Understanding Practices of Effective High Schools: The Role of Academic Press and Support

Marisa Cannata
Vanderbilt University

Katherine Taylor Haynes
Vanderbilt University

Thomas M. Smith
University of California Riverside

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Abstract

This paper extends existing research on school effectiveness by focusing on identifying the combination of programs, practices, processes and policies that explain why some high schools are particularly effective at serving low income students, minority students, and English language learners. Using a value-added model, two higher value-added schools and two lower value-added schools were selected for in-depth case studies to understand what differentiated higher and lower performing high schools. The main findings suggest that the higher performing schools enacted practices that integrated academic press and support in ways that fostered student efficacy and cognitive engagement. These findings suggest that understanding effective high schools should have a greater focus on the academic experience of students, and not just the practices of teachers and leaders.

Keywords: Effective schools; Academic Press; Student Ownership and Responsibility
Introduction

Beginning with the effective schools research in the 1980s, much research has been focused on what makes for better schooling. While not definitive, a broad consensus exists about the components of effective schools—including learning centered leadership, rigorous curriculum and instruction, professional culture among teachers, personalized learning for students, systemic performance accountability, and connections to external communities (Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010; Goldring, Porter, Murphy, Elliott, & Cravens, 2009). Most of the research on school effectiveness is focused on elementary schools, with generalization to secondary schools difficult, as they tend to be larger and more organizationally complex (Firestone & Herriott, 1982; McLaughlin & Talbert, 2001). There has been substantial research on urban high school reform, much of the research clusters around organizational or structural features, such as size, use of time, and how students and teachers are organized within that time (Bloom & Unterman, 2014; Iatarola, Conger, & Long, 2011; Lee & Burkam, 2003; Rice, Croninger, & Roelke, 2002). Yet we know that substantially improving educational outcomes requires understanding the components of effective schools as multifaceted and integrated (Creemers & Kyriakides, 2006; Preston, Goldring, Guthrie, & Ramsey, under review)

This paper reports the findings from an intensive case study of a large urban district focused on identifying the combination of programs, practices, processes and policies that explain why some high schools are particularly effective at serving low income students, minority students, and English language learners. This research was aimed at answering the following research question: Within a single district organizational and resource environment, what distinguishes high schools that “beat the odds” for students from traditionally lower-
performing groups from schools that struggle to improve the achievement and graduation rates of these student populations?

The main findings suggest that the higher performing schools in this district enacted practices that integrated academic rigor and support in ways that developed student efficacy and cognitive engagement. The first section of the paper describes the components of the framework that organized our data collection and analysis. The second section describes the data collected and analytic methods. The third section presents the main results. As we describe our findings, we highlight how they both reinforce and extend existing understandings of effective high schools, emphasizing the need for a more coherent focus on the academic experiences of students to help students develop the beliefs and skills necessary for them to take ownership and responsibility of their learning.

**Essential Components of Effective Schools**

This study was guided by a framework of the “essential components of effective schools,” which is based on the literature on high school effectiveness (Bryk et al., 2010; Dolejs, 2006; Goldring et al., 2009). This research suggests that schools succeed not because they adopt piecemeal practices that address these components, but because they organize a cohesive system of aligned practices (Preston et al., under review). While no one component is considered sufficient to make a high school effective, Learning-Centered Leadership and Rigorous and Aligned Curriculum provide the foundation upon which the other components can be realized. The remaining components, including schools’ emphasis on Quality Instruction, Personalized Learning Connections, Culture of Learning and Professional Behavior, Systemic Performance Accountability and Use of Data, and Connections to External Communities, each constitute
elements which are necessary, but not sufficient alone to develop engagement, commitment, shared norms and, ultimately, student learning.

*Learning-Centered Leadership* focuses on the degree to which formal and informal school leaders establish a common vision in their school focused on learning and high expectations for all students (Murphy, Goldring, Cravens, Elliott, & Porter, 2007; Spillane, Halverson, & Diamond, 2001). Student learning increases when leaders articulate an explicit school vision, generate high expectations and goals for all students, and monitor their schools’ performance (Leithwood & Riehl, 2005; Murphy et al., 2007). Principals’ effects on student learning are also likely mediated by their efforts to improve teacher motivation, obtain resources, improve working conditions, and hire high-quality personnel (Grissom & Loeb, 2009; Horng, Klasik, & Loeb, 2010; Louis, Leithwood, Wahlstrom, & Anderson, 2010).

*Rigorous and Aligned Curriculum* defines the provision of content in core academic subjects, focusing on the topics students cover as part of the curriculum as well as the cognitive skills they are expected to demonstrate in each course (Gamoran, Porter, Smithson, & White, 1997). A rigorous curriculum is cognitively challenging, covers broad and deep content, and prepares students for college and careers. Alignment addresses the degree to which curriculum standards, curriculum frameworks, assessments, and instructional materials are aligned at district, school, and classroom levels (Anderson, 2002; Webb, 1997).

The component of *Quality Instruction* focuses on the teaching strategies used to implement the curriculum and help students reach curricular standards (McLaughlin & Talbert, 2001; Weglinsky, 2002). Much of the research examining instruction at the high school level is descriptive, either explaining programs that have been developed and implemented to increase student achievement, particularly in math, or case studies describing the practices of teachers.
identified as effective. Effective practices identified in this literature include collaborative group work and inquiry-based learning (Staples, 2007) and formative assessment (Brown, 2008). Additional practices identified as effective in this literature include structures and classroom climate that allow students to try and fail without negative consequences (Alper, Fendel, Fraser & Resek, 1997), making content not only relevant for real life but illustrating important theoretical and conceptual ideas, and setting high expectations for all students (Boaler, 2008).

*Personalized Learning Connections* are defined as connections between students and adults that provide students with individualized attention targeted at their unique circumstances and learning needs (Lee & Smith, 1999; McLaughlin, 1994). The development of personalized learning connections also encompasses the development of students’ sense of belonging at school (Walker & Greene, 2009). Students’ connections to school can fall on a continuum from strong and robust, leading to connectedness, to weak and non-existent, leading to alienation (Crosnoe, Johnson, & Elder, 2004; Hallinan, 2008; Nasir, Jones, & McLaughlin, 2011).

A strong *Culture of Learning and Professional Behavior* is defined by students and teachers contributing to a strong culture of learning in their school. This culture captures the extent to which teachers take responsibility for student performance and the degree to which they collaborate in their collective learning efforts through activities such as school-wide or department level professional development (Lee & Smith, 1996; Little, 1982), including the development of professional learning communities and other communities of practice that define norms of engagement, commitment, and heightened professionalism for learning (Newmann, King, & Youngs, 2000). This culture is also defined by a shared focus on high expectations for students and an emphasis on students’ academic needs among the administration, staff and faculty of the school (Marks & Louis, 1999).
A focus on *Systemic Performance Accountability and Use of Data* refers to having outcomes take precedence over processes in the evaluation of academic performance and using data to inform classroom decisions (Elmore, Abelmann, & Fuhrman, 1996; Kerr, Marsh, Ikemoto, Darilek, & Barney, 2006). The literature suggests that efforts to shift the focus of accountability from educator processes to student learning outcomes do not always achieve the desired effects because implementation of accountability policies depend on the buy in of teachers and teachers’ beliefs in what their students are capable of (Anagnostopoulos, 2003; Anagnostopoulos & Rutledge, 2007; Carlson & Planty, 2012). Though research on data-based decision-making in high schools is scant, a consistent finding is that where data use is effective, the power to make data-based decisions is diffuse, collaborative, and pervasively integrated into practice, and educators give careful consideration to which data and which forms of use are most effective in improving academic performance (Ingram, Seashore Louis, & Schroeder, 2004; Schildkamp & Visscher, 2010; Spillane, 2012).

Effective *Connections to External Communities* refer to the ways in which schools establish meaningful links to parents and community organizations and build relationships with local social services (Mediratta & Fruchter, 2001; Sanders & Lewis, 2004; Shaver & Walls, 1998). The literature on parent and community relationships at the high school level is limited. While there is agreement with the idea of shared responsibility between families, communities, and schools for children’s social and academic success, less is understood as to how these aspirations are fulfilled in high school (Davies, 1995).

This framework emphasizes that it is not the implementation of a reform to improve any single component that leads to school effectiveness, but rather the integration and alignment of school processes and structures across these eight components. Indeed, little is known about the
ways in which educators develop, integrate, and sustain these components. Thus, the goal of our research was to examine what combination or enactment of these components distinguishes higher value-added high schools from lower value-added high schools in the same district context, paying particular attention to the types of programs, practices, and processes support better than expected outcomes for students from traditionally lower performing groups.

Methods and Data

District and School Selection

This study took place in Fort Worth Independent School District (FWISD) because the district met two criteria: 1) was in a state that had sufficient history of high school assessments to allow calculation of current and 3-year average school-level value-added measures, and 2) had a sufficient number of higher and lower value added high schools that differences in school-level value added measures would be statistically significant. FWISD is the sixth largest district in Texas and the 39th largest in the country, serving over 80,000 students. In 2011, students in FWISD were predominantly Hispanic (59%), African American (23%), and economically disadvantaged (76%). Texas has a long history of test-based accountability, beginning with the Texas Assessment of Basic Skills in 1980 and the first school accountability ratings in 1993. When the data for this paper were collected, the assessment and accountability programs were in transition. Texas was transitioning into the State of Texas Assessments of Academic Readiness (STAAR), which represented a significant departure from the prior assessment. Specifically in 2011-12 STAAR included 12 end-of-course assessments at the high school level, in place of four end-of-grade graduation tests. STAAR was also designed to be more rigorous and measure greater depth of understanding. FWISD had responded to the state accountability system by developing detailed curriculum frameworks, pacing guides, and recommended activities it
expects teachers to implement across the district. The curriculum frameworks are reinforced by district-wide Curriculum-Based Assessments, a benchmark assessment designed to assess the extent to which students have mastered content that was represented on the curriculum frameworks from the preceding period.

Once FWISD was identified, our next step was to select higher and lower value-added high schools in the district for in-depth comparative case study. The four schools were selected based on school-level value-added measures, with the goal to select two schools in the upper end of the distribution of school-level value added scores and two schools in the lower end of the distribution. Value-added measures were used for this purpose because they are designed to measure overall school effectiveness, controlling for factors associated with student achievement, but not under the control of schools, including prior grade student achievement and student characteristics associated with growth in student achievement (Meyer & Dokumaci, 2014). While VAM is controversial when used for high-stakes decisions, our school-level analysis produced estimates of each school’s contribution to student learning (Grissom, Kalogrides, & Loeb, 2014). School-level VAM estimates provide more reliability than teacher-level VAM (Harris, 2011). We further used three-year estimates to ensure the VAM estimates were robust. Additional information about the VAM estimates can be found in Appendix A in the online supplement. Finally, the selection process was conducted in such a way that the team visiting the schools did not know prior to the first visit whether the school was selected as a higher or lower value-added school.

Table 1 provides data on the demographic characteristics and average value-added rankings for each of the case study schools. To protect the identity of the schools and participants, we have provided ranges and used pseudonyms. We refer to the schools as either
lower value-added (LVA) or higher value-added (HVA) because of where in the distribution of value added scores the case study schools fell. However, school performance was not uniform for all subject areas or student subgroups. For example, one LVA school (Valley) had relatively strong outcomes in some performance measures and one HVA school (Riverview) had comparatively weaker outcomes in some measures. Nevertheless, Mountainside and Valley tended to have lower value-added scores than other FWISD high schools and Lakeside and Riverview tended to have higher scores.

**Data Collection**

Fieldwork data were collected in these four high schools in three week-long visits during the 2011-12 school year. Data collection methods included focus groups, interviews, classroom observations; and the collection of school artifacts. Data collection primarily focused on 9th and 10th grade students and teachers in English, mathematics, and science because those are the grades and subjects that produced most of the assessment data used to calculate the value-added scores, although we balanced this focus with other data from key staff and a cross-section of the school to gain a comprehensive understanding of the schools. Table 2 shows the amount of data collected by school.

All administrators, counselors, and deans of instruction were interviewed. Six teachers in each of the mathematics, ELA, and science departments were interviewed and observed in each school. These teachers were chosen because they taught classes designed for 9th and 10th grade students. All lead content teachers in the three targeted subjects were interviewed. Other support personnel were sampled either based upon specific roles in the school, such as special education and LEP coordinators, or through snowball sampling to interview personnel that other participants identified as serving key roles in the school.
We conducted three types of focus groups. First, teachers who were not sampled for individual interviews were invited to participate in focus groups. These groups were designed to get a wider representation of teachers. Second, we conducted focus groups with students who had been selected on the basis of grade level and course-taking patterns. We focused on students in grades 10 to 12 because they were more familiar with their schools, although some 9th graders did participate in some focus groups. Student focus groups were organized to include one for students taking primarily “advanced” courses, one for students taking primarily “general” courses, and one for students enrolled primarily in “remedial” or “basic” classes. Students were selected based upon on the convenience of their schedules with the goal of having a cross section in each focus group that broadly represented the demographics of students in that course selection pattern. Finally, because our initial data analysis highlighted the importance of extracurricular activities in engaging students, we also conducted focus groups with personnel who supervise these activities. Student activity leaders were sampled to ensure representation of adults from activities in five areas: sports, community service, academic focus (e.g., poetry club, academic competition groups), social clubs (e.g., manga club, prom committee), and programs provided by the school to engage students (e.g., AVID, after school programs, JROTC).

We observed and videotaped a total of 274 class periods of English Language Arts (ELA), math and science. The same teachers who participated in the interviews were the ones observed. Four class periods per teacher were videotaped and coded by trained observers. In most cases, two of the class periods were observed in Wave 1 and two were observed in Wave 2. We used an observational tool called the Classroom Assessment Scoring System – Secondary (CLASS-S) (Pianta, Hamre, & Mintz, 2011) to assess the quality of teacher-student interactions in the classroom. We observed and coded the following domains and dimensions: Emotional
Support (positive climate, negative climate, teacher sensitivity, regard for adolescent behavior), Classroom Organization (behavior management, productivity, instructional learning formats), Instructional Support in the classroom (content understanding, analysis and problem solving, quality of feedback, and instructional dialogue), and Student Engagement.

Observations were videorecorded and CLASS-S coding was complete by video. Regular class period observations of 40 to 50 minutes were evenly divided into two segments. For class periods that were 90 minutes due to a block schedule, each observation was evenly divided into three segments. Due to teacher absences and attrition from the study, between 1 and 12 segments were coded for each of the 72 teachers and the 274 classroom videos represent a total of 603 observation segments for CLASS-S coding. To assess inter-rater reliability, 20 percent of the videos were randomly selected for double rating. Consensus rating, rather than average ratings, were used for the videos that were double rated because the consensus sessions served as an ongoing means of ensuring a shared understanding of the measures (Stein, Grover, & Henningsen, 1996). Of the 127 segments that were double-rated, overall exact point reliability was 43 percent, and one-point reliability was 90 percent.

In addition the interview and observation data, we obtained student level administrative, disciplinary, and course-taking data from the district, and collaborated with the district to administer surveys to teachers and students. Due to space considerations, this paper focuses on evidence from the fieldwork. Additional details on the survey and administrative data, and a discussion of how those data both support and complicate the findings described here is found in Appendix B of the online supplement.
**Data Coding and Analysis**

We employed a multi-stage approach to analyze researchers’ field notes and transcripts from interviews and focus groups. Field notes were kept in two forms: participant interaction forms (Miles & Huberman, 1994), which were completed by researchers within 24 hours of conducting an interview or focus group; and school-level analysis forms, which were completed by the members of each school’s research team together during the visit. These served as inputs for generating a cross-school comparison matrix that compared schools across the essential components that guided our work. These three types of documents provided the basis for an iterative process of planning the next field visit. Our analyses were guided by our core research questions: *What are the distinguishing characteristics between higher and lower value-added schools? How did these differences develop and how are they orchestrated and supported?*

The case study analyses were spread among four school-focused teams of four to six members that systematically coded the transcribed data using NVivo (QSR International, 2012). School-focused teams were responsible for coding and analyzing all data collected about that school and writing a comprehensive case report. We used the analytic technique of explanation building (Yin, 2009) to understand how and why each essential component developed (or did not develop) in the schools. We used both an *a priori* coding scheme and an emergent, inductive approach to coding. The *a priori* coding scheme was based on the essential components and cross-cutting themes that were identified in our fieldwork notes (i.e., goals, trust, locus of control, structures that support or inhibit goals, rigor and academic press, student culture of learning, and student responsibility). Using this coding scheme, we engaged in directed content analysis (Hsieh & Shannon, 2005). This was combined with an emergent coding scheme specific to each school that was grounded in the data (Corbin & Strauss, 2008). The general approach
was to look at each school as a system. School case teams met weekly to check for consistency in applying the coding scheme and discuss emerging themes. To integrate the data across schools, we held cross-case comparison meetings every other week. These meetings had two goals: to ensure that definitions were being applied consistently and reliably across schools in the coding process, and to flag emerging findings to begin making comparisons across schools.

Once all interview and focus group data were coded, school-level teams developed a narrative of each essential component. Coders strove to provide a thorough, well-supported set of claims about the drivers and/or inhibitors of essential components, as well as the practices and policies through which these were enacted. With the school-level case reports as our base, we held an intensive set of cross-case meetings to look systematically across the cases to build cross-case explanations. This process was used to note the presence or absence of differences between HVA and LVA schools. Each team member read all four case reports in their entirety to ensure that the team as a whole thoroughly understood each case. Next, multiple people were assigned to conduct cross-school analyses of particular components, cross-cutting themes, key findings, and the quantitative data (surveys and district administrative data). The purpose was to identify the differences between the higher and lower value-added schools and explain what contributed to these differences in the context of FWISD.

**Results**

With our guiding framework of essential components informing the coding and analysis, we paid particular attention to potential differences in the essential components across the case study schools. While the essential components were an important lens to see what was happening in each of the schools, the pattern of differences between the HVA and LVA schools did not focus on any particular essential component or combination of components. Instead, our analyses
identified systemic practices that integrated academic press and academic support to achieve increased student efficacy and engagement as the primary distinguishing characteristic between the HVA and LVA schools. We refer to these processes as building a culture where students have ownership and responsibility of their learning. Although the specific practices varied between the two HVA schools, both schools had concerted efforts to develop an environment of both academic press (the encouragement of students to succeed) and support (resources to foster academic success). While our data do not permit causal claims, our findings are consistent with the identification of academic press and academic support identified in other research (Lee & Smith, 1999; Lee, Smith, Perry, & Smylie, 1999; Murphy, Weil, Hallinger, & Mitman, 1982; Shouse, 1996). In the sections below, we provide evidence on how the HVA schools had a lever to push for academic press while also supporting students, aligned structures to support that goal, and worked systemically to build a student culture of learning where students had self-efficacy and were engaged. In doing so, we also provide evidence for how these were lacking in the LVA schools.

**Levers for Academic Press**

Our data suggest that both HVA schools had stronger and more systemic practices, policies, and resources to establish an academically rigorous school environment where students were pressed to achieve and supported in doing so. One HVA school, Lakeside, had previously adopted student responsibility as their core mission. As the principal described this focus emerging four year ago, “A group of us got together and said, you know, [our school] is really at a place kind of in the middle of the district...What’s going on? What are the hurdles? We decided a lot of it was because of adults. That we had created systems and trained students to either consciously or unconsciously in these systems to be very dependent upon us for their
learning and that as long as that was the program, that there was a ceiling to that.” Other stakeholders agreed, noting “our philosophy and our goal here is to make students responsible for their own learning.” Even students expressed support for increasing student responsibility as two students described good teaching as “help us be responsible in ourself” and “I like the fact that a good teacher doesn’t enable the students. Like they let them get the information for themselves.” This school-wide focus is evident in the adoption of “Effort Required” as a school motto, a statement visible on posters around the school and T-shirts worn by faculty and students. One teacher described how the motto was enacted:

It has to be with the responsibility that we’re putting back on the students. This year’s motto is effort required so we have an intense way of keeping up with that in several check systems to make sure that the students are putting forth the effort necessary to succeed in class. ... They have to ensure that they are keeping track of their assignment logs so that way they know when things are due and making sure that they’re turning it in on time. ...And if they’re not asking questions, they need to be able to explain the material when asked. So at any point in time, I can stop the class and have a student explain the entire lesson that we just went over. And if they refuse, you say, “Well, that’s [the Lakeside Code]. You need to be able to do this or be asking questions. Since you're not asking questions, that means you can explain it. If you're not explaining it and you're not asking questions you're in violation of school policy.

Participants at the other HVA school, Riverview, described two interrelated goals: promoting success in advanced academic courses and reducing the achievement gap. Their key lever was to provide greater learning opportunities to a broader array of students by systemically encouraging more students to enroll in Advanced Placement (AP) or honors level courses. An administrator described their success with their AP program and their focus on getting more students enrolled in AP: “we have a very strong AP program, we have a lot of Honors programs and, and that’s been strong...any student can be a part of the AP program, and that’s one of the things that we really pushed is that there was at one point where it was kind of low in our minorities being in
the AP program, but now I think we really have improved in that the last couple of years.”
Another administrator described changing teacher assignments so that teachers taught both
advanced and on-level courses, rather than just one or the other, to equalize learning
opportunities across courses, saying “my focus is on the instruction for children, one that in on-
level children you have to teach the on-level kids and there is a same expectation of teaching in a
pre-AP, AP classroom as there is an on-level...the school has done lots in the past years of
having teachers teach both, both on-level as well as pre-AP and about seven years ago there was
a real divide you either taught AP or you taught on-level.”

When participants in the LVA schools were asked about their goals, there was agreement
that student achievement was the main goal. Yet in contrast to the HVA schools where
participants further described a systemic lever the school was using to reach that goal of
academic press, there was little agreement about the focus in the LVA schools. In Mountainside,
for example, participants mentioned “creating a safe haven for the students,” creating positive
relations so you can “reach kids before you teach kids,” improve instruction in math and science,
and increase “literacy efforts across subjects.” Indeed, several participants noted a distinct lack
of shared goals. For example, when a teacher was asked to describe the principal’s goals, she
replied, “that’s kind of ambiguous because I don’t know what his goals are...I mean other than
what anybody else, you know, as far as their goals would be to make sure that students are
performing statistically, you know, when you get data back from your standardized test, but what
his goals, I’m kind of unsure of that.” Participants at Valley also described multiple goals, from
applying disciplinary standards consistently, improving student achievement to get off the
“naughty list,” develop positive relations between teachers and students, “getting students to
think about going to college,” and developing relationships with parents. The school made
notable improvements in the past few years in improving “culture and climate...[they] got discipline under control and boosted school pride.” Yet the principal said her main goal is increasing rigor, yet admitted to using “back door” means for improving academic rigor and no teacher mentioned this as a goal.

The importance of a lever to maintain academic press was also apparent in how participants across HVA and LVA schools spoke about maintaining academic standards while providing multiple opportunities to succeed. We learned from all schools that, districtwide, there was pressure to provide as many opportunities for students to succeed (which, in turn, is likely due to pressures to increase graduation rates). The district had a number of structures that allowed students to make up courses they failed and make up absences, while also holding teachers accountable when large numbers of students failed their class, thus providing incentives to pass borderline students. In the LVA schools, teachers described these structures as a way of explaining that it’s nearly impossible to hold students accountable. For example, a teacher in Mountainside said,

> At our campus, if you student doesn’t succeed, then you’re a bad teacher and you have to make that student succeed. And this is fostered in an environment of coddling, babying, no accountability on the student...Our students aren’t successful in college because they haven’t got a clue what it takes. But yet we’re not allowed to raise the rigor to that point.

An administrator in Valley also described how hard it was to hold students accountable given the current district policies, saying the school needs to

**Eliminate things like 3rd, 4th, and 5th, 6th chances. At some point consequences mean nothing. And not just from a discipline standpoint but failed this class, I know I’m going to get all these different options to retake it. I missed this many days of school but I know there’s a way around it. The kids know all the loopholes, so they’re more apt to not take things seriously the first time.**
Participants in the HVA schools also described these pressures, but the schools had found ways to help teachers resolve the tension between supporting students and holding them accountable. Teachers in Lakeside described feeling it was possible to fail students, with one teacher saying, “a lot of the ones that are failing, it’s not academic problems or intellectual problems, a lot of it has to do with pure laziness...and so we let them fall on their face.” Another teacher described how the focus on student accountability helps maintain academic press when describing what happens after students fail, noting, “that was a big slap in the face to like 40 of my kids, the first six weeks I don’t think they expected when I told them that they were gonna fail that they were gonna fail. I think they thought they’d get that boost and they failed and the next six weeks a lot of the kids that had like a 42 had a 96.”

**Systemic Processes to Provide Academic Support**

Another characteristic that distinguished the HVA and LVA schools is that the academic press described above was integrated with systemic processes to also provide academic support. For one HVA school (Lakeside), the structures for integrating academic press and support that allowed faculty to feel it was acceptable to fail students as described above was enacted through systematic but personalized interventions known as the Lakeside Code, Learning Time, Assignment Logs, and Intervention Committee. The Lakeside Code for student conduct, in particular, illustrates the focus on academic press, as it focuses on academic and instructional behaviors rather than discipline or social behaviors. Students were required to demonstrate various behaviors through the Code, including: 1) attending school and being on time; 2) coming to class prepared and taking advantage of tutoring opportunities during Learning Time; 3) finding out required assignments after missing school; 4) being able to either explain what the teacher had emphasized or asking a question about what wasn’t clear; 5) practicing independent
applications of material to ensure understanding and attending Learning Time when they don’t understand; 6) talking to teachers about assignments and tests on which they struggled; and 7) monitoring their own progress through Assignment Logs. Lakeside teachers, students, and administrators described these behaviors as the heart of the student and teacher accountability mechanisms. For example, one teacher compares Lakeside to another school in the district where she previously taught, “Here I think I have more choice on what I’m doing and I can hold them, like the books not coming to class, I can give them tardies for not having a book, I couldn’t do that at my last school. You know there wasn’t a lot of support in making the student responsible.” Students agreed that not following the Lakeside Code had consequences, “if you break a rule, they make sure you suffer the consequences. They make sure that you follow the code of conduct.”

The Lakeside Code was also about providing academic support. In addition to outlining student expectations, it also outlined expectations for teachers that were necessary for student success. For example, while element four requires students to be able to explain what is happening or have a question, it also requires teachers to “ask students to explain (rather than telling them answers) by randomly questioning them to explain, paraphrase, offer examples, follow up, agree or disagree and state why, or have a question.” The principal described the way the Lakeside Code was used for teacher accountability, “We ensure that the teachers as well as students are following that [Lakeside Code]. Make sure that there’s accountability on both ends. So, we’re just looking for quality instruction, making sure that teachers are assessing to ensure that all students are learning. When you’re questioning students, do you have some sort of random calling system that you use to ensure you’re reaching all your students?” Another systemic academic support structure was Learning Time, an extended lunch time where students
had opportunities to attend tutoring during the regular class day. One teacher describes how she encourages students to come to Learning Time when they need extra help in her class. When asked how she supports students with different learning needs, she said, “I go around the room and see where they are. If they’re keeping up with the rest of the class or if they need my help. And if they need more help, then, I tell them, ‘You need to come in at [Learning Time] and we can work on this together.’” Evidence on the role of Learning Time in both emphasizing academic press and supporting students also comes from students. One student described the expectations of attending Learning Time, “It’s required for the whole school. It’s in the school’s code of conduct that you have to go to it. You’re failing a class, you have to go.” With failure defined as less than a B, another student credited Learning Time with helping to improve a grade, “It’s definitely helped me...a lot of the time it’ll be a C and I had to come, made me a B.”

Another key feature of Lakeside’s support system was the Intervention Committee, which worked with students who were not meeting standards to determine the root causes of their difficulties and develop a plan to address them. This committee began first with the Lakeside Code, to see what supports might be needed to help students meet the expectations established by the Code. The head of the Intervention Committee demonstrated how these structures are integrated, saying:

They’re required to follow the [Lakeside Code]. It’s not an option for them. And so I and the rest of the committee members are the ones who make sure that they are following it.... We go through the [Lakeside Code], you’ve seen it, but oftentimes, I’ll just have them read to me those, and I will only check off the ones that they’re doing. If they’re coming to school every day, forget that one. Hey, you’re good. You’re doing good on that. And then we go through each one and we talk about it.

Teachers spoke about the success of these efforts, with one teacher describing how the Intervention Committee has helped, “It made a difference with a lot of my kids that were
referred to the committee this year already like drastic difference, homework gets turned in, tests are done well, they quiz well and know the stuff." Another teacher spoke about the success of the school’s efforts more generally, noting that he was initially skeptical about focusing on student responsibility, “I think a long time ago when they started saying [put the ball in the student’s court], well you know I was one of those people [saying] ‘it’s all their parents, they’re never gonna be’... but you know what, it’s working... it’s getting better and better every year.”

The other HVA school, Riverview, also showed evidence that they not only had a shared goal to establish academic press, but had intentional and systemic practices to enact it. Although a strong student culture of learning was heavily influenced by parental press for high academic standards, the school also had concerted strategies to increase student engagement to achieve school-wide rigor. The school established academic press and support by actively promoting its success with AP/honors courses to encourage more students to take those courses, while continuing to provide high quality instruction. This outreach, which was targeted particularly at low-income and minority students, was described by teachers and school administrators as a key lever to provide greater learning opportunities for a broad spectrum of the student population. One teacher illustrated this philosophy when she said the faculty is committed to taking students who are not “honors students” and making them into “honors students.” While the district set the policy of allowing students to choose to take part in any AP/honors courses, we found evidence of proactive strategies by teachers, administrators, and support staff to identify and encourage more regular-level students to enroll in honors-level courses as a way to engage more students in high-rigor classes. These strategies included conversations by faculty with students (e.g., teachers encouraging students to enroll in an AP class) as well as faculty checking with
counselors or AP’s to use “behind the scenes” or “back channel” discussions to identify students who could succeed in higher level courses. For example, a counselor described how she advises 9th graders when choosing courses, “We have to look at what the requirements are as well as their interest and do a balance there. From there it’s we try to get them to take a high level, and you know, if in their 7th and 8th grade years they’re doing Bs, we try to encourage them to take honors classes...we try to give them the opportunity, let’s go ahead and try the AP class, or try the honors class, and if it’s not something for you then we can back it down. And just to see if you can do it, because I’d rather you try it than, you, not.” Students verified this push to take more advanced courses, saying that counselors tell them they “need to start taking more AP classes and getting some of my college credits while I’m still in high school.”

In contrast, the two LVA schools did not demonstrate a systemic focus on academic press and support. Administrators in Valley High School reported they were working to improve instructional rigor, “we need to progress on our level of rigor....When you’re in a school like this that’s a pressure cooker, you know, it’s you have to balance pushing and laying off when they need to lay off. So increase in our level of rigor is difficult” Teachers, however, described a lack of focus on rigor. One teacher noted how rigor was lacking even in AP courses as other teachers complain about students, “we have a very weak AP program...I don’t know why the College Board doesn’t come because I mean this is years of this and here’s what I hear, ‘well, you know, the students [don’t perform]’...The students have been here for all of these years in honors, what are you not doing, why are our kids not passing AP English?” When another teacher was asked how she ensures a rigorous curriculum for all students, she responded, “I’m not that concerned with it...It’s rigorous enough.” In Mountainside, the breakdown of basic school operations inhibited the effectiveness of the practices the school was trying to put in place. As one
administrator described when asked about challenges the school faces, “a lack of efficient systems...for a while there, there was a push for you to have your instructional issues and then you have operational, you don’t need to be operational, you need to be instructional. Well what I find is need to be both...if kids are going to the wrong class, they’re not learning what they need to learn...Last year we would have some kids going to the wrong class for a whole six weeks before anybody found out about it...so just a lack of systems and lack of communication.”

Differences in academic press and support between the HVA and LVA schools are also evident in classroom instruction. Interviews and focus groups with teachers provided evidence on how school personnel defined high-quality instruction and their ability to attain instructional rigor, while classroom observations provide quantitative evidence on instructional support in the classroom. Several stakeholders at the HVA schools named higher-order thinking skills as high-quality instruction. Teachers mentioned using questioning strategies or problem solving activities (discovery learning, inquiry-based instruction) to reach higher-order thinking skills, although most also indicated that mastering this was an ongoing struggle. For example, a teacher in Riverview described how the school has, “a real push to hands on learning and that is a difficult push for some people to make, but really to just continue focusing on it, focusing on it, focusing on it.” A teacher in a focus group in Lakeside described how the school defined quality instruction by noting, “students speaking and teaching, which is complete opposite from my last school, at our last meeting we were told...not more looking and note taking, it’s them reading and talking about it and interacting with the content and no longer you in front.” Teachers in the LVA schools attributed their students’ academic struggles to their lack of background knowledge, class size, student behavior rather than to the quality of instruction. For instance, at Mountainside, teachers questioned the feasibility and appropriateness of teaching critical
thinking to students with poor educational foundations. One teacher said, “Listen, okay, they
don’t know how to read, right? I think most of us would feel that we’re operating like we’re
already in a hole so they’re coming in without some of the skills...these kids also lack a broad
base of knowledge, like not just the knowledge the skills, like the science skills or the writing
skills, but just like a knowledge of basic like culture, politics, history, what’s going on in the
world that you can, should be able to draw.” Another teacher noted that class sizes made quality
instruction impossible, “You know, I would really hope that you guys will really take a look at
the classes, because I could be the best teacher in the world, and if I got so many kids in my
class, it’s very hard for me to do that. So there are some factors that are working outside of a
teachers’ control.” At Valley, teachers mentioned having difficulty individualizing instruction
and directing instruction toward the mid- to lower-level students. Teachers primarily relied on
tutoring to provide individualized instruction and work with struggling students. For example,
when asked what he does when students are struggling, a teacher at Valley said, “that’s a really
hard thing to one, to answer it, and to also understand. We do have students that are struggling,
and I don’t call them out in class. I ask them, you know, one on one. Most of the students that are
struggling have a difficult time speaking in class....and so you don’t know how to help them.”

The Instructional Support measures from the classroom observations provide further
evidence of greater academic press and support in the HVA schools and lower academic press
and support in the LVA schools (see Table 3). Lakeside was significantly higher than the other
case study schools on the measure of analysis and problem-solving, quality of feedback, and
instructional dialogue. This suggests that Lakeside classrooms had greater opportunities for
inquiry and analysis, feedback to students, and content-driven exchanges between students and
teachers. Riverview, was not significantly different from the average of the other three schools.
Both of the LVA schools had significantly lower scores for at least one of the instructional support measures, with the other scores not significantly different than the average.

**Student Engagement**

In addition to the presence or absence of integrated academic press and support being a differentiating characteristic, HVA and LVA schools were also distinguished by utilizing those supports to foster student engagement. Evidence around the importance of fostering active engagement in students was most evident in our interview and focus group data touching on the component of quality instruction. The interview data provide insight into what the school stakeholders consider quality instruction. Across the four schools, student engagement was commonly considered important for high-quality instruction. However, in the HVA schools, engagement was linked more to student responsibility and active participation in lessons, than in the LVA schools. The first set of practices are centered on creating change by encouraging students to take ownership of their learning, whereas the second set include pedagogical techniques that may not have as great an impact on student engagement. For example, at the HVA schools, school leaders suggested that quality instruction consisted of student-centered instruction to ensure that students could perform independently. In contrast, at the LVA schools, there was concern that the teachers, not the students, did most of the work and thinking in the classroom with a heavy focus on remediation.

The observational data on classroom instruction further supports the finding that student engagement varied between HVA and LVA schools (see Table 8). Both HVA schools had significantly higher levels of observed student engagement compared to the other case study schools and one LVA school had significantly lower student engagement. Although the differences are small, they support the pattern of greater student engagement in the HVA schools.
compared to the LVA schools. The fact that Valley had student engagement scores in between
Mountainside, the other LVA school, and the two HVA schools, also supports this pattern as it
had some value-added measures that were closer to the district average.

Additional evidence on student engagement comes from the student survey (see Table 5). Two scales on the student survey capture aspects of engagement—both cognitive engagement and behavioral engagement. The academic or cognitive engagement scale captures whether students get bored in class, find the work interesting, look forward to their classes, and work hard to do their best in class. On average, students were split between agreeing and disagreeing with the academic engagement items. The behavioral engagement measure focuses on responsibility-participation, which asked how many students in the school attend class, come prepared, and participate in class activities. Students tended to agree that their peers participate in these activities. Although there were differences in the overall level of student academic engagement and responsibility-participation, there was a clear pattern of the two HVA schools and Valley having school averages that were above the district mean, and the other LVA school, Mountainside, being below the district mean.

**Connecting Research to Practice: Developing a Design Challenge**

As noted above, this study is part of a research-practice partnership with the goal of identifying characteristics that distinguish higher and lower performing schools in the same district and then to feed this information into a collaborative design process where researchers, developers, district leaders, school leaders, and teachers design innovations to spread these practices to less effective high schools. Thus, with our main findings focused on integrated academic press and support to foster student engagement, we sought to translate these findings into a design challenge that would motivate the collaborative design effort. Because academic
Understanding Practices of Effective High Schools

rigor had been the focus of prior reform efforts in the district, we anticipated that a design challenge focused on academic press might be poorly received in the schools as something they were already being pressed by the district to undertake. In addition, we felt that the team needed a design challenge with more specificity to focus their design process. For this reason, the design challenge focused on the concept of student ownership and responsibility, which is the way in which one of the HVA schools—the one that is also one of the highest poverty schools in the district—galvanized action in the school to integrate academic press and support.

**Defining Student Ownership and Responsibility**

The definition of student ownership and responsibility is grounded in both the specific findings from this study and the broader literature on non-cognitive student behaviors that are associated with school success and the school actions that facilitate their development. In this section, we define student ownership and responsibility and suggest how schools can create conditions to develop it. Increasing student ownership and responsibility means creating a set of norms and school-wide practices that foster a culture of learning and engagement among students. Building off what we observed in Lakeside, taking responsibility occurs when a student becomes personally invested in their own learning. Encouraging such a focus involves building students’ confidence and building programs and practices that can help students take responsibility for their own academic success. We emphasize two activities important for this: 1) changing students’ beliefs and mindsets to increase self-efficacy and 2) engaging students to do challenging academic work (Bandura, 1997; Farrington et al., 2012; Fredricks, Blumenfeld, & Paris, 2004). This two-part definition is built on our case study work as participants in both HVA schools saw their integrated systems of academic press and support as serving to generate greater
student engagement, and that Lakeside further had the goal of getting students to believe they can handle challenging work so that they would be willing to engage.

This definition of student ownership and responsibility builds on a robust empirical research base on efficacy and engagement. Students who have strong, positive mindsets and a high degree of self-efficacy exhibit more positive academic behaviors, choose more difficult tasks, demonstrate more persistence despite setbacks, expend greater effort, exhibit more self-regulatory strategies, and have higher achievement across academic areas (Farrington et al., 2012; Pajares & Urdan, 2006; Schunk & Pajares, 2005; Zimmerman, 2000). Bandura (1997) defines self-efficacy as people’s beliefs about their ability to perform behaviors that should lead to expected outcomes. Self-efficacy has also been shown to predict achievement across academic areas and levels (Pajares & Urdan, 2006).

Prior research also suggests that students with high academic self-efficacy also demonstrate both behavioral and academic engagement (Fredricks et al., 2004; Nystrand & Gamoran, 1991; Yazzie-Mintz & McCormick, 2012). Student engagement is a multidimensional construct that includes both behavioral/procedural forms (exhibiting the basic behaviors that are expected of them in school, such as coming to class prepared and doing the tasks set out for them) and cognitive/substantive forms of engagement (putting forth the mental effort to fully understand the work at hand) (Fredricks et al., 2004; Nystrand & Gamoran, 1991). While cognitive and behavioral engagement are two dimensions, they may also be considered on a continuum that ranges from the most teacher-directed to the most student-initiated where an engaged student might participate autonomously (Birch & Ladd, 1997; Buhs & Ladd, 2001).

We see student ownership and responsibility as embedded within the larger category of non-cognitive factors, such as grit, growth mindset, perseverance, sustained persistence, delayed
gratification, that enable students to succeed in school and life (Duckworth, Peterson, Matthews, & Kelly, 2007; Dweck, 2007; Farrington et al., 2012). There is an appreciable evidence base showing that non-cognitive skills positively influence student achievement. In a recent review of the literature on non-cognitive factors in shaping school performance (Farrington et al., 2012), the various types of non-cognitive factors were classified in a framework that includes: academic behaviors, academic perseverance, academic mindsets, learning strategies, and social skills. The category of academic mindsets is undergirded by a robust amount of psychological research such as self-efficacy (Bandura, 1997; Pajares & Urdan, 2006), goal theory (Dweck, 1986), and locus of control (Ajzen, 2006; Judge, Erez, Bono, & Thoresen, 2002).

School Strategies to Develop Student Ownership and Responsibility

While student ownership and responsibility is a characteristic of an individual student, research suggests that non-cognitive can be developed through systematic interventions (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Gutman & Schoon, 2013). Our research indicates that student ownership and responsibility resulted from concerted school efforts to develop these behaviors. Teachers and other adults scaffolded the learning of both academic and social behaviors that guided students in assuming responsibility for their academic success. While the specific focus on student responsibility was only seen in Lakeside, both of our higher value-added case study schools provided this scaffolding through integrated strategies of academic press and academic support. The case study methods used in this study do not allow for causal statements about the integrated strategies of academic press and academic, but our findings are consistent with prior research suggests that when schools exert academic press by creating a school and classroom environment that pushes students to achieve and includes staff expectations, school policies, and practices, norms, and rewards generated by staff and students,
then student achievement increases, particularly in higher poverty schools (Bryk et al., 2010; Lee et al., 1999; Murphy et al., 1982; Shouse, 1996).

When schools are pressing students to excel, they also need to provide the academic support that ensures students have the resources needed to succeed academically—that is, to meet the demands created by academic press. Academic support can take many forms, including elements of curriculum, the effective organization of time, effective use of personnel to target individual student needs and provide personalized support, rewards for student success, and the use of authentic and formative assessment (Carbonaro & Gamoran, 2002; Lee & Burkam, 2003; Legault, Green-Demers, & Pelletier, 2006). Classroom instruction can provide critical academic support through collaborative, engaging activities that are relevant to students’ lives, a source of empowerment for students, designed around authentic questions, and focused on higher-order thinking skills (Anagnostopoulos, 2003; Brown, 2008; Kelly & Turner, 2009; Staples, 2007). Further, evidence exists that teachers can instruct students in strategies for engaging cognitively and behaviorally (Anderman, Andrzejewski, & Allen, 2011; Flynn, 2009).

This paper is a case study of a particular district and the unique practices that differentiate between higher and lower performing schools in that district. While the findings are consistent with a great deal of prior research, we also highlight that the ways in which the two higher value-added schools integrated academic press and support was specific to their local context and history. This is important because research on the implementation of educational interventions is increasingly focused on not just the practices themselves but the ways in which they are implemented and interact with local settings (Penuel, Fishman, Cheng, & Sabelli, 2011). We echo this call and suggest that future research needs to focus not just on what works (i.e., what differentiates between schools that boost student achievement and those that don’t), but also
what works in particular school and classroom contexts.
References


### Table 1: Demographic Characteristics and Performance Indicators of Case Study High Schools

<table>
<thead>
<tr>
<th></th>
<th>LVA Schools</th>
<th>HVA Schools</th>
<th>District</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>School characteristics</strong></td>
<td></td>
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<tr>
<td>Enrollment</td>
<td>700-1200</td>
<td>&gt;1500</td>
<td>81,511</td>
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<tr>
<td>Percent Black</td>
<td>&gt;50%</td>
<td>&lt;20%</td>
<td>&lt;20%</td>
</tr>
<tr>
<td>Percent Hispanic</td>
<td>&lt;40%</td>
<td>&gt;75%</td>
<td>&gt;75%</td>
</tr>
<tr>
<td>Percent economically disadvantaged</td>
<td>60-75%</td>
<td>&gt;75%</td>
<td>&gt;75%</td>
</tr>
<tr>
<td>Percent Limited English Proficient</td>
<td>&lt;7%</td>
<td>&gt;7%</td>
<td>&gt;7%</td>
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<tr>
<td><strong>2010 Graduation Rate</strong></td>
<td>&lt;80%</td>
<td>&lt;80%</td>
<td>&gt;85%</td>
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<tr>
<td><strong>2011 State Rating</strong></td>
<td>Academically Unacceptable</td>
<td>Academically Acceptable</td>
<td>Academically Acceptable</td>
</tr>
<tr>
<td><strong>Value-added rank within district, all subjects, all students (out of 13 total)</strong></td>
<td>10</td>
<td>8</td>
<td>1</td>
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</table>

Note: The state accountability rating and graduation rate were the most recent data available at the time of school selection. Demographics represent the composition of the schools at the time of our visits (2011-12). Data come from the Texas Education Agency (http://ritter.tea.state.tx.us/perfreport/snapshot/2011/state.html). The value-added ranks are derived from 3 years of data of school-level value-added in math, science, and reading. The most recent year was 2010-11.
### Table 2. Types and Amounts of Data Collected at Case Study Schools

<table>
<thead>
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<th>Data type</th>
<th>LVA Schools</th>
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<tr>
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<td>Mountainside</td>
<td>Valley</td>
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<td>Teachers</td>
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</tr>
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<td>Support Personnel</td>
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<td>5</td>
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<td>Students</td>
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<tr>
<td>Teachers</td>
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<td>Student Activity Leaders</td>
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<td>Observations</td>
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<td>Classroom Periods</td>
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<td>Students Shadowed</td>
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<td>Faculty/School Administrative Team</td>
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Table 3. Instructional Support and Student Engagement Observation Measures by School

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<thead>
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<th>HVA Schools</th>
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<th>All case study schools</th>
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<tr>
<td></td>
<td>Mountainside</td>
<td>Valley</td>
<td>Lakeside</td>
<td>Riverview</td>
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<tr>
<td><strong>Instructional Support</strong></td>
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<td>Content</td>
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<td>4.68</td>
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<td>2.58</td>
<td>3.03***</td>
<td>2.78</td>
<td>2.70</td>
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<td>Solving</td>
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<td>Quality of Feedback</td>
<td>3.85</td>
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<td>4.26***</td>
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<td>Instructional Dialogue</td>
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<td>3.23</td>
<td>3.57**</td>
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<tr>
<td>Student Engagement</td>
<td>4.39**</td>
<td>4.58</td>
<td>4.83*</td>
<td>4.88*</td>
<td>4.67</td>
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* for p<.05, ** for p<.01, and *** for p<.001. Statistical significance was calculated based on mean comparisons tests between each case study school's mean rating compared to the mean from the other schools combined.