Part 2, interview protocols and the initial analytic codes were developed following a preliminary review of earlier research studies of successful schools. Nine important domains were initially identified (See Appendix A). These domains served only as probes or follow up questions in the interviews, in order to allow the respondents to freely respond without prompting to the initial query, "In your view what are the most important things this school has done to achieve its students' success?" Complete protocols are available in Appendix F.

Interviews were audio-tape recorded and detailed notes were taken. A team member who had not been an interviewer reviewed the tapes and compared them against each set of field notes in order to assure accuracy, fill in missing details, and identify key quotations. If needed, interviewers assisted with clarifications during this cross-checking process. The final documents formed the data for analysis in this phase of the study.

Initially, all the interviews were treated as a single body of data and one researcher coded the detailed interview notes and excerpts for important domains identified in earlier studies of schools that were "Beating the Odds." In addition, if any other important themes emerged during this stage, they were coded. The coder and lead investigators met to clarify questions regarding domain codes and to discuss emergent themes.

The second stage of analysis focused at the school-level to compare variations of domains across the six schools. In this way we could reliably detect similarities and variations within domains, but between schools. The findings presented here describe the entire group of BTO schools and examples are given in order to represent the findings more clearly. Broader implications resulting from both Parts 2 and 3 are presented in Part 4.

Table 6. Number of interview participants by role and site

	Public Middle Schools				Charter Middle Schools	
	A	**B**	**C**	**D**	**E**	**F**
Administrators	1	1	1	1	1	2
Teachers	6	7	7	8	6	5
Students	12	8	8	15	12	10
Total interviewees	19	16	16	24	19	17

Findings Part 3: What do educators and students at BTO middle schools say contributes to the success of their schools?

The teachers, principals and students we interviewed offered rich accounts of their schools that revealed both broad similarities across all the schools, and variations that reflected the unique histories and evolving circumstances of each institution. Although their comments touched on many of the domains identified in our initial research, there were important additional findings that emerged- the role of a core educational vision and the part played by parents and their children in schools. Three key influences, each with situated variations, stood out across the six BTO middle schools: a) school leadership; b) core educational vision; and c) parents, children and schools.

Finding 1. Effective leadership includes, but extends beyond, one or two dynamic individuals and feeds into organizational qualities and valued relationships of the school community.

Research on schools that beat the odds describes empowering, collaborative leadership as a key ingredient.[16] The comments we heard in interviews at BTO middle schools deepen the common insight that leadership is important. They reveal distinct dynamics of leadership that reflect and shape the circumstances of particular school communities. We found three images of leadership among these schools – three ways that effective leadership may reveal itself under different circumstances: collaborative partnerships, prominent principals, and leadership in transition.

Collaborative partnership

In three of the schools the principals and the teachers talked about being collaborative partners, with the principal as the instructional leader among professional peers. At all of the BTO schools, there were formal instructional teams at grade levels, subject levels, or school wide. However at these three, administrators were described as supportive and empowering of teachers' instructional and professional goals.

For example at one school, a teacher described the principal's leadership style as "not threatening but positive, upbeat, encouraging." This principal spent time in classrooms to monitor the progress of instructional initiatives. Teachers expressed no discomfort with the principal's classroom observations. When referring to teams that are in place with the power to make decisions about curriculum and non-curriculum related issues, one teacher noted, "We know who to report to for specific areas. Leadership is designated [to teachers]." Students contribute to school-wide collaboration and leadership, also. They are encouraged to assume leadership roles in large scale and school-wide projects.

At another BTO middle school, the principal described himself as a "customer service person" and a consensus builder," who strives to gain buy-in to initiatives, rather than trying to dictate the path ahead. Teachers and students told us they often saw the principal and vice principal in the hallways and classrooms. Teachers noted that the principal's door was open to them and that their expertise was valued. A teacher told us that grade level and content area teams were "not micro-managed" and that "within reason they have the power to make important decisions."

At a third school, a recent reorganization has introduced new challenges as well as new opportunities for collaborative leadership. Teachers expressed appreciation for "focused and firm" leadership that offers clear goals and a tangible vision for instructional teams.

One teacher described her opportunities for professional growth through developing new courses for the school. She said, "There is freedom and flexibility in this school." Teachers also admired the principal's efforts to increase school pride and to work as a community liaison. A teacher spoke of this as an important initiative "to show parents that this is a valuable place to send their children, not only for the academics but for sports and other activities."

Prominent principals

Two schools in our sample displayed a more distinct differentiation between the principal and the teachers than in the schools just described. As in other BTO schools subject and grade level committees are in place, but the principals in these schools exert more direct influence over the collective work of staff in their schools. Discussing the factors that contribute to success, one prominent principal said, "Teacher collaboration is not the factor. Consistent vision and understanding are the factors." And while instructional teams meet regularly, he says that this is not the "driver of success."

Teachers shared this view of a prominent leader and commented that this principal leads by being passionate about the school and its success. One teacher said, "I have been in schools where the joke is that you never see the principal because he's always behind the door and the door is shut. It's not like that here." While he "lets his presence be known" in the school, the principal also focuses on representing the school and its vision to the outside world.

Another prominent principal also described a directive leadership style, saying "Personal relationships are not as important to me as a leader as performance is. I don't run the school on compassion. I can make tough decisions without compassion. You have to separate the personal and the professional." Some teachers here spoke of the cohesiveness of their school community. One noted, "The small staff makes our school friendly. We are collaborative as an entire staff and include each other in what we do." There were, however, conflicting opinions, with one teacher expressing a sense of exclusion from the leadership process. The principal's commitment to involve the school in a new school-change initiative was seen by some teachers as a clear and compelling project and by others as a distraction from more pressing concerns related to their unique and labor-intense curriculum model.

Leadership in transition

In one of the successful schools in this study, successive turnover in the position of principal has shaped the dynamics of leadership in this school. One teacher stated "We've

had a lot of changes in leadership in the last 4 years. We're still getting to know our current instructional leader. You can't tell about someone's leadership style until they have been here long enough to get comfortable." As this relationship develops, the veteran staff contributes leadership that rests on many years of working together and their shared investment in the good reputation of their school. The principal recognizes that the school has long sustained strong performance, "This is a rigorous school. Academics are important."

Teachers across grades and content areas participate on a leadership committee that the principal said helped "guide the school." Teacher teams here were like those in other schools we visited, but we heard less at this school about two-way communication between teachers and principal. While the principal said that new staff development and student improvement initiatives had been put in place, only one of them - the leadership committee- was mentioned in any of the teacher interviews. Instead when teachers described their commitment to high quality instruction, they referred to informal peer relationships and collaborations built over the years together as principals have come and gone.

One teacher explained, "It is difficult to get time within team and grade levels because of the [reteaching schedule] but my [subject] partner is easy to get along with. We have worked together for almost 15 years. We tweak what we have, modify projects, constantly update and improve what we're doing in class."

Several teachers and the principal said that parents have historically provided stability and focus at this school. One teacher noted, "Parents will dictate what's going on in this building. We have a very active PTA."

Finding 2. A core educational vision, grounded in a school's unique circumstances, supports adaptive responses to broader mandates and opportunities.

Listening to educators and students at these BTO schools led us to consider the relationship between the core educational vision of a school and its capacity to respond to opportunities and challenges from beyond the school, such as mandates for standardized testing and data-driven decision making. At all but one school we heard comments that revealed a shared educational vision as a defining aspect of the school. These core commitments were sometimes formally articulated, through, for instance, a school-wide model of curriculum and instruction. In other cases the commitments were implicit in

repeated references to certain values, such as an ethic of nurturing the unique potential of every child.

A formal vision

Two of the schools are designated magnet schools and two are charter schools. In each of these, educators share a curricular vision that helps them integrate testing and data-driven instruction to support student learning. Their educational approaches are marks of distinction and pride for these schools. Teachers in different grades and subject areas dovetail aspects of their classes to help students develop integrated understandings across subject matter boundaries.

For instance, in one school, a drama class studied myths and legends from cultures and periods that were being examined in social studies. One teacher felt that structured cross-departmental collaboration "creates more communication, gratitude, and understanding. It gets us thinking and working together." Staff in another school uses writing across the curriculum, emphasizing the importance of developing and assessing writing skills regardless of the subject matter. In these schools, the role of assessment is to guide instruction. One BTO school has begun to use software to help track the performance of individual students across all classes.

Often, students at these schools named the specialized curriculum as one of the things they like best about their school, whether it involved technology, literature, art, or community service. They liked to be engaged and believed the school wide curriculum model helps them to achieve. One student summed it up, "Kids don't always like academics but here, it is related so it makes it more enjoyable and makes kids try harder. Usually kids slack off, but here, they learn more and make better grades."

Although students are prepared for standardized test-taking, the curricular approaches in these schools encourage students to present their learning in creative ways. Many of the teachers are involved in extra-curricular activities. Several noted the importance of helping students experience success inside and outside of academic classes.

An informal vision

In contrast with a formally adopted curricular vision, we found another kind of educational vision, where the school community was characterized as a "family" that embraced an ethic of care for students. Teachers spoke of understanding that while all students are not college bound, every child deserves high expectations that are appropriate to their

situation. Teaching at this school, said one staff member, was guided by the question, "What can we do to help all students succeed, not just the top and the average, but all students? …because all students have a future." Teachers spoke about a collegial atmosphere in the school in which they coordinated the curriculum across grade levels and sat in on classes to learn from each other.

Although, as one staff member put it, "we are in a testing age," life at this school does not seem to be dominated by concerns about standardized testing. Instead, there is a focus on incorporating formative assessment into instruction. A teacher described it this way: "This is what I want them to do now, [so] how are we going to get there? Assessment along the way gets us to the end." The principal told us that while the pressure of external mandates can be stressful, he tries not to focus on it too much because he is confident of their approach in the school.

Students communicated this relaxed ethic of caring also. Some of them liked that there was less homework and the teachers were "not too strict." At the same time, teachers are approachable and helpful. "Teachers help you a lot with your work, no matter what– passing or failing, doing bad or good." Another student said they can always go to the teachers, the principal or the assistant principal, "even with our own personal problems."

A vision in transition

We found a distinct variation related to a school's shared but informal vision. Our conversations in another of the successful middle schools often turned to testing and accountability data, rather than any particular vision that emerged from the school community. In describing content area meetings, one teacher mentioned how the focus tends to be on identifying shortcomings in testing from the previous year. While teachers in other BTO schools described their collaboration in terms like "rowing the boat in the same direction," here we heard things like "we are all in this together," suggesting something closer to shared adversity than opportunity. One teacher spoke with pride about the depth of data analysis at this school, describing how outside analysts came in to help teachers dig deeply into the data. Seeking to achieve gains in school-wide achievement, their data analysis focused on students whose scores would be "most movable" by instructional interventions.

Some teachers who had worked at this school for many years were concerned about the focus on test preparation and data, suggesting that this focus has undermined their professional autonomy and the quality of experiences they are able to offer their students. One worried that "we are teaching our kids to be test takers. There is not a lot of room for creativity." Another said, "It's effective to see the data, but now everyone just focuses on the test…and others things get pushed off to the side. We feel beaten to death with data. Each week starts with the countdown to the DSTP." While the principal focused on testing and

the need for more classroom technology, some of the teachers wanted more resources for student counseling and paraprofessionals in the classroom.

No particular shared vision came through from the interviews with students. Students here talked about extra-curricular activities and challenging class work that engaged them. Many mentioned teachers who worked to ensure their academic success. But, unique among the BTO schools we visited, at every grade level we heard from some students who were concerned and frustrated with problems with school discipline and classroom disruptions. While our study did not ask about or focus on discipline, the students' comments provided an insight. From their point of view, it wasn't the curriculum that was remarkable; it was the disruption.

Finding 3: The investment of parents in their children's success is seen as necessary for the ongoing success of these BTO schools. Alternately, parents are seen as barriers to school success when they are believed to be inadequately involved in their children's education.

Prior research on effective schools finds that parental influence is not sufficient to move schools to adopt effective practices.[17] But at every school we visited we heard repeatedly about the crucial role of parents in their children's academic success. When we asked teachers to name the most important outside influence on their schools they talked first about parents. Four of these BTO schools, two magnet schools and two charter schools, had a strong element of choice in their enrollment, Many of the staff we spoke to saw school choice as enhancing the self-motivation of students and the engagement of parents. On the other hand, the widespread belief regarding parents' influence on their children's school success cuts the other way. Their influence is noted in its absence as well, that is, when parents are seen as unwilling or unable to send their children to school ready to learn. Whether or not parents in fact influence the academic success of their children, there is a widespread perception at these BTO schools that parents play a crucial role.

This perception of the role of parents influences how opportunities and challenges are viewed at these schools. For example, one teacher told us that in the past, there "was not a lot of parental involvement." Now, due to their magnet status and school choice, there are more applicants than spaces available, so students know there is always someone willing to take their place. And at one of the charter schools, a teacher said that because parents had "jumped through so many hoops to get their child in here" they are more willing to listen to and work with teachers. Another said, "Students in this school have the parental support to help to make them successful." Similarly, parents that invested the effort it takes to get

their children into one of these schools were seen as likely to stay involved. One teacher stated, "Involvement of parents is huge. If you call home there is support. They will come in and work with you, where in other schools, it's not the same. They realize you are the expert and work with you."

In the same way, we heard from all six schools about how parents can make "all the difference." One principal said parents "go out of their way in fundraising. They ask 'what can we do to make a stronger school for our kids?'" Fundraising efforts by the PTA combined with district support, helped fund a new computer lab and other technology for classrooms. "They [parents] consider themselves real stakeholders," said a teacher.

There is a related but reversed observation. Some teachers saw parents as part of a new and growing *challenge* for their school. For example, "There are two communities in this school, the kids who live around here who choose to come here because it's their feeder pattern, and the kids who come here from the old [school name] feeder pattern in the city." Teachers spoke of the mounting difficulties of students who do not have adequate parental support, sometimes because the parents themselves did not experience success in school. These teachers were frustrated with students who consistently came to class without their books and homework.

These teachers predicted that test scores would decline as a result of the changing student population. One said, "Kids without parental support don't succeed on the DSTP." While they believe that effective teaching has had a role in their school's past success, they emphasized that "it doesn't hurt to have a high achieving group of kids with a lot of parental support."

Discussion Part 3: What contributes to the success of BTO middle schools?

Interviews with members of these six Delaware BTO middle schools point to leadership, an educational vision, and the relationship of parents, children and schools as key elements of school success. The results do not suggest that BTO schools have the same style of leadership, or identical visions of education. We found instead different paths to success that reflect the unique histories and current circumstances of each school. In their different ways, what most of these schools share is an organizational climate shaped by leadership that identifies compelling educational approaches and brings educators, students and parents together around those approaches. A critical element of such a vision concerns

what it means to be an educated person and how educators can help children become their own unique embodiment of that kind of person.

Leadership that guides the school community toward a shared educational vision provides a resilient framework that helps a school develop and express a distinctive character while also addressing and finding value in mandates that affect all public schools, such as standardized testing. All these BTO schools participate in accountability testing and use data to inform student instruction and other decision-making. In most of the schools we visited the principals and teachers could rely on a core educational vision as a problem-solving framework to anticipate and address both opportunities and barriers as they arose.

On the other hand, educators in schools without a shared, core vision may feel less able to respond proactively to shifting circumstances inside and outside the school. The concerns we heard at one school lead us to wonder if, without a stable leadership and an educational vision as a defining quality of a school, the pressure to focus on test results might threaten some schools with an identity crisis. Schools may be less able to sustain high performance by all groups of students on standardized tests and other mandates without a vision that integrates mandates with broader goals that enrich professional practice and student learning.

Many of the educators we spoke to identified parental support as another crucial element for successful students and schools. Most of the BTO schools we visited included some degree of school choice in their enrollment or admissions procedures. Educators believed that school choice increased students' motivation and the involvement of parents. However, this strong perception that parents make a difference in their children's school success was also associated with the belief that parents can be barriers to student learning that schools struggle and sometimes fail to overcome. This concern arose at one school where some teachers believed that shifts in geographical enrollment feeder patterns and student demographics presented new challenges that threatened to lower the school's historically high standardized test scores.

We believe that all the educators we spoke to would agree that schools must provide excellent learning opportunities to all students regardless of where they live or the quality of the involvement of their parents or guardians. However it seems that some BTO schools may be better positioned than others to adapt to the changes, such as shifting student demographics and new accountability mandates that are enduring features of public education. Schools that are communities tied together by leadership and an educational vision may be more likely to create opportunities in and manage the challenges of a constantly evolving educational landscape. Schools without such shared commitments are more likely to be reactive in the face of change, shaped more by circumstances beyond their control than by commitments developed within and shared by the school community.

Part 4: Considerations and recommendations of the study

While Part 2 illustrated differences between BTO schools and other comparison middle schools, Part 3 provided a picture of the variations within the group of BTO schools and provided new insight regarding the question "What matters most in successful middle schools?"

In Part 2, we found that BTO schools are distinguished less by what practices they embrace than by the intensity and depth of focus on those practices. BTO and comparison schools were similar in many respects. In both groups of schools educators believed that all students can achieve and that schools must holds high expectations for student learning. Practices such as shared planning by teachers and weekly classroom "walk throughs" by principals occur in both BTO and comparison schools.

But BTO and comparison schools appear to differ in the *intensity* with which educators in BTO schools associate themselves and their schools with key domains of effective educational practices. On almost every item, we saw higher percentages of educators in BTO schools who "strongly agree" with statements than in other comparison schools.

The findings from the survey in Part 2 hold up and are enriched by perspectives from the interviews. In BTO middle schools we heard that parents, and by extension their children, play a role in establishing and maintaining a school's shared vision, values, and expectations. In addition, a vibrant shared vision— whether a formal curricular model or an informally shared identity — can itself become a contributor to the community, serving a protective function, enabling decision making, and possibly helping to define a path into the future.

We believe there are implications here for those who advise and lead Delaware's middle schools.

Perhaps the most appropriate place to begin promoting change is at the basic unit of the school itself. These schools remind us that practices, policies, supports and beliefs work in concert. Changes in a few areas will impact all the others. Consideration of the local culture is critical for the outcomes to be favorable.

1. *Focus on supporting key foundational domains of practice.*

Comparing BTO to other middle schools we found that there were important differences in reported access to and use of data. Principals in BTO schools were more often seen to review student data with teachers. Instruction was protected from unnecessary interruption. These seem straightforward practices that could be easily encouraged in other middle schools.

However, the surveys also identified differences between BTO and other middle schools that seem more difficult to change. Some examples might include "Teachers and parents working together to improve student learning," or "There is a high level of trust among administrators, teachers, and parents that supports working together." These collaborative practices seem to build on an openness or willingness to become open that may not exist in all Delaware's middle schools. This suggests that skilled leadership and a shared vision are foundational domains that promote other key organizational qualities, such as empowered teachers and high expectations for student learning. The findings in Part 3 add weight to this suggestion by illustrating the influence of skilled leadership and a shared central vision. The interviews also strongly pointed to parents as key players in school success.

2. *Focus on teacher empowerment to build a collaborative culture*

While the importance of shared vision and high expectations were evident in each part of this study, teacher buy-in and teacher empowerment with regard to the vision are clearly different in the BTO schools. Teachers are practical problem solvers and they are the holders of critical instructional and curricular knowledge. These findings imply that when they are empowered to act and their decisions matter, collaboration focused on student achievement can lead to results. Invite teachers and principals to come together to develop or clarify a vision they can all *strongly agree* upon.

3. *Focus on each school's culture and vision*

An adaptive, discerning model of change might also be the most effective. The important domains that formed the basis for this study came from earlier research in other successful schools and were extracted from practices and values found in those schools. We found that those same domains played important roles in Delaware's BTO middle schools. In our research, however, we also found how they look within the schools and how the schools

organized and related the factors to create exceptional cultures that lead to consistently high student achievement.

Any externally presented list of "best practices" must be enacted within a local school culture. Our BTO schools have shown us that these generalized, widely-applied practices intensify when interpreted within their own shared vision. It seems that a shared vision, once produced, is empowering. It makes the domains more meaningful and more actionable, whether they are practices such as collaboration and data use, or values and beliefs such as high expectations for student achievement. School leaders and policy makers can benefit from this finding.

While we did not examine how these middle school cultures began, we did visit schools in varying stages of development. There is some evidence that across these successful examples and regardless of student demographic background, leadership, collaboration, and shared vision work in unison, and that shared practices and values , within a shared vision, in turn encourage and support the individuals in their day to day endeavor to accomplish their goal-- high student achievement.

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Appendices

Appendix A. Characteristics and policies of effective middle schools. [17]

Domains	Chenoweth, K. (Fall 2009)	EdSource (June 2006)	Sweetland, S.R. & Hoy, W. K. (2000)	National Middle School Association (2009)	National Assoc. of Secondary School Principals (Jan. 2006)
Collaboration	Professional collaboration	Encouraging professional collaboration	Teacher Professionalism (teacher-teacher)	Collaborative leadership	Collaborative Leadership & Professional Learning Communities
Teacher role	Precise Lesson Planning	Implementing a coherent, standards-based instructional program			Challenging and integrative curriculum/ Diverse instruction	Curriculum & Assessment
	Data-driven instruction	Using assessment data to inform instruction		Shared vision that guides instructional decisions	
Data use	Formative Assessment			Aligned high quality assessment and evaluation processes	
Climate	Personal Relationships		*Supportive, egalitarian principal leadership allows teacher empowerment to flourish*	An inviting, supportive, safe environment with high expectations for every member of the learning community	Personalization and the School Environment
				Students and teachers engaged in active learning	
Leadership	Leadership	Enforcing high expectations for student behavior	Collegial Leadership (principal-teacher)	Collaborative leadership	Collaborative Leadership & Professional Learning Communities

	Chenoweth, K., (Fall 2009)	EdSource, (June 2006)	Sweetland, S.R. & Hoy, W. K. (2000)	National Middle School Association (2006)	National Association of Secondary School Principals (January 2006)
High expectations		Prioritizing Student Achievement	Academic Press (teacher-student)	High expectations for every member of the learning community	
Instructional support		Providing instructional resources	*Principals provide the resources and exert influence to attain the academic press goals*	Supportive organizational structure/ Policies and practices that foster health, wellness, and safety/ Multifaceted guidance and support services	
		Involving and supporting parents	Environmental press in itself is not sufficient	An adult advocate for each student/ School initiated family and community partnerships	
Beliefs about middle schools				Educators who value working with this age group	

Appendix B. Description of survey instrument analysis

Survey items were first tested for internal consistency reliability using Cronbach's alpha. This measure provides an idea of how well items behave as a group. All item domains except climate were found to be internally consistent. Because of low internal consistency in the climate subscale, three of the climate items were reassigned to other factors and one item was eliminated from the final analysis. Final Cronbach alpha values were well above the 0.70 threshold accepted by leading measurement texts (e.g. Allen & Yen, 1979).

Although high alpha values give some evidence of dimensionality, they do not ensure that the scale is indeed unidimensional. These items should form meaningful clusters that explain responses in a coherent manner. We used an exploratory factor analysis (EFA) to explore the relationships between the items. Eigen values and scree plot analysis (Cattell, 1966) was used to determine the number of factors to extract and rotate. In order to aid in interpretation, factors were rotated using the direct oblimin procedure, assuming any extracted factors would be correlated.

The total sample size for the factor analysis is 290, which is considered good (Tabachnich & Fidell, 2007). The initial analysis, including survey items 7, 8, 9, 10, 11, 14, 15, and 17, showed that items 14, 15, and 10F either cross loaded or showed low loadings. These items were removed from the scale and the analysis re-run. The final results suggested a two-factor structure of the instrument explaining 53.10% of the variance. Items 7, 8, 9, 10, and 11 loaded on the first factor, and item 17 loaded on the second factor (see figure B1). All factor loadings were at least fair (Comrey & Lee, 1992). The high correlation between the two factors (r=0.56) means that the factors share a significant portion of variance.

The EFA found that items formed two groups: those items related to district policies and actions ("district factor") and those related to schools themselves ("School factor"). (See figure B1.) The findings section compares survey responses between BTO and comparison schools.

Figure B1. Factor plot of the second analysis

Component Plot in Rotated Space
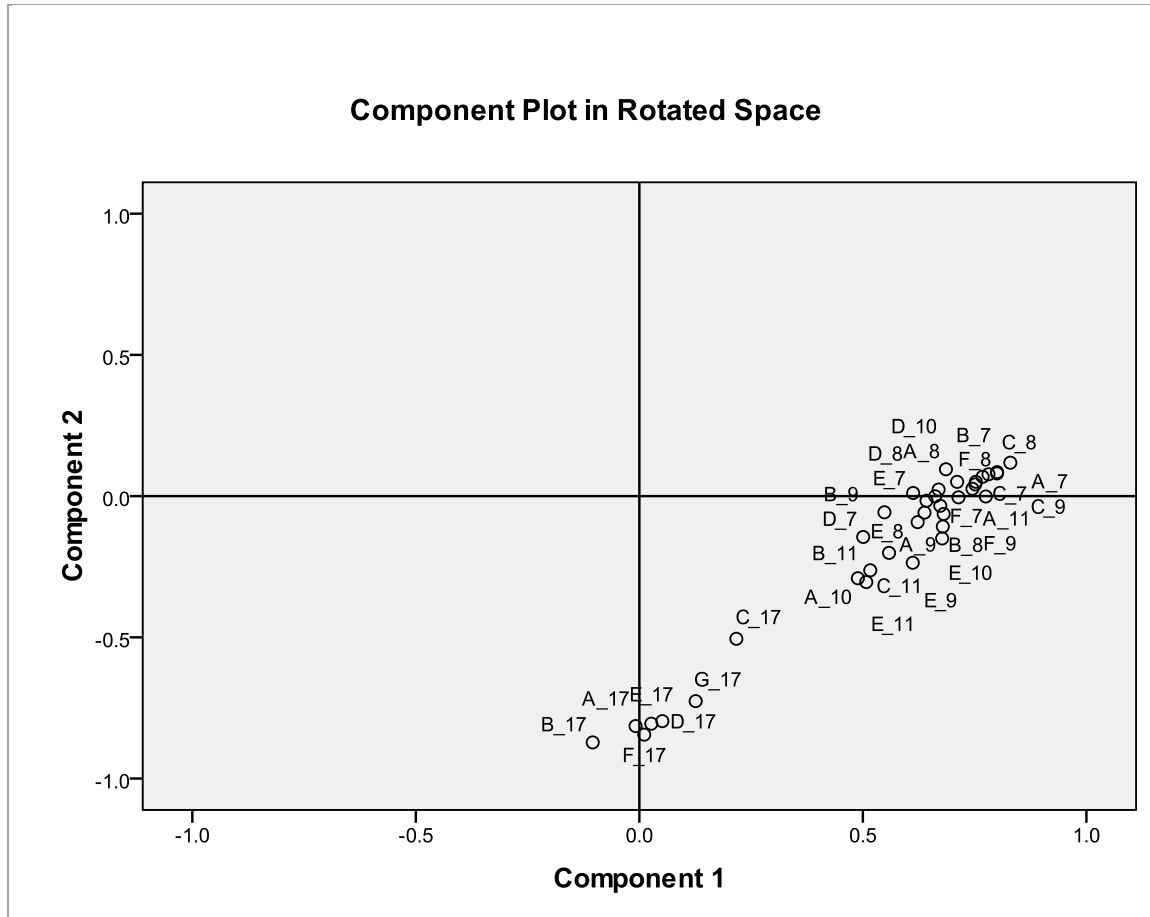
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Appendix C. Survey responses organized by domain (Beating the Odds: N= 166; Comparison Schools: N= 125)

Do the following statements describe your school?					
Domain: High Expectations	**School**	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**
7A. This school has a clear vision that is focused on student learning.	Beating the Odds	67.9%	30.2%	1.9%	0%
	Comparison	30.7%	63.2%	6.1%	0%
10C. Our school's vision of high quality instruction is evident in our classrooms every day.	Beating the Odds	62.3%	35.8%	1.9%	0%
	Comparison	18.4%	72.8%	8.8%	0%
8C. The principal communicates clear expectations to teachers for meeting student achievement goals.	Beating the Odds	57.9%	39%	1.9%	1.3%
	Comparison	31.9%	57.9%	10.5%	0%
9C. Each student is expected to achieve to high standards.	Beating the Odds	61%	35.8%	2.5%	0.6%
	Comparison	27.2%	62.3%	10.5%	0%
8F. Teachers in this school believe that their students have the ability to achieve academically.	Beating the Odds	57.9%	40.9%	1.3%	0%
	Comparison	30.7%	62.3%	7%	0%
9F. The community and school share a common vision for their children.	Beating the Odds	47.8%	49.7%	1.9%	0.6%
	Comparison	14%	50%	30.7%	5.3%
Domain: Data use	**School**	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**
8A. Teachers receive disaggregated student achievement data by subgroups and skill areas.	Beating the Odds	47.8%	45.9%	4.4%	1.9%
	Comparison	22.8%	58.8%	15.8%	2.6%

	School	Strongly Agree	Agree	Disagree	Strongly Disagree
10B. Teachers use student achievement data to determine what to focus instruction on in their classrooms.	Beating the Odds	42.8%	53.5%	3.8%	0%
	Comparison	17.5%	68.4%	12.3%	1.8%
9A. Our school routinely disaggregates student data to assess how well we're doing.	Beating the Odds	41.5%	54.1%	4.4%	0%
	Comparison	19.3%	54.4%	24.6%	1.8%
8D. Teachers use assessment data to place students into instructional groups.	Beating the Odds	45.9%	46.5%	6.9%	0.6%
	Comparison	12.3%	63.2%	21.9%	2.6%
9E. Specific intervention plans are in place for students who do not meet expected proficiency levels.	Beating the Odds	41.5%	50.3%	8.2%	0%
	Comparison	18.4%	57%	21.9%	2.6%
11F. Our school uses tests aligned with the state standards to monitor students' progress during the school year.	Beating the Odds	54.7%	43.4%	1.9%	0%
	Comparison	28.1 %	64%	6.1%	1.8%
Domain: Collaboration	**School**	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**
10A. Teachers and parents work together to improve student learning.	Beating the Odds	31.4%	61.0%	7.5%	0%
	Comparison	5.3%	53.5%	36.8%	4.4%
9B. Grade levels meet to plan instruction and review student learning.	Beating the Odds	44%	42.1%	11.9%	1.9%
	Comparison	31.6%	60.5%	7.9%	0%
7F. What teachers are doing in the classroom matches administrators' expectations for learning.	Beating the Odds	57.9%	38.4%	3.8%	0%
	Comparison	15.8%	80.7%	3.5%	0%
7C. This school has identified essential/key standards for each grade level.	Beating the Odds	63.5%	32.1%	3.8%	0.6%
	Comparison	30.7%	62.3%	7%	0%

	School	Strongly Agree	Agree	Disagree	Strongly Disagree
10E. There is a high level of trust among administrators, teachers, and parents in our school that supports working together.	Beating the Odds	41.5%	49.1%	6.9%	2.5%
	Comparison	8.8%	60.5%	27.2%	3.5%
14D. I have detailed knowledge of the instructional methods used by other teachers at my school.	Beating the Odds	28.5%	51.8%	19.7%	0%
	Comparison	20.8%	53.1%	25%	1%
11E. Teachers are involved in making important decisions at this school.	Beating the Odds	37.1%	47.2%	13.2%	2.5%
	Comparison	14%	57%	27.2%	1.8%
14E. I have detailed knowledge of the content covered by other teachers at my school.	Beating the Odds	31.4%	54%	13.1%	1.5%
	Comparison	20.8%	51%	26%	2.1%
Domain: Teacher role	**School**	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**
8B. Teachers take responsibility for student achievement.	Beating the Odds	56%	42.8%	1.3%	0%
	Comparison	21.1%	72.8%	6.1%	0%
8E. The instructional needs of special education students are addressed at this school.	Beating the Odds	45.3%	38.4%	13.2%	3.1%
	Comparison	26.3%	57.9%	14%	1.8%
7E. Teachers make adjustments in their instruction based on areas where students encounter problems.	Beating the Odds	59.7%	38.4%	1.9%	0%
	Comparison	22.8%	71.9%	4.4%	0.9%
11D. Teachers here are committed to teaching middle school students.	Beating the Odds	64.2%	35.2%	0.6%	0%
	Comparison	31.6%	67.5%	0.9%	0%
14C. I use the state standards to guide what I teach.	Beating the Odds	60.6%	38%	1.5%	0%
	Comparison	51.2%	44.8%	3.1%	0%

	School	Strongly Agree	Agree	Disagree	Strongly Disagree
10D. Teachers intentionally provide support to students as they transition to middle school from elementary grades.	Beating the Odds	53.5%	41.5%	4.4%	0.6%
	Comparison	19.3%	71.1%	9.6%	0%
Domain: Instructional support	**School**	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**
15D. Each one of my students has a copy of the textbook(s).	Beating the Odds	39.4%	29.9%	16.8%	13.9%
	Comparison	18.8%	38.5%	25%	17.7%
11B. The purpose of professional development programs is to improve student learning.	Beating the Odds	42.8%	52.2%	5%	0%
	Comparison	22.8%	68.4%	8.8%	0%
11C. The school's budget directly supports its priorities.	Beating the Odds	39%	50.9%	8.2%	1.9%
	Comparison	14.9%	60.5%	24.6%	0%
7B. Our school creates an environment that encourages all students to learn.	Beating the Odds	63.5%	33.3%	1.9%	1.3%
	Comparison	27.2%	64.9%	7.9%	0%
15E. Instruction is protected from unnecessary interruptions.	Beating the Odds	33.6%	54%	10.9%	1.5%
	Comparison	8.3%	41.7%	40.6%	9.4%
Domain: Leadership	**School**	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**
14A. The principal suggests instructional strategies to use in my classroom.	Beating the Odds	21.9%	52.6%	23.4%	2.2%
	Comparison	17.7%	57.3%	22.9%	2.1%
14B. The principal reviews my students' achievement data with me.	Beating the Odds	17.5%	54.7%	24.8%	2.9%
	Comparison	6.3%	40.6%	47.9%	5.2%

11A. The principal encourages teachers to take a leadership role in this school.	Beating the Odds	49.1%	43.4%	5%	2.5%
	Comparison	26.6%	60.5%	12.3%	0.9%
9D. The principal communicates a clear vision for this school.	Beating the Odds	62.9%	32.7%	2.5%	1.9%
	Comparison	38.6%	53.5%	7%	0.9%
7D. The principal ensures that teachers have time for planning.	Beating the Odds	57.9%	33.3%	8.2%	0.6%
	Comparison	33.3%	53.5%	13.2%	0%
15A. The principal visits classrooms each week in our school to monitor instruction.	Beating the Odds	22.6%	48.2%	25.5%	3.6%
	Comparison	9.4%	53.1%	29.2%	8.3%
15B. The principal sets high standards for student learning.	Beating the Odds	61.3%	37.2%	0%	1.5%
	Comparison	29.2%	64.6%	5.2%	1%
15C. The principal provides support for classroom order and discipline.	Beating the Odds	48.9%	42.3%	6.6%	2.2%
	Comparison	22.9%	61.5%	13.5%	2.1%

Domain: District influence	School	Strongly Agree	Agree	Disagree	Strongly Disagree
17A. This district provides instructional resources and support.	Beating the Odds	31.6%	56.3%	10.1%	1.9%
	Comparison	16.8%	70.8%	11.5%	0.9%
17B. The district provides up-to-date instructional materials.	Beating the Odds	29.1%	50%	17.1%	3.8%
	Comparison	11.5%	61.9%	23.9%	2.7%
17C. The district expects all schools to improve student achievement.	Beating the Odds	56.3%	40.5%	1.9%	1.3%
	Comparison	33.6%	64.6%	0.9%	0.9%

17D. This district offers helpful professional development activities to support instructional improvement.	Beating the Odds	29.1%	56.3%	12%	2.5%
	Comparison	19.5%	51.3%	26.5%	2.7%
17E. This district encourages teachers to take a leadership role in the district.	Beating the Odds	29.1%	50%	17.7%	3.2%
	Comparison	13.3%	59.3%	24.8%	2.7%
17F. The district is aware of the challenges our school faces.	Beating the Odds	25.9%	58.2%	12.7%	3.2%
	Comparison	16.8%	50.4%	26.5%	6.2%
17G. This district praises and recognizes teachers for their contributions to student learning.	Beating the Odds	28.5%	53.2%	16.5%	1.9%
	Comparison	12.4%	45.1%	37.2%	5.3%

Appendix D. School-level response rates

Middle School	Current number of [a] Teachers and [b] Administrators	Total # completed surveys	Total response rate
BTO 1	14	10	71%
BTO 2	37	27	73%
BTO 3	50	40	80%
BTO 4	42	38	91%
BTO 5	39	39	100%
BTO 6	18	12	67%
Comparison 7	56	30	54%
Comparison 8	15	6	40%
Comparison 9	49	31	63%
Comparison 10	51	40	78%
Comparison 11	19	10	53%
Comparison 12	12	8	67%
Total	402	291	72%

[a] Information from DOE website includes teachers and librarians, grades 6-8.

[b] Information provided by schools and/or school websites

Appendix E. Chi square values of item significance by domain: Beating the Odds vs. Comparison Schools

Category	Items	Agree + strongly agree (total agree)		Strongly Agree	
		Value	Significant	Value	Significant
Climate	7B	2.172	0.141	35.09	0
	9F	51.046	0	33.876	0
	10A	42.299	0	27.917	0
	10E	18.617	0	35.422	0
	10F	0.034	0.855	17.678	0
Instructional support	11B	0.993	0.319	11.717	0.001
	11C	9.278	0.002	18.724	0
	15D	3.138	0.076	11.29	0.001
	15E	37.777	0	20.202	0
Leadership	7D	0.941	0.332	16.015	0
	9D	0.932	0.334	15.725	0
	11A	2.345	0.126	14.36	0
	14A	0.009	0.925	0.835	0.361
	14B	14.477	0	6.389	0.011
	15A	2.11	0.146	7.611	0.006
	15B	2.506	0.113	23.368	0
	15C	2.597	0.107	16.149	0
Teacher Role	7E	1.42	0.233	36.717	0
	8B	3.404	0.065	33.379	0
	8E	0.068	0.794	10.206	0.001
	10D	1.556	0.212	32.511	0
	11D	0.089	0.766	28.18	0
	14C	0.745	0.388	1.968	0.161
Data Use	8A	8.49	0.004	17.72	0
	8D	13.967	0	34.587	0
	9A	25.103	0	14.995	0
	9E	12.662	0	16.301	0
	10B	7.985	0.005	19.338	0
	11F	4.236	0.04	19.173	0
Collaboration	7C	0.475	0.491	28.608	0
	7F	0.137	0.711	48.851	0
	9B	2.329	0.127	4.763	0.029

	11E	6.217	0.013	17.738	0
	14D	1.306	0.253	2.065	0.151
	14E	5.651	0.017	3.187	0.074
High Expectations	7A	2.256	0.133	36.881	0
	8C	6.196	0.013	18.417	0
	8F	6.242	0.012	19.686	0
	9C	6.196	0.013	30.483	0
	10C	5.341	0.021	51.808	0
District Influence	17A	0.008	0.928	8.224	0.004
	17B	1.184	0.277	12.718	0
	17C	0.945	0.331	13.634	0
	17D	7.79	0.005	3.261	0.071
	17E	1.566	0.211	10.132	0.001
	17F	10.69	0.001	3.604	0.058
	17G	20.009	0	10.69	0.001

Appendix F. Teacher, administrator and student interview protocols

Middle School Teacher interview protocol

Business- Introduce myself, explain and collect informed consent forms. Start tape.

1. Intro statement- examples
   a. I'm [interviewer name] from the University of Delaware Education Research and Development Center. The DE Department of Education has asked us to look at successful middle schools in Delaware to better understand how they achieve their success. For example, in the last 3 years the students in this school scored higher on DSTP math and reading than students in demographically similar schools. In your view, what are the most important things this school has done to achieve this success*?*
2. Descriptions/probes (if respondents do not address i-vi below)
   a. Is there something that your school does around [insert one of i-vi below] that affects its success?
      i. ---Teacher collaboration
      ii. ---Focus on student learning
      iii. ---Formative assessment to see if students have learned
      iv. ---Data-driven instruction
      v. ---Personal relationship building
      vi. ---Leadership
   b. Are there people or institutions outside of your school that you have to consider? (Use this as probe if respondent does not raise it earlier)
   c. In light of what you have said, does being in a middle school present any particular opportunities or challenges to you or the school administration? (Use this as probe if respondent does not raise it earlier)
3. Current challenges
   a. An organization or school is a work in progress. What are some current challenges to success that your school is working on now?
4. Re- open the interview
   a. What else should we be thinking about as we learn more about your school's effectiveness?

Principal Interview- above plus

1. [Principal version for 2b above] In light of what you have said, does being in a middle school present any particular opportunities or challenges to you or your staff? (Use this as probe if respondent does not raise it earlier)

Student interviews-

My name is [interviewer name] and I work at the University of Delaware. I am part of a group of researchers that is visiting middle schools like yours all over Delaware. We want to better understand what middle schools do to help all students do the best they can in school. We asked to talk to students to hear what you think. So thank you for being here.

1. What things about going to your school do you like best? (Clarify, describe, probe) If they mention it as helpful or supportive, Can you explain about how that helps you?
2. What things about this school do you wish you could change? (Clarify, describe, probe)