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Middle School Climate Examined and Altered by Teacher-Directed Intervention Assessed Through Qualitative and Quantitative Methodologies

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Abstract

A program of research designed to assess the climate of academically-excelling middle schools is described. Two approaches not previously used in such research have shown promise, namely, 1) the application of mixed (qualitative and quantitative) analytic methods and 2) the involvement of the middle school teachers as co-researchers.

Many identical dimensions of school climate were identified by the quantitative and qualitative approaches applied separately. However, important aspects of school climate emerged from interviews and faculty meetings (qualitative data) that were not identified in quantitative questionnaires. Similarly, climate issues that were not highlighted in the qualitative data emerged from questionnaires. The integrated data yielded a picture of the climate in each school that was more complex than that which would have emerged from the application of only one of the analytic methods. This finding strongly indicates that unique dimensions of a school's climate may be missed and the level of its complexity may be underestimated if qualitative and quantitative methods are applied separately.

A set of climate-related issues was assembled for each school and utilized by teacher co-researchers to design interventions that were targeted at climate issues particularly salient to their middle school and that could be directed solely by them.

We conclude that the complexity of middle school climate is best examined via a mixed methodology combining qualitative and quantitative approaches and that the development of potentially climate-enriching interventions would have been less responsive to teachers' concerns and would have less teacher acceptance, if the teacher co-researchers had been provided with only quantitative or only qualitative data.

Introduction

The quality of opportunities afforded to young adolescents in their school settings and the extent to which schools meet their needs for competence, autonomy, and quality of relationships with others influences adolescents' developmental success during this period of upheaval and vulnerability (Eccles & Midgely, 1989; Youniss & Yates, 1997). While much is known about the opportunities and challenges in urban schools, particularly in lower income districts, very little is known about the emotional climate of middle schools in more affluent districts.

Students' perceptions of competence, valuing of school, and emotional well-being are enhanced when they are provided with opportunities to develop their academic and social competencies, exercise some independence over their learning, and feel cared for and supported (Roeser & Eccles, 1998). These psychological resources, in turn, promote positive achievement, conduct, and peer relationships (see Eccles, Midgley, Wigfield, Buchanan, Reuman, Flanagan & MacIver, 1993). On the other hand, students tend to feel less motivated to learn, more distressed, and manifest more academic and social problems when school practices give rise to feelings of self-consciousness and incompetence (through heightened competition), of being controlled, and of interpersonal anonymity or disrespect (Connell & Wellborn, 1991; Harter, 1993; Roeser, 2000). These practices may occur more frequently in affluent school districts where academic and social expectations for success are heightened (Ames, 1992).

Still, well into the middle school movement which places emphasis on the "whole child" (Jackson & Davis, 2000), many middle and junior high schools fail to provide an optimal "fit" with adolescents' developmental needs (Connell & Wellborn, 1991; Roeser & Ecceles, 1998). The 2000 publication, *Turning Points 2000: Educating Adolescents in the 21st Century,* (Jackson & Davis, 2000) noted that many middle schools have undergone substantive change during the 1990s but had reached a plateau and need to press onward to "involve parents and communities in supporting student learning and healthy development" (p.24), which is a recommendation for reform that is consistent with other research findings, as well as theories of adolescent development (e.g., Rutter, 1983; Eccles, et. al., 1993; Erikson, 1973). Although many of these recommendations have been implemented in numerous middle schools across the country—and have met with some success (e.g., Felner, Brand, Adan, & Mulhall, 1993)—there appears to be considerable variation in the extent to which schools are willing to fully integrate them. In some cases, school administrators have failed to include teachers in decision-making and have advocated changes in ways that have undermined the teachers' sense of autonomy over classroom practices (Oakes, 2000). This administrative style runs counter to the Carnegie Council on Adolescent Developments suggestion to provide teachers with greater authority to make decisions and increased control over curricular goals. In addition, many parents appear wary of reform efforts and are disengaged from school practices, including the logic and sequence of reform measures (Eccles & Harold, 1993).

More generally, there is mounting concern that adherence to lists of "best practices" may actually impede more meaningful, structural change in schools (Phillips, 1997). Indeed, Oakes (2000) has argued that "watered down wisdom makes its way into packaged materials and prescribed training. Such technical assistance nearly always blocks the deep inquiry and learning that fundamental shifts in norms and practices require" (p.24). She refers to current reform efforts as failing to create climates in which teachers can critically examine the historical and theoretical underpinnings of their ideas regarding children, learning, and intelligence in shaping their practice. Along similar lines, Roeser (2000) has argued that many secondary schools have focused on the "wine bottles"—specific structural arrangements through which curriculum and instruction is delivered—without considering the "wine" of effective middle school culture. This requires continued commitment among staff and administrators to keep students and teachers at the center of all reform efforts (Talbert & McLaughlin, 1999; Roeser, 2000).

Although the recommendations speak to the need for curricular and structural modifications, they do not adequately address the crucial importance for providing an education atmosphere that is supportive and respectful of teachers in their role as program designers and implementers of innovations (van den Berg & Ros, 1999). Teachers are most often overlooked or not adequately consulted when a school district or state educational agency considers reform proposals (Olson, 1980), their implementation (Hatton, 1985), and the resulting emotional responses encountered by teachers during this process (Nias, 1996).

Although there are dangers to adhering too narrowly to the recommendations set forth by the Carnegie Council and educational researchers (Jackson & Davis, 2000; Roeser & Eccles, 1998), many of the practices hold considerable promise. These include: making schools smaller and more caring through organizational arrangements; cultivating and creating opportunities for positive student-teacher relationships; implementing thematic or interdisciplinary curricula that encourage creativity and address themes of community and care; granting students greater autonomy to make decisions and participate in learning; and emphasizing improvement and ability over relative standing.

Within this context, issues of hostile competition need to be directly addressed. For example, teachers should reconsider their implicit and explicit school practices, including feedback and recognition practices that emphasize students' relative academic standing and student competition over affiliation. These issues are likely to be particularly salient in more affluent school districts, where family pressures to excel are almost palpable and a greater premium is placed on such indices as standardized test scores, elite college entrance, material possessions, and future earning potential. Likewise it is probable that teachers experience more demands and pressure from parents in these districts. Along these lines, a deeper understanding of the unique circumstances and issues that are faced by students and teachers in relatively wealthier districts is needed. Although a reasonably large body of research has been amassed concerning the school climates and difficulties confronting low-income students, virtually no studies have focused on the subtle and not-so-subtle stressors of their more affluent counterparts. While noting the enormous needs of lower income urban, rural, and suburban schools it remains important that we do not assume the needs of teachers and students in affluent districts are being fully met.

Current Project

This research is designed to examine the climate of high-achieving middle schools in affluent districts and to improve climate through interventions designed and implemented by middle school teachers. This paper reports year-one activities that represent the beginning of a five-year, funded examination of climate in middle schools. Our concerns about the unique pressures impinging upon affluent middle schools have been substantiated by interviews with teachers. Teachers have described a high pressure climate characterized by high levels of parental interference and expectations, parental requirements for students to participate in extra-curricular activities that will enhance college applications instead of activities based on the interest of students, competition among students for acceptance into elite high schools and colleges, and an emphasis on "high stakes testing" and the quantitative evaluation of middle schools. Our focus is to directly address teacher concerns about climate by using data collection and evaluation approaches which provide information needed by teachers for developing interventions and to support these teacher-directed interventions. This research aims to extend prior examinations of climate by moving beyond the description/classification of climate in middle schools toward the direct use of research data by teachers who function as co-researchers, in partnership with university researchers, at all stages of the research process. In this way we present a new model of collaboration between middle school teachers and university researchers and we provide evidence for the strength of using a mixed methodology, combining qualitative and quantitative approaches, when studying middle school climate.

Design of the Research

Sample of middle schools
The middle schools involved in this research excel academically and are located outside a large Midwestern city. To participate in the research, middle schools were required to meet stringent acceptance criteria which

were developed to ensure that the middle schools involved had a history (at least one decade) of high academic achievement. The following criteria were used: 1) the school must be in the top 10% of middle schools as reported by the state board of education, 2) the school must have been cited by the United States Department of Education as a school of excellence, and 3) the school was identified by educators not involved in the study as a middle school with high academic standards that was outside of their own district. A middle school was asked to participate in the study when all three criteria were met.

Five middle schools are participating in the study. Of these, three schools are intervention schools and two are control schools. The intervention and control schools are located in geographically and economically similar communities and school districts, and are similar in size and ethnic background of the student body. Baseline data was obtained from all five schools at the beginning of the academic year, however, a wider range of methodologies (described below) were applied at the three intervention schools throughout the school year to provide in-depth climate data and information that will be used by teachers as they design and implement interventions.

Teachers as co-researchers

The role of middle school teachers in this study is dramatically different from the traditional role of teachers as "research subjects." In the traditional research model, teachers function as subjects with a clearly defined role which can involve any or all of the following: a) completing surveys or answering interview questions to generate data for university researchers to analyze and interpret, b) implementing a new teaching method which was designed by outsiders to the school, or c) being observed by university researchers (or graduate students!) who correlate teaching behaviors with student outcomes. In contrast to the traditional model, teachers in this study operate as co-researchers at all stages of the study, which equates the importance of their contribution to the research with that of the university co-researchers. Teachers do more than complete questionnaires or interviews. Teachers interpret the results of the formal questionnaires/interviews in light of their subjective experience of the climate, they put the data in context, and they use the data as they develop their own interventions to improve the climate of their schools. Throughout the next four years of the study, the teachers will work in partnership with the university co-researchers to interpret the data and collaborate in the planning of future measurements taken to evaluate the interventions designed by the teachers. The university co-researchers will function as consultants to the teachers during the design, implementation, and evaluation of the interventions. This model of collaboration is intellectually stimulating to both teachers and university researchers and is designed to respect and treat teachers as experts in their field and to utilize their knowledge of the impact of school climate on student learning.

Mixed Model: Qualitative/Quantitative Design

As researchers we are well aware of the current debate in education and in the social sciences concerning the value and appropriateness of qualitative and quantitative methodology (McGrath & Johnson, in press). Unfortunately, this debate is often characterized as an either/or dichotomy, which at times resembles armed camps and not open, collegial discussions about ontological and epistemological issues (Marshall & Rossman, 1999). Qualitative and quantitative methods provide the researcher with *different* information. It is not a matter of one approach utilizing numbers and the other not. This simplistic but common divide diminishes the richness of both paradigms (Tashakkori & Teddlie, 1998). The methodology chosen for any research investigation — be it quantitative or qualitative — should be determined by the questions being asked and not by a predetermined commitment to a specific approach. Both paradigms have strengths and weaknesses (Tashakkori & Teddlie, 1998) and in a complex study such as this, neither one alone is sufficient.

Qualitative Data

Several different types of qualitative data were collected in the first year of the study which include interviews with teachers, interviews with administrators, participant observation of school meetings, observation of school events, archival data, and student focus groups. These data serve two purposes: the first is to provide

baseline data for the intervention and control schools and the second, to provide input for discussions with teachers about which teacher-led innovations should be implemented in year two of the project.

Interviews with teachers

Semi-structured interviews were administered to all teachers participating in the study at intervention schools (N=116). In addition, interviews were administered to a stratified sample (N=20) selected from teachers at control schools (N=62). Interviews were co-developed by teachers, administrators, and researchers, and addressed the concerns and interests of these three groups, all of whom are stakeholders in this project. Interviews were conducted in private offices at each school assuring privacy and confidentiality. The interviewer took notes during the interview and tape-recorded each interview. The tape was subsequently transcribed for additional data analysis. Although laborious, to insure consistency, a senior faculty member of our research team conducted all first year interviews. Considering the sensitivity of the data and the growing weariness of school boards to allow university researchers on campus, we chose not to use graduate students for this aspect of data collection.

Interviews with teachers took 45-60 minutes and focused on four thematic areas: *General School Environment* (12 questions), e.g., What is it like to be a teacher at this school?, What do you consider a successful student?, What are some of the challenges this school faces?; *Teacher-Student Relations* (10 questions), e.g., What is the best possible relationship a teacher can have with a student?, What interferes with you developing good relations with students?, What kind of general support do you get from other teachers?, What are some of the challenges this school faces?, How would you meet those challenges?; *Parent Involvement* (6 questions), e.g. Could you talk about one of your experiences with a parent that was important and significant to you?, What is the best way for a parent to be involved in your school?; *Teacher-School Board Relations* (2 questions), How would you describe relations between teachers and the school board? and What do you think could be done to improve these relations?

Although designed as a semi-structured interview, additional follow-up and exploratory questions (some open-ended, others not) were utilized as necessary (Patton, 1990). Analyses of codes, patterns, themes, and emerging concepts were undertaken using Miles and Huberman (1994) guidelines. Due to the large size of this data set a software program (Atlas ti.4) was employed to assist in analysis and theory formation.

Interviews with school administrators

In addition to interviews with teachers, ten school administrators were interviewed (5 principals and 5 vice-principals) representing all schools in the study. These interviews took 60-120 minutes and covered the following thematic areas: issues facing the district, school board-school superintendent relations, strengths of the school and challenges it faces, community involvement (including but not limited to PTA/PTO's role), and educational philosophy of the administrator.

Data from these interviews were not shared with teachers due to issues of confidentiality and the impossibility of anonymity. However, results are included in the overall analysis of data at the end of year one. Additional analyses involved archival data external to each school provided by administrators, and the triangulation of data (Yin, 1994) internal to each school obtained from administrators, teacher interviews, and observations of a university co-researcher.

Participant-Observation

A senior faculty member of our research team attended, and participated as requested, in teacher team meetings, all-faculty meetings, and principal executive committee meetings throughout the school year at the intervention schools. Researchers were allowed to freely take notes at all meetings, and were given copies of minutes, agendas and all other written material made available to other attendees. Observations were recorded following recommendations typical to ethnographic fieldwork (Fetterman, 1989) and participant-observation research (Adler & Adler, 1998). Emerging themes were coded according to Strauss & Corbin (1998).

Observation of school events

In order to more fully know each school in our study, senior researchers and graduate students attended 8-12 school-sponsored events at each school over the course of the year. These events included new school orientation for parents and 5th grade students preparing to enter middle school, transition orientation for parents and 8th grade students preparing for high school, as well as sporting events, art exhibits, drama and musical performances, science fairs, PTA/PTO meetings, and administration-community forums. Observation notes were generally recorded after the event so as not to interrupt the event in any way or draw undue attention to the researcher. This follows standard practice when utilizing observations as a part of data collection (Patton, 1990).

Archival data

Researchers had access to a significant amount of archival data. This included regular mailings of the respective school's newsletter, PTA/PTO newsletters, notices sent to parents and students about a range of issues, non-confidential communications between administrators and teachers, student handbooks, yearbooks, student publications, minutes of school board meetings, and the occasional local newspaper story about the school. These material were coded using guidelines from Henwood and Pigeon (1995; 2002, in press) which are more specific than previous grounded theory data analysis recommendations (Glaser, 1978; Strauss, 1987). Our examination of the data was specific to looking for themes related to school and community climate; involvement of teachers, administrators, parents and students in school related activities; and for emerging issues and themes that we had not previously considered.

Student focus groups

At the end of year one, pilot student focus groups were conducted at one intervention school. Teachers at this school wanted student opinion and input about the specific school programs they were examining as potential intervention targets. Seven of twenty open-ended questions written by teachers, administrators, and researchers were used in the focus groups. The student focus groups became a valuable tool to assess student perceptions, observations, and suggestions outside of a pencil and paper questionnaire. Results from the focus groups were given to teachers, being careful not to quote idiomatic language that could identify a particular student. In year two, we plan to suggest that the teachers expand the focus groups to all schools. According to teachers, and we concur, the information from these initial groups provided a perspective that they had not heard or considered and played an important role in developing the innovations that they will be implementing in year two.

Quantitative Data

Several different types of questionnaires were used in the first year of the study to quantitatively obtain information about the structure of the school and to assess school climate. These data, like the qualitative data described above, served two purposes: the first was to provide baseline data for the intervention and control schools and the second was to provide input for discussions with teachers about selecting which of the teacher-led innovations will be implemented in year two of the project.

Demographic information

Personal and school-related demographic information was collected from teachers. Topics addressed include the number of years teachers have taught, the grade levels taught, the number of classes taught per day, primary subject areas taught, and nature of individual planning time.

Organizational Climate Description Questionnaire for Middle Schools

The Organizational Climate Description Questionnaire for Middle Schools (Hoy & Tarter, 1997) is a 50-item measure of principal and teacher behavior in middle schools as it relates to school climate. Three dimensions of teacher behavior are examined, namely teacher collegial, committed, and disengaged behavior. The behaviors of principals are also examined on three dimensions, namely the extent to which these behaviors were supportive, directive, or restrictive.

Organizational Health Inventory

The Organizational Health Inventory—Middle Schools (Hoy & Tarter, 1997) is a 45-item measure of the "…health of interpersonal relations in schools among students, teachers, administrators, and community members" (Hoy & Tarter, 1997, p. 57). In this scale, the health of a middle school is assessed on three primary dimensions: a) Institutional—which measures the connection of the school and the environment (institutional integrity), b) Administrative—which measures the managerial and organizational aspects of the school environment (collegial leadership, principal influence, and resource support), and c) Teacher—which measures the relationship between teaching and learning (teacher affiliation and academic emphasis).

School Improvement Self-Study Staff Survey

Selected subscales of the School Improvement Self-study Staff Survey (1998) were completed by teachers. Specific subscales and sample items include:

a) Teacher Decision Making and Roles - "I take part in decisions about adopting new programs at this school" and "I have a great deal of freedom to do as I like"; b) Interdisciplinary Teaming - "How are interdisciplinary team leaders/facilitators chosen at your school?" and "What percentage of your teaching time is spent with students on your primary interdisciplinary team?"; c) Job and School Experiences - Teacher Burnout, Efficacy and Satisfaction Sections - "I worry that this job is hardening me emotionally" and "I feel exhilarated after working closely with my students."

School participant empowerment scale

The School Participant Empowerment Scale (Short & Rinehart, 1992) is a 38-item scale assessing teachers' perceptions of empowerment in the following six areas: Decision Making, Professional Growth, Status, Self-Efficacy, Autonomy, and Impact.

Data Sharing Among Co-researchers

To respect the sensitive nature of the data obtained from year-one activities, and to comply with ethical guidelines, the confidentiality of data was maintained at all times. Specifically, all issues highlighted by university co-researchers for discussion among teachers and administrators had been identified by more than one teacher to ensure that comments or concerns could not be traced to individual teachers, and names were never included in result summaries provided to teachers or administrators. The importance placed on the maintenance of confidentiality throughout the study served a critical role in the growth and strengthening of trust among all co-researchers.

Data sharing with the teachers in the control schools consisted of providing a written summary of the quantitative and qualitative data obtained as a baseline measurement. In contrast, the data sharing process in the intervention schools involved a dynamic exchange which began with the university co-researchers presenting data from questionnaires, interviews, observations, focus groups, and archives to all teachers (at each intervention school) at an after-school meeting of all co-researchers. The university co-researchers provided extensive summaries of all the data collected from the above named sources at this meeting. The teachers had a wide range of responses to the data; some were surprised by the issues raised, others found the data supported their own subjective reality of the school climate and found it validating to learn that others shared their views. After evaluation and reflection, the teachers discussed whether the data accurately represent the school climate and, in so doing, put the data into context for themselves and their colleagues, including the university co-researchers. The atmosphere at these meetings varied from excited, to relaxed, to angrily empowered, depending on the existing climate and pre-existing local issues.

Process of choosing an intervention

We consider that one of the most exciting and innovative aspects of this research is the process by which interventions were developed and implemented. The data sharing meetings ended with teachers creating a list of potential areas needing intervention. Over the next three weeks teachers met in small groups to further dis-

cuss these areas. A second all-co-researcher meeting was held in which further discussion occurred. Midway through this meeting, a paper ballot vote was taken in which the areas for intervention were rank ordered. At this time teachers began to volunteer for the project area they wished to work on. Teacher Working Groups (TWG) were organized based on a topic area. Teachers agreed to meet one more time, as an all-co-researcher group, before summer break to work out the specifics of planning and developing their areas. At the end of this third all-co-researcher meeting, the TWGs had developed an outline of their projects with a list of scheduled summer meetings. During the summer the TWGs met a range of six to nine times. Additional work was performed by TWG members outside of group meetings. During the summer university researchers acted as consultants to teachers and responded to requests from the TWGs for literature searches, purchases of books and films, and specific information relevant to the group's topic. When necessary outside consultants were made available to the teachers. Costs for literature searches, books, films, outside consultants, supplies, and other materials and postage was paid for through funds donated to the Harvard Graduate School of Education explicitly for this project. Teachers and schools incurred no expenses during year one of this project. In addition to these costs, earlier in the year all teachers were paid an honorarium of $20.00 for completing the questionnaire and an additional $20.00 for completing the interview. Meals were provided at all-co-researcher meetings as well as expenses for after-school child care up to $20.00. For their work over the summer in the TWGs each teacher received $350.00 with the chairperson receiving an additional $100.00. The TWGs presented their summer work to an all-co-researcher faculty meeting, along with school administrators, in early fall. Implementation of some of the teacher-designed interventions began in September (2001) while others will occur later in the school year.

Baseline Results: Qualitative and Quantitative Data

The qualitative and quantitative data provide strong evidence for the strength of a mixed methodology when examining middle school climate. Similar dimensions of climate were identified through the qualitative and quantitative approaches. However, many nuances of climate were revealed in the qualitative data that were not identified in the quantitative questionnaires, and alternatively, some nuances identified through the questionnaires were not identified in the qualitative data.

Dimensions of climate

The salient dimensions of climate that emerged from the baseline data are represented in Figures 1-3. The figures represent teacher perspectives on the relationships among climate dimensions and they also include examples of issues important within each relationship. Our data supports the prior work of Hoy and colleagues (Hoy, Hannum & Tschaneene-Morran, 1998; Hoy & Tarter, 1997), which identified dimensions of climate relating to teacher-principal relationships (labeled "collegial leadership"), teacher-teacher relationships ("teacher professionalism"), academic emphasis within the school ("academic press"), and parent/community-school-teacher relationships ("environmental press"). However, our data represent an important advance in our understanding of middle school climate in that the integration of the qualitative and quantitative data not only revealed teacher perspectives on the interrelationships among Hoy et al.'s (1998) dimensions, but also identified additional important aspects of climate.

For example, as displayed in Figure 1, the teachers in our study reported that relationships between teachers—Hoy et. al.'s (1998) teacher-teacher dimension—was a salient dimension of climate that was characterized by faculty relations and faculty involvement. However, teachers also identified teacher-student relationships as such a critically important dimension of climate that we represent the relationship here as an additional and distinct aspect. This dimension represents teachers' concerns about the different worldviews their students espouse, and concerns about how these worldviews affect the interpersonal relationships and interactions between students and teachers.

Figure 2 diagrams the relationships among climate dimensions as perceived by the teachers. The arrows represent the influence that teacher-perceived climate dimensions have upon each other, specifically the influence teacher-parent and teacher-community relationships have on the relationships between teachers and students, teachers and administration, and between teachers themselves. Interestingly, teachers reported that the influ-

ence of parents and community pressures, Hoy's "environmental press" (Hoy, et. al., 1998), directly impacts all other important relationships within the school. The influence of parents and community was characterized as a maladaptive force bearing heavily upon the climate of their school and negatively affecting their relationships with students, administrators, and with each other. Specifically identified were: a) parent response to student grades, b) the nature of parental involvement, and c) changing teacher roles. For example, teachers described their roles as expanding to include a responsibility for the psychosocial development of students, a responsibility that has been given to them by parents (who admit they are hesitant to enforce rules or to discipline their children), even though teachers lack training and time within a school day to focus sufficiently on the needs of students in this area. Teachers reported being humiliated by parents entering classrooms to reprimand them in front of their class and by a lack of administrator support for their professional judgment during grade disputes with parents. The reported detrimental impact of teacher-parent and teacher-community interactions on the other dimensions of climate indicate that middle school climate is extremely complex. This complexity was revealed by the integration of the qualitative and quantitative data.

The role of administration in shaping school climate is another complex element identified by the qualitative and quantitative data. A multidimensional relationship emerged in which teachers differentiated among their relationships with building administration, school board administration, and district administration. As displayed in Figure 3, teachers perceive their relationships with each level of administration differently. The most egalitarian and healthy relationships were between teachers and building administrators (principals and assistant principals). A bidirectional and open dialogue exists between themselves and building administrators on issues related to academic policies, work environment, and leadership. This finding is encouraging given that teachers interact most directly with building administrators who have been shown in past work (Hoy & Miskel, 2001) to have a strong influence upon the climate of a school. A bi-directional relationship was also perceived between teachers and school board administration. However, teachers strongly highlighted that while the board listened to their concerns, the thoughts and ideas of the teachers were rarely valued or acted upon. Of particular importance to teachers was the lack of clarity concerning the role of the school board and the failure of the board to address any of their concerns in this area. Unlike the relationships with building and school board administration, teachers characterized their relationship with district administration as "top-down" and uni-directional with communications coming from the district administration to teachers with no opportunity given for input from teachers. This lack of communication was perceived by many teachers to represent a lack of respect for their professional experience.

Research Plan: Years 2-5

During the next four years, the teacher co-researchers will focus on the implementation, evaluation, and refinement of the interventions they have initiated this year. While we as university co-researchers have responded, and will continue to respond, to requests for information and technical assistance when asked, our role has not been to design the interventions nor will we design interventions during years 2-5. Our role as university co-researchers in years 2-5 will be to collaborate with the teachers in identifying assessment instruments that will provide continual feedback to them about the effectiveness of their efforts.

Conclusion

The richness of the data obtained in the baseline phase of this study suggests that unique dimensions of school climate may be missed, and the complexity of middle school climate may be misrepresented, if either quantitative or qualitative methods are used alone. The importance of the mixed methodology for our purposes cannot be overemphasized given that the teacher co-researchers have used these data to design interventions which are expected to improve the climate of their middle schools. In fact, the subtle nuances identified via our mixed methodology approach are some of the specific issues that the teachers plan to address. There is little doubt that the development of these potentially climate-enriching interventions would have been less responsive to teachers' concerns and would have less teacher acceptance/commitment *if the teacher co-researchers had been provided with only quantitative **or** only qualitative data.*

In addition to our finding regarding the importance of utilizing a mixed methodology, the role of teachers as co-researchers is also an exciting contribution of this work. From the onset of this project the university researchers presented themselves as co-researchers to teachers. While the concept of co-researcher was explained to them during the initial presentation of the project earlier in the school year, it was not until the first all-co-researcher meeting that teachers truly seemed to embrace their role as co-researchers whose opinions and decisions were sought out, valued, and acted upon.

By the end of the first research planning meeting at each school, a sense of commitment and high level of interest could be seen and heard: university researchers had just presented data obtained over the course of the school year to the teachers, *and the teachers were given the charge of using this information to develop programs and/or policies which they would create.* Although specific programs may need approval by school administration and the district office, both of these offices, as well as the local school boards, had previously and publicly made a good faith commitment to work with the teachers to implement their plans. For all teachers in our study, be they novices or seasoned, this was the first time they were provided with the opportunity and resources to implement programmatic changes in their school with the prior approval and blessings of the school board, superintendent, and school administration. Although coming under the rubric of teacher research (Cochran-Smith & Lytle, 1999), in our review of the literature we have not discovered any studies which describe similar teacher-initiated program development that has been supported by substantial university-funded resources while giving control of the innovation's development to the teachers. Innovations developed in this study are site-specific in that they are "home-grown" to meet the needs of each school and are not the creation of the university researcher, school board, or state agency. The importance of this model of collaboration follows in the spirit of the first *Turning Points* publication by the Carnegie Council (1989) which suggested that teachers be provided greater decision-making authority. It also supports the work of other educational researchers who have described the crucial need in schools for teachers' abilities as program designers to be respected and nurtured (van den Berg & Ros, 1999).

In conclusion, we present our research as a new model of teacher and university researcher collaboration. In addition, our data strongly supports the importance and utility of using a mixed methodology, combining qualitative and quantitative approaches, to conduct an in-depth examination of the climate of middle schools and to evaluate teacher-directed interventions.

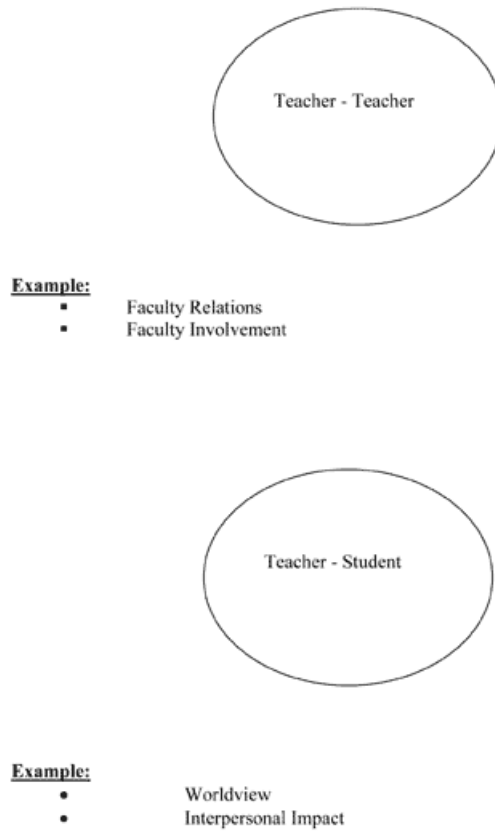**FIGURE 1.** Salient dimensions of climate identified by teachers

Example:
- Faculty Relations
- Faculty Involvement

Example:
- Worldview
- Interpersonal Impact

FIGURE 2. Perceived influence of Teacher-Parent and Teacher-Community dimensions on the other dimensions of climate

Example:
- Response to student grades
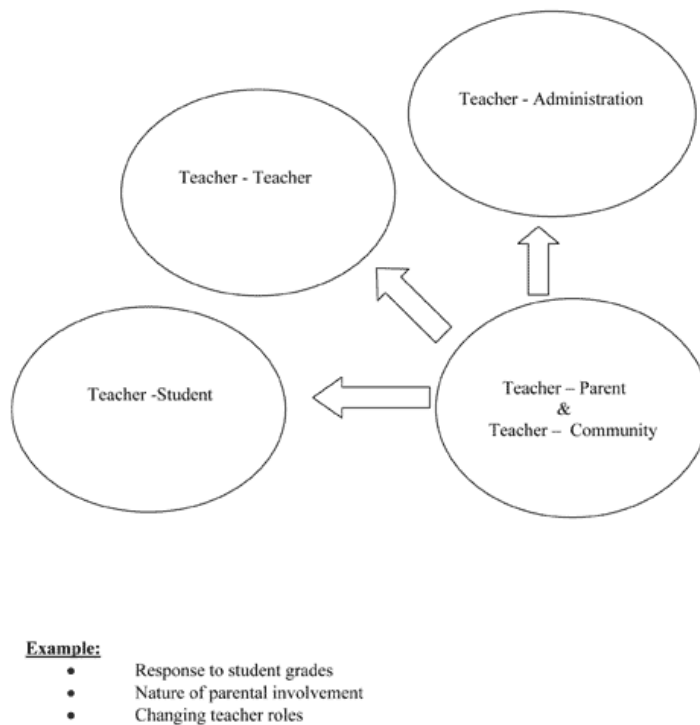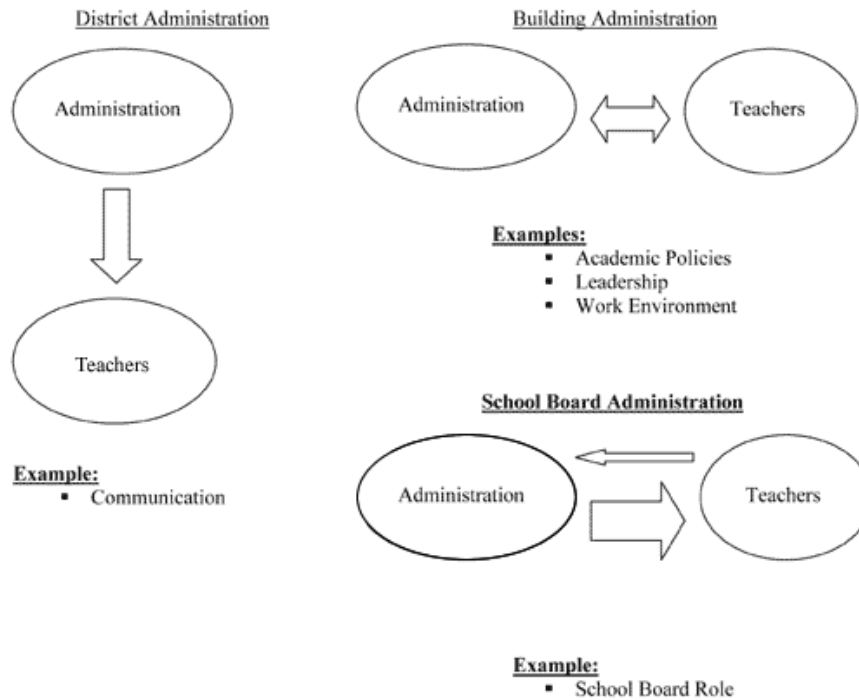- Nature of parental involvement
- Changing teacher roles

FIGURE 3. Differentiation of the Teacher-Administration dimension of climate

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