

# School Climate and Student Achievement

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## Overview

The concept of “school climate” has been defined in a wide variety of ways in the education research literature over the last thirty years. It has been equated with “the ecology of the school,” “a safe and healthy school setting,” “classroom participation structures,” a “caring school environment,” and the “culture of the school.” In recent years, school “climate” has been equated with “personalization.” More specifically, this involves making impersonal secondary schools more personalized for students by transforming the learning environment through reduced class size, theme-based curricula, and newly developed advisory programs.

A synthesis of this wide range of studies produces the following findings:

- Efforts to improve schools must address and change educators’ beliefs, values and attitudes. However, these elements of the “culture of the school” cannot be addressed in isolation. Robust educational change requires educators to simultaneously attend to the power of existing *technical* considerations such as school schedules, school size, course sequences, curriculum and instruction as well as the *political relations* between the school, the broader community, state and federal policies.
- Unsafe, deteriorated, and overcrowded schools threaten the chances that students will develop social values of integrity, discipline, and civic-mindedness and allow little enthusiasm for life-long learning. Overcrowding reduces students’ ability to pay attention and achieve academically.
- Addressing overcrowding by putting students on year-round, multi-track schedules with fewer days of school does little to solve the problem. Students who attend year-round schools suffer interrupted and lost instructional time; limited access to advanced courses and specialized programs; ill-timed breaks and correspondingly limited access to extracurricular activities and enrichment programs. These factors coalesce to contribute to students’ poorer academic performance in schools with unhealthy school climates.
- Modifying the structure of teacher-student interaction to include small group discussions, individualized instruction, and multiple ways of

displaying knowledge encourages students, especially those from linguistic and cultural minority backgrounds, to participate more actively in classroom lessons and thereby improves their learning.

- Linking the technical, cultural and political dimensions of school improvement involves treating issues of shared governance and professional development in conjunction with changes in teachers' beliefs, teaching practices and curricula. This multidimensional approach helps ensure that reforms will be broadly supported by staff, parents and community members.
- A relationship between personalization and academic outcomes has been found when students' perceptions of attempts

to personalize schools by reducing class and school size have been elicited. On average, the more students report a high level of personalization, the more likely they are to score better on the California Standards Tests (CST) English language arts examination, have higher weighted grade point averages, and an increased probability that they are "on-track" relative to (a)-(g) requirements for high school completion. However, innovations such as advisory periods seem to have a negative correlation with students' academic achievement. This finding suggests that educator-student *relationships* matter more than *formal structures* to improve school climate.

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## Introduction

School improvement is a multi-faceted and complicated process with technical, cultural, and political dimensions [1,2,3,4,5]. In the final analysis, educational reform efforts activate human action on all dimensions simultaneously. However, reformers often lead with or emphasize actions on only one dimension. When reformers attempt to change or improve schools and student performance by leading with technical means, they act in terms of increasing resources. For example, they add science labs, equipment or curriculum materials; or they add skill-based professional development to, hopefully, "upgrade" teachers' classroom instruction; or they rearrange the manner in which students are organized for instruction. When reformers attempt to change or improve schools by leading with cultural means, they engage educators' values, beliefs and norms, often on controversial topics such as the placement of teachers, the nature of

intelligence and its distribution across race, ethnicity, class and gender, as well as school tracking or testing practices. When reformers attempt to change or improve schools by leading with political means, they work to build productive professional relationships and galvanize important political constituencies in order to gain comparative advantage in the re-distribution of resources, opportunities and credentials. Educational reform efforts that operate along each dimension simultaneously have demonstrated more effectiveness than reforms that have concentrated attention on but one dimension.

This general observation about school reform has resonance for our discussion of school climate. Researchers concerned with school climate have been more likely to think about the ways in which "technical" considerations (adding resources for instance) improve schools and students' achievement. They have been less likely to

also consider the importance of teachers' beliefs and attitudes and the power relationships within the school and between the school and constituent communities. In this paper, we try to rectify this imbalance by focusing on school culture and its relationship to curricular and political issues in relation to student achievement, particularly the performance of underrepresented minority children and youth.

A fact of life in the educational literature complicates this review. The concept of "school climate" has been defined in a wide variety of ways in the education research literature over the last thirty years [6]. It has been equated with "the ecology of the school," "a safe and healthy school setting," "classroom participation structures," a "caring school environment," and the "culture of the school," among many others. In recent years, school "climate" has been treated as school "culture." Currently, school climate is most often equated with "personalization." More specifically, contemporary research focuses on making impersonal secondary schools more personalized for students by transforming the learning environment through reduced class size, theme-based curricula, and newly developed advisory programs, for instance. Regardless of how it has been defined over

the years, to a greater or lesser extent, all research on school climate finds a positive correlation between better school climate and increased student learning and achievement. In this paper, we use school culture and school climate interchangeably to reflect these historical changes described in the body of literature reviewed and analyzed.

We first provide a brief illustration of the varied definitions of school climate by discussing two popular notions in the literature in the 1980s and 1990s—school safety and caring relations within schools. Second, we discuss scholarship in the 1980s that re-conceptualizes school climate as school culture. We argue that the concept of school culture offers education reformers a more dynamic understanding of the technical, political, and cultural dimensions of improving schools and student achievement. Finally, we highlight recent research on personalization conducted in the 1990s and 2000s as examples of school improvement efforts that link the multiple dimensions of school improvement. In this last section, we discuss more recent work than in the previous sections because there is a gap in the literature positing a positive relationship between school climate and increasing student achievement.

## **Unsafe and Inadequate School Facilities Hinder Student Academic Performance**

The need for "safe schools" in order to prevent student violence was an early and persistent way of talking about school climate. For example, the California School Climate and Safety Survey (CSCSS), originally developed by Furlong, et al. [7], was specifically developed to assist educators in their planning to build safe schools. This effort has been intensified because provisions of the federal No Child

Left Behind (NCLB) legislation require local districts to develop education school safety plans. The implementation of these plans involves continuous monitoring and reevaluation of information pertinent to each school campus. This process is facilitated by the availability of measures that are simple to administer, inexpensive, and whose psychometric properties have been evaluated for these purposes. The CSCSS is a student

self-report questionnaire created to measure general school climate and personal safety-related experiences. In this early work, there was little clear research evidence presented to support the claim that safe schools led to improved student achievement. This idea was treated as a “given.” Instead, the corollary was most often discussed. That is, unsafe schools were presumed to hinder students’ academic achievement.

In a comprehensive review article, Oakes [8] shifts the discussion of school climate away from an emphasis on violence prevention. By contrast, Oakes argues for identifying safe and adequate school facilities as one of the conditions that are crucial for providing students with a stimulating educational environment, and, in turn, with access to college. In order to enhance students’ academic achievement and access to college, Oakes states that students must attend schools that are free of overcrowding, violence, and unsafe and unsanitary conditions. Schools—especially those that serve students from low-income backgrounds—must be free of overcrowding and deteriorating facilities so students and teachers can devote their attention and energy to students’ learning and teaching.

Unsafe schools and inadequate facilities affect students as well as teachers. For example, in schools where laboratory, athletic, and teaching facilities are in decay

or under-resourced, faculty quit at alarming rates. Students who attend schools with high teacher turnover or with a succession of substitute teachers do not have stellar, nor even above average, academic records.

Unsafe, deteriorated, and overcrowded schools threaten the chances that students will develop social values of integrity, discipline, and civic-mindedness and allow little enthusiasm for life-long learning. Overcrowding reduces students’ ability to pay attention and increases school violence. In such schools, students achieve less; rates of teacher and student absenteeism are higher than in schools that do not have these problems.

Sometimes overcrowding is addressed by putting students on year-round, multi-track schedules with fewer days of school. Oakes [8] is not sanguine about these technical attempts to improve students’ academic performance by alleviating overcrowded or under-resourced schools. Students who attend year-round schools suffer interrupted and lost instructional time; limited access to advanced courses and specialized programs; ill timed breaks and correspondingly limited access to extracurricular activities and enrichment programs. All of these factors coalesce to contribute to students’ poorer academic performance in schools with unhealthy school climates.

## **Caring Relations Improve the Quality of Education**

Noddings [9] shifts the discourse from defining school climate in terms of safe facilities to defining school climate in terms of caring. She recommends that teachers develop caring relations with students in order to improve the quality of education for them. She proposes that the care-giver (the teacher) adopt a sympathetic stance toward his or her students—that is, develop an

understanding and appreciation of their life circumstances. Approached with this sympathetic attitude, students can be expected to act in kind. That is, caring involves a reciprocal connection between the care-giver and the care-receiver. This means that caring is a relationship involving respectful dialogue and open exchange among teachers and students. Both can learn

and gain from the experience. And in doing so, the atmosphere, or climate, in the school and classroom is improved.

Valenzuela [10] puts Noddings' philosophical notions to use in her description of the consequences of teachers caring about students. Mexican-descent students feel uncared for by teachers and other school-based personnel when those adults abuse students' cultural resources and identities, thereby compromising their willingness to enter into productive teaching/learning relationships with adults. Valenzuela contrasts these subtractive schooling practices with more productive approaches to schooling grounded in authentic notions of caring and additive conceptualizations about students' cultures,

communities, and identities. She provides examples of occasions when teachers enter into more academically and emotionally productive and sustained relationships with students.

Valenzuela, like Noddings, concludes that caring relations are fundamental for safe and productive learning environments. Both researchers—especially Valenzuela—give us rich ethnographic details and compelling accounts about the positive benefits of caring relationships for young people. But the qualitative orientation of their work is not geared to provide us with large scale research evidence that supports the association between caring relations and student achievement outcomes.

## **School Climate as School Culture: A Dynamic View of School Improvement**

Similar to Noddings, Sarason's [11] treatment of school climate as school culture expands conceptions and discourse in the field of education research and policy. Sarason [11] offers a robust conception of school climate, that is, school culture that incorporates the technical, cultural, and political dimensions of school change. He defines school culture as the beliefs, values and attitudes underlying and supporting school structures and practices, such as school schedules, school size, course sequences, and instructional strategies.

Sarason [11] argues that school change efforts must address the political and cultural elements that supply the rationale for school decisions about what to change and how to implement reforms. Failure to address school culture only produces unintended discrepancies between school improvement efforts and intended outcomes for student achievement. Mandating a new curriculum sequence in secondary math, for

example, is not by itself going to alter teachers' attitudes about how to teach math and their actual teaching practices. Teachers' attitudes about their students' capabilities, their beliefs about the organization of the math curriculum, and political alliances among teachers must be taken into account. These attitudes and beliefs are important because they not only influence the actions and practices of teachers in their classrooms, these attitudes and beliefs also influence the extent to which teachers are invested in the reform and their decisions about how to implement new reforms.

Sarason, similar to Oakes, is not sanguine about the possibility of robust educational change unless the power of existing school structures and culture is challenged. Current reform efforts, such as NCLB, emphasize the technical in their calls to improve schools. They call for more policy, more planning, more testing, and more demands

that teachers and schools simply change. The inequities that exist in schooling exist because of the culture and structure of schools and their political relations with their surrounding communities and the state. Therefore, the culture and structure of schooling have to be addressed and altered in order for these inequities to diminish. Tracking and ability grouping, for example, have been a focus for change and reform in many schools and districts ever since Jeannie Oakes and others in the mid-80s drew attention to the problematic characteristics of these sorting practices and their impacts on children and youth. But school sorting practices continue to operate, albeit in different forms. Today, some call it differentiation of instruction. Tracking has a way of recurring and continuing, during and after efforts to alter its structure and practice, because of the entrenched nature of the culture and structure of schooling.

Sarason's [11] corpus includes provocative qualitative studies that showed improved student classroom participation and engagement in secondary schools when schools decreased school size (a change along the technical dimension of school improvement) and educators' shifted their attitudes and beliefs (a change along the cultural dimension of school change). However, he does not directly link changes in school structures and school culture to improved student achievement as measured by standardized tests.

Fullan's [12] work builds on Sarason's argument about the importance of attending to school culture in educational reform. Fullan emphasizes understanding the many and varied meanings educators bring to the

table about what needs to change and why, what changes might make the biggest impact on students, and how to implement those changes. Disparate assumptions and meanings about these issues produce competing goals and directions for school change that, in the final analysis, fail to improve student outcomes.

Fullan [12] does not include student performance data to support his policy argument; however, he does describe how effective and thorough reform planning increases the likelihood that changing the conditions of teaching and learning will be the means to improve student outcomes. Thorough planning over time allows educators to address structural features of the school, such as school and classroom size or the school schedule, and cultural elements that help educators rationalize reforms, including beliefs about the school mission and vision, expectations for teachers, staff, students and parents, and pedagogical beliefs about teaching and learning.

The scholarly work of Sarason and Fullan remind us that effective and lasting school improvement efforts require education reformers to change school culture in addition to school structures and curricular practices in schools and classrooms. Moreover, schools need adequate time to plan for structural and cultural reforms. Cultural changes to impact relationships among teachers and between principals and teachers, for example, take time, as does developing shared understandings about what needs to change and why, and how students are impacted by those changes.

## Changing School and Classroom Cultures to Improve Student Achievement

Scholars examining school and classroom cultures over the last twenty five years focused on conditions of teaching and learning to improve student performance, including classroom interactions and school-level participation and engagement. This section highlights illustrative examples for this body of work.

### ***Classroom Discourse and Student Performance***

Scholars studying classroom discourse recommend that the structure of teacher-student interaction be modified in order to improve the classroom culture for students from linguistic minority backgrounds. The basic idea is to use students' home knowledge and language as resources in classroom instruction. A first wave of intervention research based on sociolinguistic insights about the logic, grammaticality, and coherence of language variants incorporated the language and culture from disadvantaged groups to develop classroom instruction that was more culturally compatible [13,14,15,16]. This line of research provides thick descriptions of educational situations in which teachers changed the "participation structures" of the classroom to include small group and individualized instruction, opportunities for students to volunteer answers, not just wait to be called upon, and ways to display what they had learned through oral reports, art work, skits, computer models—not just on paper and pen, short answer or multiple choice tests. When teachers modified the participation structures typically characteristic of the recitation script of traditional classrooms in ways that are more compatible with students' home language and culture, students participated more

actively and enthusiastically in classroom lessons.

A second wave of intervention research uses students' language and culture as resources for developing fundamentally important academic skills, such as critical thinking in reading [17,18,19]. These researchers do not want to simply change classroom participation structures to enable linguistic minority youth to participate more actively in classroom interaction; they want to make classroom participation structures compatible with students' cultural and linguistic resources in order to improve students' learning. When classroom participation structures are modified to be compatible with patterns familiar to language minority youth, research shows that students' performance in classroom lessons and on standardized tests do in fact improve [17].

### ***Student Engagement and School Improvement***

Educators and policymakers are increasingly recognizing that improving student learning and achievement requires greater attention to the engagement of young people. There is growing evidence that youth are disenfranchised and disengaged inside and outside of school [20,21]. Inside of schools, we know that context matters. The learning environment, or context, is critical to motivating students. The learning environment includes more than just classroom instruction—it includes relationships among adults and students, relevant and challenging curriculum, and a sense of connectedness to school [22,23]. Many educators often refer to these as components of engagement, and, more recently, as components of "personalization." Fredericks et al. [24]

conceptualize engagement as encompassing all of these components, describing engagement as a multidimensional concept with three domains—cognitive engagement, emotional engagement, and behavior engagement. Research demonstrates that students who are engaged emotionally, cognitively and behaviorally are less likely to feel alienated from school [24]. Increased school connectedness is related to educational motivation, classroom engagement and better attendance, which all have a positive relationship to higher academic achievement [21].

According to Klem and Connell [22, p. 5], “Regardless of how engagement is defined, research indicates that higher levels with engagement are linked to improved academic performance in school. Student engagement has been found to be one of the most robust predictors of achievement and behavior in schools, a conclusion that holds regardless of whether students come from families that are relatively advantaged or disadvantaged socially or economically. Students who are engaged are also likely to earn higher grades and test scores and have lower drop-out rates.”

Newmann’s [25] edited book on improving secondary students’ achievement presses educators, policy makers, and researchers to focus reform efforts on improving students’ engagement with school. Newmann and colleagues argue that the ongoing challenge for secondary schools is promoting and enhancing student engagement, and not simply increasing student achievement. Engagement involves “active involvement, commitment, and concentrated attention” [25, p. 11] on the part of students. A sense of engagement with school requires students to value learning for the sake of learning and believe that exerting effort in school is worthwhile and personally rewarding, all of which require cognitive, behavioral, and emotional engagement with school.

Educators are best equipped to understand and improve student engagement when they examine the many social contexts and activities in which students participate, in other words, the school and classroom contexts and the kinds of academic work students are asked to produce. Newmann et al. [25] describe several factors that influence students’ engagement with academic work, some of which include students’ need to feel and believe they are competent, the importance of asking students to do authentic work connected to real world situations, and the quality of relationships among adults and students. Similar to Noddings, caring relationships among adults and students, states Newmann, contribute to creating a school culture that values and respects youth, which, in turn, encourage youth to value school, learning, and success. Addressing all the factors explicated by Newmann, et al. requires reformers to consider both structural changes, for example, in course offerings, materials, and teaching assignments, and changes in cultural norms about teaching, learning, and assessment.

Newmann et al. [25] include little student outcome data, but these researchers offer an important framework for understanding the concept of engagement and its correlation to improving student learning and achievement. Their work is a pre-cursor to small school secondary reform currently advocated by organizations such as the Bill & Melinda Gates Foundation, the Carnegie Corporation of New York, and the Coalition of Essential Schools. These and other organizations conceptualize the task of improving student learning and achievement as structural change (e.g., class size or school size), alongside changes in cultural beliefs and norms about student ability, learning, curriculum, and instructional pedagogy.



## Comprehensive School Reform Models and Student Achievement

Comprehensive School Reform (CSR) models such as those advocated by the Coalition of Essential Schools, Accelerated Schools, Success for All, Comer School Development Program, and High Schools That Work, have approached school climate (that is, school culture) as one dimension of educational reforms designed to impact academic achievement. These models, supported in part by federal funds, (e.g., Comprehensive School Reform Demonstration [CSR/D]), address school climate as one of many facets of school reform nested within larger efforts at improving curriculum and pedagogy, governance, and health and social services. CSR models tackle school climate in conjunction with political considerations by requiring that educators ensure that reforms are broadly supported by staff, parents and community members. They also link the cultural and political dimensions of school improvement by highlighting issues of shared governance and/or professional development in addition to changing teaching practices and curricula [26,27,28].

Despite the fact that some CSRs (e.g., Success for All, School Development Program, and Direct Instruction) have

shown robust, positive effects on student achievement [29,30,31], evidence from this research remains spotty that changing school climate through CSR results in higher student achievement. For instance, Borman, et al. [31], in a meta analysis of comprehensive school reform models, show that schools implementing CSR models for five or more years had statistically significant positive effects compared to schools using conventional Title I programs. But improvements in the school climate did not explain differences among CSR effects across various programs. More specifically, program characteristics associated with improving school climate such as increasing faculty buy-in for reform programs, and improving parent and community involvement in school governance and activities, were not statistically significant predictors of a reform's effect size on student achievement. We recognize, of course, that there is a large body of research that examines the relationship between parent involvement and student achievement, and that some of this research reveals a positive effect of parental involvement on white and minority children [32,33].

## Personalizing Schools to Bolster Student Achievement

We have shown above that the concept of school climate was transformed into the idea of school culture. Recently, yet another re-conceptualization has entered the literature: personalization. The idea of personalizing schools has become popular in large part because the Bill & Melinda Gates Foundation and other philanthropic organizations have awarded substantial grants to districts to convert their large, comprehensive high schools into smaller, more intimate schools. The move to

personalize schools by reducing their size gains support from the empirical work of Bryk, Lee, Smith and others suggesting that school size correlates with higher academic achievement, particularly among low-income and minority students [34,35,36,37,38,39,40,41].

The claim is that larger high schools prepare students less well than middle sized or small high schools despite the fact that large schools benefit from an economy of scale.

That is, larger schools may be more cost-effective regarding budgets, the allocation of resources and the distribution of teaching faculty and administrative staff—which we have identified as some of the technical components of school reform. But large comprehensive high schools are structurally inhibited by virtue of their large scale in developing the authentic caring relations that Noddings, Valenzuela and Newmann claim are so important for engaging students' learning.

Research on school size shows that large high schools are less equipped academically and socially at meeting the needs of marginal students. Large high schools can offer more options to students [42], but these options often result in greater academic tracking (e.g. [43,44]) than in smaller schools. Smaller high schools, meanwhile, often provide a single academic track for all students, which can mean they offer greater academic rigor and opportunities to learn and succeed.

The small school movement assumes that reducing school size results in what Bryk and Driscoll [44] call a more “communal school organization.” Small schools become “tighter-knit,” providing higher levels of social support to students. More positive, personalized school cultures result in more caring relationships among teachers and students and fewer students “getting lost.” In small schools, teachers are presumed better able to discuss students' progress and to compare information across classes and years.

Advisories, adult-student mentoring programs, and enhanced adult-led extra

curricular programs are a few ways small schools enhance adult-student relationships.

The work of Bryk, Lee, and Smith is large scale in scope. Conchas and Rodriguez [45] show us in detail, through the voices of students, just how small size affects important educational outcomes, including student learning. They show us, on a smaller, deeper scope, that contrary to the popular belief that students in urban schools do not want to learn, they do, in fact, want to be challenged, and they want their teachers to care about them and their futures. *They want to be somebody*. Meeting students' high expectations requires a teaching corps that is well prepared in the subject matter they teach, believes that all students—even those from the most desperate socio-economic circumstances—can learn at the highest levels by engaging them in deeply personal ways.

The Conchas and Rodriguez [45] study demonstrates that converting large schools into smaller ones goes beyond just technical or structural changes but involves a cultural change in teachers' beliefs, attitudes, and values, changes in the curriculum and the organization of instruction. This shift, when accomplished successfully, can provide all students with greater access to a full range of postsecondary options—including enrolling in college and entering the workforce well prepared.

Not all researchers have found that smaller is better, however. Watt [46], for example, suggests that small schools may actually be detrimental to students who find it more difficult to conform to a more homogeneous school culture as might be found in a smaller school.

## Students' Perspectives on Rigor, Relevance and Relationships

All the research that we have reviewed to this point in the paper has been conducted

from the point of view of adults who are outside the school system. Recently, we

have witnessed a shift in point of view in order to gain insight into the technical, cultural, and political dimensions of schooling. Increasingly, students are being seen as useful evaluators of school climate. Schools and educators are more often than before listening to students and gathering data on students' perspectives to determine what about their schools' and classrooms' climate are helping or impeding student academic performance. The rationale is that students spend hundreds of hours each year in classrooms as "informal observers" [47] and, consequently, can provide valuable insights into what is working and not working for them and their peers [48,49,50].

Wallach and her colleagues [47], for example, recently completed a three-year study of seven redesigned small high schools in Washington State. As part of the larger study, they conducted surveys on and focus groups with students to measure students' perceptions of personalization at their schools. They defined personalization as students feeling "known by their teachers, feeling cared for, and feeling comfortable with their peers." They found that students reported *greater expectations of their own abilities* and *an increased sense of personal accountability* among teachers and students when measures of personalization increased.

McClure, Yonezawa and Jones [51] take Wallach et al.'s work a step further and link students' academic performance with their perceptions of several key aspects of school climate. Over a two year period (2005-2006), they surveyed over 7,000 students at 14 small high schools in the San Diego Unified School District. Students completed a 30-question "paper and pencil" survey about their perceptions of personalization, academic rigor, advisory periods and counselors. The researchers then linked the survey data to the performance of individual students on important academic indicators:

weighted grade point average (WGPA), scaled scores on the English language arts portion of the CST, and whether a student was "on-track" to graduate high school with completion of the University of California/California State University (a)-(g) course requirements.<sup>a</sup>

The researchers found a relationship between personalization and academic outcomes. Grade level analyses for each of the survey years showed that, on average, the more students reported a high level of personalization, those higher levels were associated with better performance on the CST English language arts examination, higher weighted grade point averages, and an increased probability that they were "on-track" relative to (a)-(g) requirements for high school completion. As an example, Table 1 provides an excerpt of the results, by grade level, for the main effect of personalization, taken from the 2006 survey analyses.

McClure, Yonezawa & Jones's [51] work is significant in that it links student achievement data to measures of students' perceptions of personalization, and, therefore, the only study that shows a clear positive correlation between greater personalization and greater student achievement on standardized measures.

A somewhat surprising finding from both the Wallach et al. [47] and the McClure, Yonezawa and Jones [51] studies concerned students' perceptions of the value of advisory period. Advisory periods are usually regular periods during the school day when teachers presumably give students advice on issues of academic planning and personal growth. Advisory periods are quite popular among secondary schools as a strategy for improving school climate by fostering caring and supportive teacher-student relationships. In both studies, the

Table 1

*Main effect of personalization, by grade level, 2006 survey*

Grade Level	Estimate	Standard Error	Pr>  t
9 <sup>th</sup>	0.147	0.037	<.0001***
10 <sup>th</sup>	0.128	0.039	0.0011**
11 <sup>th</sup>	0.134	0.038	0.0005***
12 <sup>th</sup>	0.082	0.042	0.0524 †

\* $P < 0.05$ , \*\* $P < 0.01$  \*\*\* $P < 0.001$ , † $> 0.05$

researchers discovered that personalization matters to both students' perceptions of their own abilities and their actual academic achievement. However, innovations such as advisory periods actually seem to have a negative relationship with student-teacher personalization [47] and with students' academic achievement [51].

For example, in the McClure, Yonezawa and Jones [51] study, the more useful students found their advisory period, the more likely those students had lower academic records. While the advisory period was not always a significant predictor of students' academic records, in those instances when it was statistically significant, the direction was uniform. Students' higher ratings of the advisory period were associated with lower weighted GPA's, lower test scores and a decreased likelihood that a student had remained on-track for (a)-(g) completion.

It is important to remember that only a correlation and not causation is established with these types of analyses, so care should be taken when interpreting the practical

significance of the findings. With this caveat in mind, we hazard a tentative interpretation of students' positive perception of attempts to personalize relationships and their somewhat negative perception of advisory periods. The simplest explanation is that students who needed the advisory most (i.e., had the lowest grades, etc.) were the ones who valued advisory most, and vice versa; but it seems to us that students are distinguishing between the lived experience, the human dynamics of particular teacher-student encounters and the more static institutionalized form of just another course in their academic schedule. That is, these students seem to be reminding us of Noddings' insights: Caring matters, more so when it appears in informal, improvised, and, therefore, more authentic, encounters between teachers and students than when it appears in the formal structures of a course designated for that purpose. It is for this reason that we see positive relationships between academic outcomes and personalization and negative relationships for the advisory period.

## Creating Professional Learning Communities to Improve Students' Learning

The research literature is clear that students' engagement with education matters a great deal; so too does the engagement of teachers in their work. Educators, both researchers and practitioners, increasingly assume that the development of a professional community among teachers in schools has the ability to promote individual growth, change teaching practice and increase the collective capacity of the teacher group to improve students' learning. In some cases, this body of literature suggests creating professional learning communities can improve student learning and achievement [52].

But "community" has a wide variety of meanings in this research literature and teacher professional communities can take many forms and serve many purposes. Merely calling teachers' joint work "professional community," therefore, does not ensure any particular kind of relationship or outcome. These ambiguities have not, however, dampened the enthusiasm of those calling for the establishment of teacher professional communities [53,54,55,56]. As

Little [52] points out, this "optimistic premise of professional community" is not warranted by the research.

In truth, the research paints a much more complicated picture of the nature and effectiveness of teacher professional communities and their relationship to school climate and students' learning. A growing body of research reports that ongoing *teacher* learning is a critical component for high levels of student achievement [54,57,58]. A limited number of studies examine the link between on-site teacher professional communities and student learning.

Louis and Marks[59] studied 24 schools across the nation, and found a positive relationship between participation in a professional community and the intellectual quality of student performance as measured by authentic assessments they developed. Four quantitative studies using data from the 1988 National Longitudinal Study showed a statistically significant effect of teacher community on student achievement [38,39,41,60].

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## Conclusions

We have examined the concept of school climate as it has been studied for the past 30 years. We found that that construct has migrated from concerns for school safety, to caring relations between adults and students, to the culture of the school, and the role and added value of professional relationships and networks for teachers. Personalization—which involves structural changes in schools and classrooms alongside changes in educators' cultural beliefs and norms about teaching and learning—is the most recent instantiation of the school climate notion.

Taken as a whole, the research literature tells us that improving student achievement is a matter of school improvement (along technical, cultural and political dimensions) focused on student engagement and the personalization of education.

Educators are best equipped to improve student learning and achievement when their reform choices and actions are informed by careful consideration of the technical, cultural and political dimensions of school improvement. Comprehensive planning and network building among educators, in the

final analysis, offer the greatest likelihood that educators will act on all dimensions simultaneously and successfully improve their students' educational experiences, learning, and achievement.

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## Notes

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<sup>a</sup> San Diego Unified School District generously allowed access to the student level data, which allowed these analyses to be performed.