

---

Electronic Theses and Dissertations, 2004-2019

---

2010

## A Study Of The Comparison Between Teacher Perceptions Of School Climate And The Existence Of Professional Learning Community Dimensions

Kathryn Kelton  
*University of Central Florida*



Part of the [Educational Leadership Commons](#)

Find similar works at: <https://stars.library.ucf.edu/etd>

University of Central Florida Libraries <http://library.ucf.edu>

This Doctoral Dissertation (Open Access) is brought to you for free and open access by STARS. It has been accepted for inclusion in Electronic Theses and Dissertations, 2004-2019 by an authorized administrator of STARS. For more information, please contact [STARS@ucf.edu](mailto:STARS@ucf.edu).

---

### STARS Citation

Kelton, Kathryn, "A Study Of The Comparison Between Teacher Perceptions Of School Climate And The Existence Of Professional Learning Community Dimensions" (2010). *Electronic Theses and Dissertations, 2004-2019*. 4326.

<https://stars.library.ucf.edu/etd/4326>



A STUDY OF THE COMPARISON BETWEEN TEACHER PERCEPTIONS OF  
SCHOOL CLIMATE AND THE EXISTENCE OF PROFESSIONAL LEARNING  
COMMUNITY DIMENSIONS

by

KATHRYN E. KELTON  
B.A. University of South Carolina, 1992  
M.Ed. University of South Florida, 2005

A dissertation submitted in partial fulfillment of the requirements  
for the degree of Doctor of Education  
in the Department of Educational Research, Technology and Leadership  
in the College of Education  
at the University of Central Florida  
Orlando, Florida

Summer Term  
2010

Major Professor: Janet M. McGee

© 2010 Kathryn E. Kelton

## ABSTRACT

This research study was conducted to determine whether teachers' perceptions of climate within a school had a significant influence on the dimensions that support a community of professional learners. Teachers from ten middle schools in one central Florida school district completed a combined survey design which included questions pertaining to both climate characteristics and Professional Learning Community (PLC) dimensions. Foundational theories regarding both learning organizations and organizational climate were explored. Recent research on the development of professional learning communities and school climate was also examined. Descriptive and inferential statistics were performed to investigate each research question; these statistics included Spearman rho correlations, multiple regressions, and chi-square analyses. Findings demonstrated that the null hypotheses were rejected or partially rejected for each research question. Significant relationships were found between teachers' perceptions of school climate and the dimensions of a PLC. Of the demographic variables, only years of teaching experience was found to be not significantly related to the school climate dimensions. The implications of these results validate the importance of building a climate of supportive principal behavior and committed and collegial teacher behaviors, as demonstrated by the significant relationship of these characteristics to schools exhibiting higher degrees of the dimensions that constitute a PLC. Educational stakeholders wishing to develop schools into job-embedded communities of learners with evidence of the five dimensions (shared leadership, shared vision, collective creativity, peer review and supportive conditions) must attend to developing the climate behaviors necessary for that

to occur. As demonstrated by the research results, establishing an appropriate school climate that promotes professional interaction, support, and teacher commitment to students is a strong place to begin.

This work was completed to honor my friend, colleague, and mentor—the late Dr. Valerie Doyle Collins. The wisdom you instilled over the years guided and sustained me throughout this endeavor. The love, friendship, and life of excellence you radiated continue to be an exemplar for those who knew you.

“Always know there’s another friend sailing along with you... even if it appears you’re sailing alone.”-VDC

## ACKNOWLEDGMENTS

My deepest gratitude goes to my dissertation chair, Dr. Janet M. McGee. The countless hours you devoted, your commitment to me and to my work, and your unending guidance and knowledge shared throughout this process could never be measured.

Thanks and appreciation goes to my committee members: Dr. Jeffrey Kaplan, Dr. William Doherty, and Dr. Monifa Beverly. Your wisdom, support, and encouragement throughout this process were valued.

To each of you—for your expertise and fine examples of professional leadership, I am truly grateful.

## TABLE OF CONTENTS

LIST OF FIGURES .....	xi
LIST OF TABLES .....	xii
CHAPTER ONE: INTRODUCTION.....	1
Introduction .....	1
Statement of the Problem .....	3
Purpose of the Study .....	3
Research Questions .....	4
Definition of Terms.....	4
Assumptions .....	8
Methodology .....	8
Population and Sample .....	9
Instrumentation .....	10
Organizational Climate Description Questionnaire for Middle School.....	11
Reliability and Validity .....	11
School Professional Staff as Learning Community Questionnaire.....	12
Reliability and Validity .....	12
Data Collection .....	13
Data Analysis.....	15
Delimitations .....	17
Limitations .....	18
Significance of the Study .....	18
Summary .....	19
CHAPTER 2: REVIEW OF THE LITERATURE .....	21
Introduction .....	21
Senge's Theory of Learning Organizations .....	22
Systems Thinking .....	23
Personal Mastery .....	23
Mental Models.....	24
Shared Vision .....	24
Team Learning.....	24
Cultural Shift.....	26
Development of a Climate Theory .....	27



Organizational Climate: A Working Description.....	29
Dimensions of Climate typology.....	30
Professional Learning Community (PLC).....	33
Dimensions of a Professional Learning Community.....	35
Supporting Conditions .....	35
Peer Review or Shared Personal Practice .....	36
Collective Creativity .....	37
Shared Vision.....	37
Shared and Supportive Leadership .....	38
Leadership Towards a Learning Community.....	39
Elements of Effective Leadership.....	40
Teachers as Leaders.....	41
Summary .....	43
CHAPTER THREE: METHODOLOGY .....	44
Introduction.....	44
Statement of Problem .....	44
Research Questions .....	45
Population and Sample.....	46
Instrumentation.....	47
Organizational Climate Description Questionnaire for Middle School .....	48
Instrument Reliability and Validity.....	48
School Professional Staff as Learning Community Questionnaire .....	49
Instrument Reliability and Validity.....	50
Data Collection.....	51
Data Analysis .....	52
Summary .....	56
CHAPTER FOUR: ANALYSIS OF DATA .....	58
Introduction.....	58
Statement of the Problem .....	59
Research Questions .....	60
Survey Instruments.....	60
Organizational Climate Description Questionnaire for Middle Schools.....	60
School Professional Staff as Learning Community Questionnaire .....	61

Survey Distribution and Response Rates.....	61
Demographic Information and Characteristics of Respondents.....	63
Data Analysis .....	67
Hypothesis 1 .....	67
Hypothesis 2 .....	69
Shared Leadership.....	70
Shared Vision.....	71
Collective Creativity .....	72
Peer Review .....	73
Supportive Conditions .....	74
Hypothesis 3 .....	75
Years of Teaching Experience.....	76
Number of Years Teaching at Current School.....	79
School Type .....	82
Summary .....	86
CHAPTER FIVE: DISCUSSION OF FINDINGS AND RECOMMENDATIONS.....	89
Introduction.....	89
Statement of the Problem .....	90
Discussion of Findings and Conclusions .....	91
Research Question One .....	92
Research Question Two.....	94
Research Question Three.....	95
Implications of the Study .....	99
Recommendations for Further Research.....	101
Summary .....	103
APPENDIX A: SCHOOL PROFESSIONAL STAFF AS LEARNING COMMUNITY QUESTIONNAIRE .....	106
APPENDIX B: PERMISSION TO USE SCHOOL PROFESSIONAL STAFF AS LEARNING COMMUNITY QUESTIONNAIRE.....	110
APPENDIX C: ORGANIZATIONAL CLIMATE DESCRIPTION QUESTIONNAIRE- REVISED MIDDLE .....	113
APPENDIX D: PERMISSION TO USE ORGANIZATIONAL CLIMATE DESCRIPTION QUESTIONNAIRE .....	115
APPENDIX E: ELECTRONIC SURVEY .....	118

APPENDIX F: DISTRICT APPROVAL TO CONDUCT RESEARCH.....	134
APPENDIX G: LETTER TO PRINCIPALS.....	136
APPENDIX H: EMAIL LETTER TO TEACHERS .....	138
APPENDIX I: INFORMED CONSENT FOR EXEMPT RESEARCH .....	140
APPENDIX J: UNIVERSITY OF CENTRAL FLORIDA INSTITUTIONAL REVIEW BOARD APPROVAL .....	142
APPENDIX K: SAMPLE SURVEY ITEMS FROM THE OCDQ-RM SUBSCALES WITH CORRESPONDING ITEM NUMBERS .....	144
LIST OF REFERENCES .....	146

## LIST OF FIGURES

Figure 1: Influence of Teacher Perceptions of School Climate on the Existence of a Professional Learning Community .....	20
Figure 2: Integration of Senge’s Five Disciplines .....	26
Figure 3: Correlation of Senge’s Theory of Learning Organizations with Professional Learning Community Dimensions .....	39

## LIST OF TABLES

Table 1: Research Questions, Data Sources, and Statistical Analyses .....	16
Table 2: Research Questions, Data Sources, and Statistical Analyses .....	53
Table 3: Frequencies and Percentages on Participant Characteristics .....	64
Table 4: Frequencies and Percentages for Participants in Each School .....	65
Table 5: Means and Standard Deviations on Organizational Climate Description Questionnaire (OCDQ-RM) Subscales.....	66
Table 6: Means and Standard Deviations on School Professional Staff as Learning Community Questionnaire (SPSaLCQ) Subscales .....	66
Table 7: Spearman rho Correlations between Degree of PLC and School Climate Dimension.....	69
Table 8: Multiple Regression with School Climate Predicting Shared Leadership.....	71
Table 9: Multiple Regression with School Climate Predicting Shared Vision.....	72
Table 10: Multiple Regression with School Climate Predicting Collective Creativity ....	73
Table 11: Multiple Regression with School Climate Predicting Peer Review .....	74
Table 12: Multiple Regression with School Climate Predicting Supportive Conditions .	75
Table 13: Chi Squares on Number of Years Teaching and School Climate Behaviors ...	78
Table 14: Chi Squares on Number of Years Teaching at Current School and School Climate Behaviors.....	81
Table 15: Chi Squares on School Type and School Climate Behaviors.....	85
Table 16: Visual Summary of School Type on Climate Behaviors.....	98

## CHAPTER ONE: INTRODUCTION

### Introduction

“Professional learning communities (PLCs) have emerged as arguably the best, most agreed-upon means by which to continuously improve instruction and student performance” (Schmoker, 2006, p. 106). The PLC structure in a school is “one of continuous adult learning, strong collaboration, and democratic participation” (Hord & Sommers, 2008, p. 10).

The idea of a learning community is embedded in Senge’s research on the concept of a learning organization "where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together" (Senge, 1990, p. 3). Researchers in the education field (DuFour & Eaker, 1998; Hord, 1997) later coined the term *professional learning community*.

The overarching premise of a learning community is to enhance educational opportunities for students while simultaneously engaging teachers in structured activities to improve instructional practices (Roberts & Pruitt, 2009). The teacher as a reflective practitioner has the potential to improve teaching practices, enhance a sense of professionalism, and provides a platform in which teachers can individually and collectively explore effective practices leading to both student achievement and teacher learning (Roberts & Pruitt). However, to achieve this collaborative school culture focused on teaching and learning, a climate to support it must exist.

“School climate is a general term that refers to teachers’ perceptions of their work environment; it is influenced by formal and informal relationships, personalities of participants, and leadership in the organization” (Hoy & Tarter, 1997, p. 6). Climate is based on perception of behavior in schools (Hoy & Tarter). Because this research study focused on the extent, if any, that teachers’ perceptions of climate in a school influence the existence of a job-embedded community of learners, it is of significant importance to understand the distinction between culture and climate. Taking into consideration that one can influence the other:

“Studies of climate usually deal with perceptions of behavior, use survey research techniques, employ multivariate statistics, have their intellectual roots in industrial and social psychology, assume a rational-systems perspective, examine climate as an independent variable, and are interested in using the knowledge to improve organizations.

In contrast, studies of culture typically focus on assumptions, values, and norms, use ethnographic techniques, eschew quantitative analysis, have their intellectual roots in anthropology and sociology, and assume a natural-systems perspective” (Hoy, Tarter & Kottkamp, 1991, p. 8).

Significant research (Buffum, Erkens, Hinman, Huff, Jessie & Martin, et al., 2008; DuFour, DuFour & Eaker, 2008; Hirsh & Hord, 2008) has been conducted regarding the role the principal of a school plays in developing both a culture and series of guidelines to create, implement, and sustain a professional learning community over time. However, there is a considerable void in the research concerning the effects of teachers’ perceptions of school climate on the existence of professional learning communities.

### Statement of the Problem

Although the research on PLCs is wide and deep, there is a void in the study of the perceptions that teachers and teacher leaders have on not only the key dimensions that constitute a community of learners (Hord, 2007), but on whether the existing climate has an effect on making such a community possible within a school. Many schools fail to move beyond simply sharing instructional practices, and doing the meaningful work of job-embedded collaborative decision-making around curriculum, assessment and instruction (Graham & Ferriter, 2008).

“The complexity in identifying schools as PLCs offers a challenge for researchers, principals, staff, parents, and other stakeholders. While many principals and faculties conceptualize their schools as organizations operating as learning communities, they rarely meet the operational criteria” (Olivier, Antoine, Cormier, Lewis, Minckler & Stadalis, 2009).

Since teachers are vital in meeting the operational criteria for successful PLC schools, it is imperative to gather teachers’ beliefs and input on whether their school is a PLC and on how well their school is functioning as a PLC based upon the five key dimensions.

### Purpose of the Study

Embedding reflective practice in work causes one to consider what was done in order to make a plan to determine what could be done differently the next time to achieve a different result. Research supports that reflective practice improves instruction and student achievement (Hord & Sommers, 2008). Hence, the purpose of this study was to explore whether there are prevailing characteristics, based on teacher perceptions of school climate, that predicate the existence of schools with the PLC dimensions embedded in teacher practice.



“The goal of a professional learning community is to create a condition for perpetual learning. This creates an environment in which innovation and experimentation are not viewed as tasks to be accomplished or projects to be completed, but as ways of conducting day-to-day business—forever. Furthermore, participation in this process is not reserved for those designated as leaders: instead, it is a responsibility of every member of the organization” (DuFour, DuFour & Eaker, 2008, p. 17).

The overall intent of the proposed study was to contribute to the body of knowledge regarding teacher perceptions as they relate to PLC dimensions.

### Research Questions

The following research questions were explored:

Research Question 1: To what extent, if any, is there a significant relationship between school climate and the degree of PLC (high vs. medium vs. low)?

Research Question 2: To what extent, if any, do the school climate dimensions predict PLC dimensions?

Research Question 3: To what extent, if any, is there a relationship between demographic variables and teachers’ perception of school climate?

### Definition of Terms

Knowledge of the following terms provided understanding for this study. The terms were defined according to the context and bearing on the study.

Centralized decision-making-Decisions made are a process resting with the principal (Roberts & Pruitt, 2009).

Climate-Climate constitutes “teachers’ perceptions of their work environment influenced by formal and informal relationships, personalities of participants, and leadership in the organization” (Hoy & Tarter, 1997, p. 2).

Collaborative teams-Members work “interdependently to achieve a common goal for which they are mutually accountable” to impact professional practice “in order to improve results for their students, their team, and their school” (DuFour et al., 2008, pp. 179-180; 16).

Collegial inquiry-Individuals, who examine the status quo, seek and test new techniques, and reflect on the outcomes (DuFour, DuFour, Eaker & Karhanek, 2004).

Collegial teacher behavior-A dimension of the Organizational Climate Description Questionnaire (OCDQ) demonstrating support for open and professional interaction among teachers often characterized by pride in school and mutual respect of colleagues (Hoy, Tarter & Kottkamp, 1991).

Committed teacher behavior-A dimension of the OCDQ whereby “teachers work extra hard to ensure student success in school and behavior is directed toward helping students develop both socially and intellectually” (Hoy & Tarter, 1997, p. 43).

Constructivist leadership-Leadership is found within the relationships at the school. It is “the business of learning together for a shared purpose” (Roberts & Eaker, 2009, p. 34) in which the principal supports opportunities for collaborative learning.

Culture- Culture is the embedded patterns of shared norms, values, and basic assumptions within a group or organization (Hoy & Tarter, 1997).

Directive principal behavior-The principal closely manages, supervises, and controls all school activities (Hoy et al., 1991).

Disengaged teacher behavior-Teachers are detached, lack common goals, behavior is frequently critical of colleagues and a lack of focus on professional activities is the norm (Hoy et al., 1991).

Facilitative leadership- This is a leadership model in which the principal promotes a shared vision, the growth of teacher leaders and new leadership structures within the school while providing opportunities for networking and collaboration (Roberts & Pruitt, 2009).

Intimate teacher behavior-Teachers provide strong support for one another and maintain strong relationships (Hoy et al., 1991).

Knowing-doing gap-This is the disconnect between knowing what should be done and the failure to act or behave on that knowledge (DuFour et al., 2008).

Organizational climate-This is “the set of internal characteristics that distinguishes one school from another and influences the behavior of its members . . . and is based on the collective perception of behavior in schools” (Hoy et al., 1991, p. 8).

Professional Learning Community-A community of learners by which teachers and administrators in a school work to gain knowledge and share learning with the goal of increasing their effectiveness to impact teacher learning and student achievement (Hord & Sommers, 2008).

Restrictive principal behavior-The principal imposes demands on teachers that conflict with teaching and hampers rather than facilitates teacher productivity (Hoy et al., 1991).

School type-For purposes of this study, the following school types are considered: charter, magnet/choice, Title I, and traditional.

*Charter*-“Schools are independent public schools of choice . . . and are granted flexibility in providing expanded learning experiences to meet the individual educational needs of each student by using innovative learning methods” (Florida Department of Education, 2006, p. 1).

*Magnet/Choice*-Schools support inventive education methods and practices that encourage diversity and increase choice. Magnet programs support the implementation of instructional methods to increase students’ mastery of academics and their vocational skills (EdGov, 2010).

*Title I*-These are high-poverty schools as determined by the number of students receiving free or reduced lunch that receive funding to assist teachers in becoming highly qualified in core subject areas, provide instructional material for students, and teacher training to support school improvement. Title I schools operate under federal mandates outlined in the No Child Left Behind law, with some schools identified for improvement under a continuum of consequences (EdGov, 2009).

*Traditional*-Schools are publicly funded with the provision of free education for students within a district.

Supportive Leadership- Power, authority, and decision-making are shared and encouraged amongst all stakeholders through collaboration and democratic participation (Hord & Sommers, 2008).

Supportive principal behavior-The principal respects the faculty both professionally and personally and is open to teacher suggestions (Hoy et al., 1991).

Traditional model- Those in leadership positions typically make the decisions and manage teacher behavior (Roberts & Pruitt, 2009).

### Assumptions

The assumptions significant to this study included the following:

1. The principals received and read the letter and series of follow-up emails requesting permission to survey teachers at their schools.
2. Those principals not providing a response to any permission requests chose not to consent to teacher participation.
3. Those contacted to complete the survey were classroom teachers at the schools during the 2009-2010 school year.
4. Those contacted via email received the correspondence and survey link at their professional district Internet addresses, and read the information contained.
5. The survey was completed by those contacted for participation in the study.
6. Responses chosen by the selected population were made thoughtfully and accurately to ensure data that are reliable.

### Methodology

A quantitative research design was followed to include descriptive and inferential statistics. Principals from 23 middle schools housing grades six through eight in one central Florida school district were contacted with a request to survey teachers. Of those ten schools where permission was granted to conduct research, teachers were asked to complete a combined electronic survey format, which included the Organizational Climate Description Questionnaire (OCDQ-RM) for middle schools, the School Professional Staff as Learning Community Questionnaire (SPSaLCQ), as well as demographic information.

This quantitative study design was conducted using a survey (Hoy, Hoffman, Sabo & Bliss, 1996; Hoy & Tarter, 1997) to compare teacher perceptions of climate with PLC and non-PLC schools based upon 17 descriptors organized under the five key dimensions of a professional learning community as encapsulated by Hord (2007).

These include:

1. shared leadership,
2. shared vision,
3. collective creativity or learning
4. review of each teacher's classroom practices by peers, and
5. supportive conditions/capacities (SEDL, 1999).

Using these diagnostic results, the researcher proposed to establish the teachers' perception as to the extent they feel the school principal provides a collaborative community with an opportunity for job-embedded shared responsibility and leadership to determine if a true community of professional learners exists.

Survey results were used to determine if there was a significant relationship between teachers' perceptions of climate and the existence of a true community of professional learners. More specifically, the researcher sought to determine if there were specific characteristics of climate germane to schools displaying PLC dimensions.

### Population and Sample

The population for both the climate analysis and PLC dimension analysis was drawn from a group of 23 public middle schools housing grades six through eight in one central Florida school district. These schools included traditional, Title I, charter, and magnet/choice options. The sample for this study included the individual certified classroom teachers in each of the ten schools responding to the combined climate and PLC dimension surveys. Schools with a response rate of at least 50% of teachers were to

be included in the sample for analysis. However, because no single school met the criteria of having a response rate of 50%, all teacher responses gathered from each of the ten schools were included in the sample for analysis.

The sample size necessary for this analysis considered level of significance, power, and effect size. For the purpose of this research, the significance, or alpha level ( $p$  or  $\alpha$ ) is the probability “used to determine whether the outcome is significant or not” (Creighton, 2007, p. 35). The alpha criteria used for this research was  $\alpha = .05$ , which indicates a 95% confidence level of a correct conclusion when the null hypothesis was true.

The power of a significance test is the probability of rejecting the null hypothesis when it is false (Cohen, 1992), or the probability of committing a Type II error. The level of power for this research was set at .80, and was considered in determining the sample size a priori (Cohen).

Based on Cohen’s table (1992), the effect size for this study was based on the chi-square analysis, with three degrees of freedom; this required the most stringent sample size necessary to yield a medium effect.

### Instrumentation

School climate was measured using the Organizational Climate Description Questionnaire (OCDQ-RM) for middle school teachers, and the School Professional Staff as Learning Community Questionnaire (SPSaLCQ) was used to determine the existence of PLC dimensions. The surveys were combined into a single format to be administered electronically.

## Organizational Climate Description Questionnaire for Middle School

The Organizational Climate Description Questionnaire (OCDQ-RM) for middle school teachers contained 50 questions with a Likert-type response scale to include four possibilities: RO (Rarely Occurs), SO (Sometimes Occurs), O (Often Occurs), and VFO (Very Frequently Occurs). The OCDQ-RM instrument, originally developed by Halpin and Croft (1963) and revised by Hoy et al. (1996), broke down respondents' selections pertaining to climate into six key dimensions. These dimensions included: a) supportive principal behavior, b) directive principal behavior, c) restrictive principal behavior, d) collegial teacher behavior, e) committed teacher behavior, and f) disengaged teacher behavior (Hoy et al., 1996; Hoy & Tarter, 1997).

“The profile of school climate is a picture of the school at a specific point in time. The picture does not explain why things are the way they are; it describes what exists at that time. Teachers and administrators who discover that their schools are in need of change must begin to investigate possible causes of the existing climate” (Hoy et al., 1996, p. 56).

### Reliability and Validity

The respective reliability scores for each subtest on the middle school version included: “Supportive (.96), Directive (.88), Restrictive (.89), Collegial (.90), Committed (.93), and Disengaged (.87)” (Hoy et al., 1996, p. 45). The properties of the six subtests of the OCDQ-RM are strong. All the scales have high reliability coefficients, with reliability of the subtests on this final form being higher than the pilot.

The construct validity of each of the six dimensions of openness was correlated with each dimension of the previous OCDQ index. The index of teacher openness correlated positively with the original index ( $r = .67, p < .01$ ). The index of principal



openness also correlated positively ( $r = .52, p < .01$ ). In the study by Hoy et al. (1991), it was determined that the factor analysis also supported the construct validity of organizational climate.

### School Professional Staff as Learning Community Questionnaire

The Southwest Educational Development Laboratory (SEDL) and the Appalachia Educational Laboratory (AEL) teamed to conduct both the pilot test and field tests of the School Professional Staff as Learning Community Questionnaire (SPSaLCQ) developed by Shirley Hord (1996). As stated, the SPSaLCQ Survey supports five key dimensions: shared leadership, shared vision, collective creativity, peer review, and supportive conditions/capacities (Cowley, 1999). Each of the five dimensions contained questions requiring responses chosen from a Likert-type scale ranging from five (high) to one (low). The scales included three statements—two located at each end-point and one located at the mid-point—to delineate between the high, middle, and low ranges on the scale (Cowley). When scored, the higher the overall score on the instrument, the more closely the school was deemed a learning community.

### Reliability and Validity

The tests for reliability and validity were met. The determination for the internal consistency coefficient was a .94 using Cronbach's Alpha. Generally, a .75 or higher indicates appropriate internal consistency of an instrument (SEDL, 1999). The stability reliability coefficient for the instrument was .6147, with the potential to increase or decrease if the sample size increased (SEDL).

The content validity, measured at three different stages, was deemed to have adequate content validity for the purpose of measuring the model of a professional learning community (SEDL, 1999). When compared with a similar instrument, the concurrent validity was a .7489 with a significance level of .001. When determining construct validity, the known group was compared with another group of teachers. “The higher scores from the school known to be a learning community differed significantly (.0001) from those in the field test” (SEDL, 1999, ¶ 21).

“After testing the instrument, it was concluded that, overall, the 17-item instrument is very useful as a screening, filtering, or measuring device to assess the maturity of a school’s professional staff as a learning community” (SEDL, 1999, ¶ 24). The survey appeared to be a useful tool to measure the development and sustainability of professional learning communities and work toward school improvement (SEDL).

Demographic information was also included in the survey. This information included the number of years teaching experience, number of years at the current school, teaching assignment, and the type of school (Title I, charter, magnet/choice) in which the teacher worked.

### Data Collection

Following district protocol, a formal application to conduct research and gather data was submitted to the Office of Assessment, Accountability, and Evaluation for consideration by the district Research Review Board. All required documentation and information was provided. As part of the required documentation, an explanation of the

research and methodology was included, along with appropriate consent forms and a copy of the survey instrument.

Principals received a letter outlining the purpose of the research and a request to survey teachers electronically. A paper response was required by the principals to consent or decline teacher participation. The researcher provided an envelope with return postage for this purpose. Follow-up electronic mail or telephone calls were made to those principals not responding within a two-week time period. Upon approval of the principal, the survey was sent electronically to classroom teachers at each of the ten schools where principals gave consent to survey teachers. An email was included containing an explanation of research which included the purpose of the study, request for participation, assurance of anonymity, and informed consent. Also included was an electronic link and code to access the survey. Participants had an initial two week time period to complete the survey electronically. A second email was sent following this window as a reminder and request for survey completion. After the reminder notice was delivered, a third email message was sent to serve as a thank-you to those who completed the survey and as a reminder to those who did not, along with the web link and access codes originally provided. This final email was sent with emphasis placed on the importance of responding and a friendly reminder that the survey window was coming to a close (Dillman, Smyth, & Christian, 2009).

The OCDQ-RM questionnaire, SPSaLCQ questionnaire, and demographic information was combined into a single format and administered to the teachers at the middle schools. Surveys remained anonymous and contained no identifying information or link to individual teachers.

## Data Analysis

Once the combined surveys were administered and completed, data were entered for analysis into Statistical Package for the Social Sciences (SPSS) version 16.0 for Windows. Descriptive statistics included frequencies and percentages, means and standard deviations. Frequencies and percentages were conducted for categorical (nominal) data. Because frequency is the number of participants fitting into a specific category, it was also important to know what percentage of the sample corresponded to each category.

Means and standard deviations were performed on interval and ratio data. The mean, or what is considered the average, is the sum of the scores divided by the total number of scores. Standard deviation measures the average of the deviations of each score from the mean, or the spread of values in a set of data (Howell, 2007).

Table 1 provides an outline of the research questions, data sources, and statistical procedures used. Climate and PLC surveys listed were combined into a single, electronic format for middle school teachers, with the addition of demographic data.

*Table 1: Research Questions, Data Sources, and Statistical Analyses*

Research Question	Data Source(s)	Statistical Analysis
1. To what extent, if any, is there a significant relationship between school climate and the degree of PLC (high vs. medium vs. low)?	Organizational Climate Description Questionnaire Revised Middle  School Professional Staff as Learning Community Questionnaire	Spearman Rho Correlations
2. To what extent, if any, do the school climate dimensions predict PLC dimensions?	Organizational Climate Description Questionnaire Revised Middle  School Professional Staff as Learning Community Questionnaire	Five Multiple Regression/Multivariate Comparisons
3. To what extent, if any, is there a relationship between demographic variables and teachers' perception of school climate?	Organizational Climate Description Questionnaire Revised Middle	18 Chi-Square Analyses

To examine research question 1, Spearman rho correlations were conducted to assess to what extent, if any, a relationship existed between teachers' perception of school climate and the degree of PLC (high vs. medium vs. low). When defining degree of PLC for this particular study, a high degree of PLC included mean scores of 70 or greater, a medium degree of PLC included mean scores ranging from 41 to 69, and a low degree of PLC included mean scores of 40 and below.

For research question 2, five multiple regressions were conducted to investigate the best predictors of the PLC dimensions. A multiple regression/multivariate comparison

was conducted to evaluate the combined effect of the independent, or predictor variables, on the dependent variable (Green & Salkind, 2008; Stevens, 2002). Five multiple regressions were conducted to determine if the six independent (school climate) variables predicted the five PLC dimensions.

To examine research question 3, 18 chi-square analyses were conducted to determine to what extent, if any, a relationship existed between the demographic variables and teachers' perception of school climate. The demographic variables were presented as nominal/categorical (number of years teaching experience, number of years at this location, and type of school) on the survey.

To perform this analysis, the continuous variable teachers' perception of school climate was dichotomized into high and low. Row and column percentages were interpreted for each variable. For chi-square to operate appropriately, data must come from random sample distributions, and the expected frequencies should not be too small. The chi-square test statistic should generate reasonably accurate results if the expected frequencies are greater than or equal to five for at least 80% of the categories (Green & Salkind, 2008) with no more than 20% of the cells composed of frequencies below five, with no cells having an expected frequency less than one (Pagano, 1990).

### Delimitations

This research study was restricted to teachers in a single district in the central Florida region of the state. Data were collected from teachers in middle schools housing grades 6-8 through the use of an online survey. This study focused on teachers' perceptions of the existence of professional learning communities rather than on the

specific professional learning that took place. This study focused on teachers' perceptions of school climate.

### Limitations

This research study was limited to the results of two combined survey instruments at the middle school level, with the inclusion of demographic variables. Data were collected electronically and analyzed based on the rate of survey completion and return; the study relied on self-reporting, and was dependent upon the accuracy of the data provided by middle school teachers. Surveys were only administered to teachers in schools dependent upon the provision of principal consent to contact teachers. Given mandates for implementation of PLCs from the state Differentiated Accountability Model and Professional Development Protocol, teachers may have considered a PLC to be in existence at some schools based on a requirement, when in reality those particular dimensions were not present.

### Significance of the Study

This study added to the body of knowledge regarding PLCs by demonstrating the influences school climate has on successful PLC implementation. More specifically, this research study focused on the influence that teacher perceptions of school climate have on the true existence of a true community of learners in a PLC school. Given the void in information involving the role of the teacher in PLC schools, future research recommendations demonstrate the need for focus on the teachers rather than a focus on the school principal. Because the premise of this study was to identify elements of school climate existing in PLC schools, the research also endeavored to identify characteristics

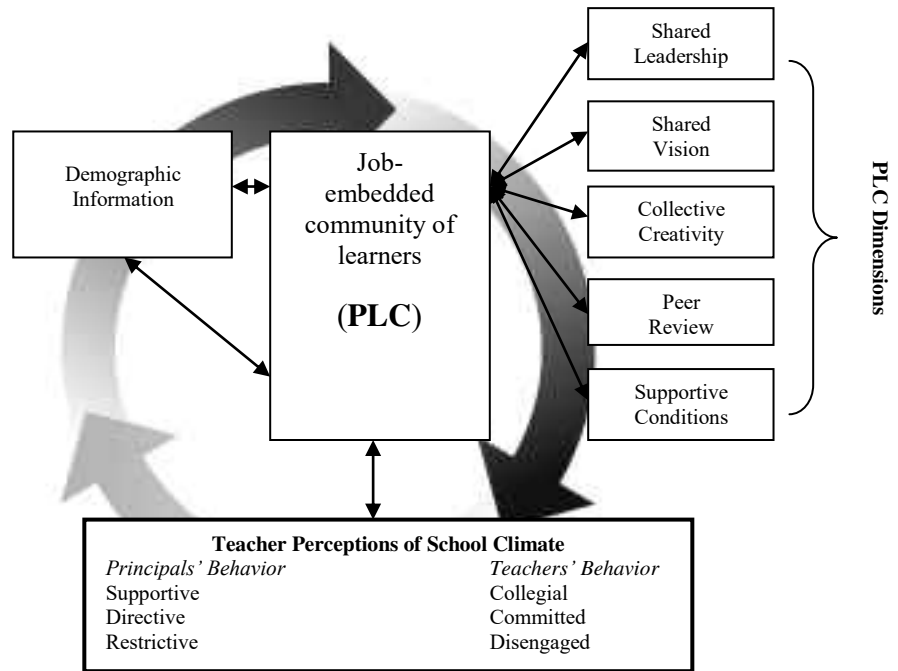
of climate necessary to develop and strengthen schools to support the establishment of a job-embedded community of learners. The results of this study also serve as the foundation for further research related to the influences of school climate on PLC implementation.

### Summary

Professional learning communities are not just an organized means for collaboration (Hord, 2008). PLCs are a means to organizing job-embedded collegial learning to improve teacher effectiveness to support student learning to meet high standards (2008). Hoy and Tarter (1997) proposed that schools with healthy climates emphasize academic achievement of students and support collegial relationships among teachers and leaders. “Collaboration among colleagues is a means to an end: enhancing teaching and learning” (Blankstein, 2004, p. 130). This research is important in determining if there is a significant relationship between school climate and the existence of a professional learning community.

Figure 1 was designed to represent the theoretical framework for this study. It displays the influence of teacher perceptions of school climate on the existence of the professional learning community dimensions.





*Figure 1: Influence of Teacher Perceptions of School Climate on the Existence of a Professional Learning Community*

## CHAPTER 2: REVIEW OF THE LITERATURE

### Introduction

“When America’s schools were created, it was never intended that all students would learn at high levels” (Schlechy, 2005, p. xi). Schools in the United States have undergone a wide variety of organizational structures since the 19<sup>th</sup> century. Prior to that period, little attention had been given to the concept of organizational thought (Owens & Valesky, 2007). Since that time, schools have been faced with many phases of organizational structures and practices. Frederick Taylor’s scientific management—or factory model—with its focus on a top-down hierarchical relationship between management and workers, established a distinct line between who was responsible for goal-setting and who was responsible for achieving them.

This type of factory-worker mentality is still evident in practice in many schools today. Directives coming from school boards and district offices trickle down to principals, and finally to teachers and students (DuFour & Eaker, 1998). Considering what takes place in schools today, Taylor’s ideology provides many administrators with the foundation and opportunity to rationalize and resist any opportunity for collegial, collaborative approaches to bottom-up methods of school reform (Owens & Valesky, 2007).

Since that period, the organizational structures of schools have gone through many changes; however, educators are still faced with the challenge of building capacity within schools to create organizations where teachers participate in continuous learning in a system of shared beliefs and values in an environment conducive to collegial

relationships with the goal of student learning (DuFour, DuFour, Eaker & Many, 2006; Schlecty, 2005). America's schools—designed originally on a premise of compliance—must be organized to nurture engagement and high levels of learning, which cultivates the need to redesign current practices to foster commitment and action (Schlecty).

The intent of this review of literature was to provide an explanation of the evolution of Senge's (1990) learning organization concept into a professional learning community, as well as detail the dimensions which define a school as a community of learners with research to support this premise. Additionally, the aim was to describe elements of climate that may influence teachers' perceptions of climate in a school, and in turn, have an impact on the existence of a job-embedded community of learners.

### Senge's Theory of Learning Organizations

The PLC model owes much to Peter Senge's theory of learning organizations, which he describes as a group of people who function together in an extraordinary way—who trust one another, who complement each other's strengths and compensate for one another's limitations, who have common goals, and who produce extraordinary results (Senge, 1990). Much like the key tenets of a PLC, "learning organizations are places where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together" (Senge, p.3).

Senge (1990) identifies five important disciplines that come together to advance learning organizations. These include systems thinking, personal mastery, mental models,

building shared vision, and team learning. These disciplines work together as a whole, rather than as separate entities.

### Systems Thinking

Systems thinking is often viewed as the cornerstone of any learning organization. “The essence of the discipline of systems thinking lies in a shift of mind: seeing relationships rather than linear cause-effect chains, and seeing processes of change rather than snapshots” (Senge, 1990, p. 73). “In systems thinking, we give up the assumption that there must be an individual or individual agent responsible. This perspective suggests that everyone shares responsibility for problems generated by a system” (Senge, p. 78). More specifically, an organization should be viewed as a dynamic process, rather than as a series of independent units.

In addition to systems thinking, the four other disciplines, or series of principles and practices (Senge, 1990) are integrated to comprise a learning organization. These are outlined further.

### Personal Mastery

“Organizations learn only through individuals who learn. Individual learning does not guarantee organizational learning. But without it no organizational learning occurs.” (Senge, 1990, p. 139). This is a discipline of personal growth and of personal learning. Personal mastery is a type of proficiency or calling, whereby individuals are constantly operating in a mode of continual learning. “People with a high level of personal mastery are acutely aware of their ignorance, their incompetence, their growth

areas” (Senge, p. 142). Senge further stresses the magnitude of persistently strengthening personal vision and looking at reality through an objective lens.

### Mental Models

Mental models are the deeply ingrained assumptions and images that influence how we understand and absorb the world around us. Because how one behaves and reacts is based on assumptions and perceptions of the environment, it is vital to not only be cognizant of our own mental models, but to be mindful of those assumptions. In addition, the discipline of working with mental models requires the ability to find a balance between advocacy and inquiry, and to be able to articulate one’s own thinking as well as making it open to the viewpoint of others (Senge, 1990).

### Shared Vision

Shared vision is defined by Senge (1990) as the picture of the future. Having shared vision is considered a collective experience. It is intuitive and committed and moves beyond simple compliance. Shared vision is the set of guiding principles of an organization—not solely revolved around the leader—that stimulate that organization into action toward a common goal.

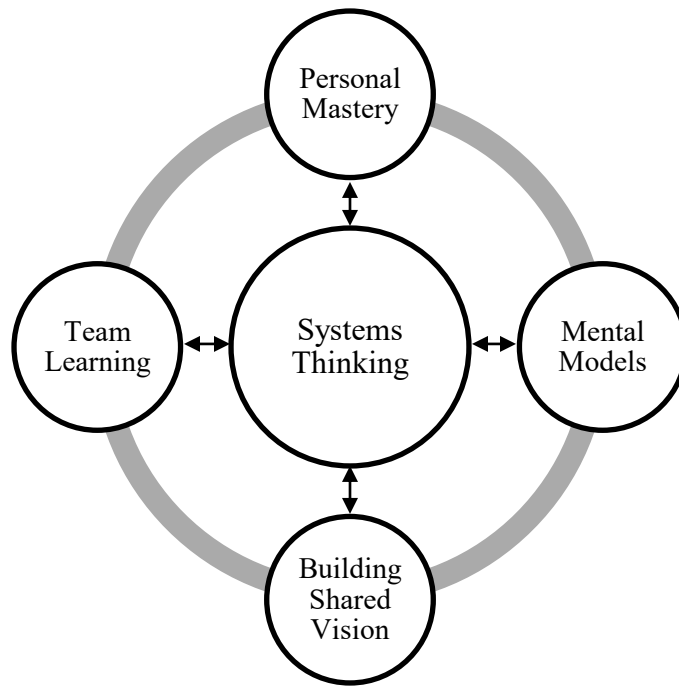
### Team Learning

Sergiovanni (1992) translated Senge’s principal of team learning from a business context to an educational one, whereby the notion of a school as a learning community suggests a cohesiveness among its members that is instituted in a family or closely united group. Senge stresses the importance of open communication within the group, as any one group’s collective IQ is greater than any one person’s individual IQ. Senge

references team learning as a discipline of dialogue, with the opportunity for sharing of ideas back and forth. With this comes the ability to learn to recognize how individuals interact with one another as a team, and to avoid behaviors that can undermine learning. “Unless teams can learn, the organization cannot learn” (Senge, 1990, p. 10).

These five components—or disciplines—are all interconnected. So that the learning organization works efficiently, each discipline must be crafted concurrently and incorporated with one another. Unlike typical management systems where one leader may be directing and articulating the vision and goals of the organization, it is important to note that the five disciplines provide individuals the opportunity to articulate how they think, express their goals, and learn from one another through interaction and collaboration. The discipline that integrates all other disciplines into a logical unit that provides a balance of theory and practice is systems thinking (Senge, 1990).

Figure 2 was developed to represent the integration of Senge’s five disciplines.



*Figure 2: Integration of Senge's Five Disciplines*

### Cultural Shift

Many challenges are associated with moving a school from a traditional model to a professional learning community (Roberts & Pruitt, 2009). The culture in a professional learning community supports teachers in seeing themselves as part of a team of learners and leaders rather than as participants in a traditional leader-follower role (Roberts & Pruitt). When a school operates as a PLC, the focus shifts from teaching to learning (Many & King, 2008), not only for the students but also for the teachers who learn to operate around a sense of collaboration rather than a culture of isolation. Eaker and Keating (2008) found that a collaborative culture would benefit students if the shared efforts of the teachers were focused on those issues that have a direct impact on student learning.

According to research by Darling-Hammond (2002), policymakers are realizing that only teachers, in collaboration with administrators and parents, have the power to transform schools. Because of social and economic changes, requiring greater learning from students, society is restructuring the mission of education. Teachers are expected to build a bridge between learner needs and the achievement of challenging learning goals (Darling-Hammond, 2002).

“What is worthy of replication, is building the culture of a school that will foster and maintain a learning community, with teachers whose ideology continually moves them down the road toward becoming stars” (Habermann, 2004). In order to do this, a shift in the culture of the school must take place, oftentimes as a climate of resistance prevails; fortuitously, it is easier to effect change and manage organizational climates more readily than the culture (Stringer, 2002).

#### Development of a Climate Theory

The initial studies of climate were developed by Kurt Lewin as early as the 1930s. He lent support to the idea that one must take into account ideas such as one’s goals, needs, social relations, as well as characteristics of atmosphere, whether they be friendly, tense, or hostile, and their effects on different leadership atmospheres (Litwin & Stringer, 1968). Lewin found that “the climate itself proved more powerful than previously acquired behavior tendencies, and it was able to change the patterns of the group members” (p. 36).

Lewin’s climate theory also supported the idea that “atmosphere or climate was an essential functional link between the person and the environment” (Litwin & Stringer,



1968, p. 37). Litwin and Stringer (1968) stated that what is real in an organization is understood as how it is perceived by the members in that same organization, with climate being the filter.

Renato Tagiuri's theory of climate described the importance of the setting within an organization and its importance in how that setting is perceived. He described this issue as "the distinction of objective and subjective environments" (Tagiuri & Litwin, 1968, p. 13), leading to what he called *organizational climate*. In other words, he suggested that the subjectivity of organizational climate is a reaction to the actual elements or characteristics of the organization—which can be further linked to the concept of perception.

When describing the environment of an educational organization, Tagiuri observed "a particular configuration of enduring characteristics of the ecology, milieu, social system and culture would constitute a climate, as much as a particular configuration of personal characteristics constitute a personality" (Tagiuri & Litwin, 1968, p. 23). Ecology is referred to as the physical factors such as age, size, and design of the building as well as the technology within. Milieu is the social dimension or components that relate to the people within an organization, such as race, salary, education level of teachers and the morale and motivation of adults and students within the building. The social system can be likened to the administrative structure of the organization; "culture refers to the values, belief systems, norms, and ways of thinking that are characteristic of the people in the organization" (Owens & Valesky, 2007, p. 188).

### Organizational Climate: A Working Description

As a result of his work, Tagiuri developed the following definition of organizational climate:

“Organizational climate is a relatively enduring quality of the internal environment of an organization that (a) is experienced by its members, (b) influences their behavior, and (c) can be described in terms of the values of a particular set of characteristics (or attributes) of the organization” (Tagiuri & Litwin, 1968, p. 27).

According to Hoy et al. (1991), organizational climate is identified as “a general term that refers to teachers’ perceptions of their work environment; it is influenced by formal and informal relationships, personalities of participants, and leadership in the organization” (p. 9). Positive school climate and effective leadership are terms often connected to student achievement. It might be assumed that a school environment that supports collegial, collaborative relationships among teachers can in fact influence the behavior of teachers. When teachers experience success in a supportive climate, they may tend to take more ownership and responsibility for not only student learning, but for their own learning as well.

According to Stringer (2002), “climate is both objective and subjective in that it’s an objectively measurable expression of people’s subjective perceptions of their work environment” (p. 1). The underlying assumption of organizational climate can be attributed to the idea that how people feel about where they work has a direct influence on how they work and on how much effort they put into that work. In this way, it can be assumed that climate determines organizational performance, and is linked directly to motivation and the resulting performance of each individual.

When considering how people feel about where they work, it is important to consider the type of school and environment to which they are associated. Because Title I schools were included in this study, it is important to review research connecting climate factors to socioeconomic factors.

In a study of 27 schools conducted by Bulach, Malone, and Castleman (1995), positive correlations were discovered to exist between school climate factors and student achievement, as well as between student achievement and socioeconomic status of students. Likewise, a significant positive correlation was found between the involvement subscale of school climate and the socioeconomic status of students (Bulach et al., 1995). These researchers proposed that school climate scores can predict student achievement; likewise, schools with students from lower socioeconomic backgrounds can have a healthy climate (Bulach et al.).

#### Dimensions of Climate typology

The difficulty in defining a school climate is reflected in the wide range of climate classifications—despite their common underpinnings—tied to researchers in theory base and measurement choices (Anderson, 1982). These differences in the variables used to define climate dimensions and how those dimensions are measured are dependent upon, and are largely a function of, a particular researcher's point of reference.

The dimensions utilized in this study support the original research of Halpin and Croft (1963) which postulated a continuum of six climate types determined by an individual school's average score across subtests. Subscales were based on perceptions of and characteristics of both teachers and principals. Analysis of these climate types and

subtests revealed six individual climate types: a) open, b) autonomous, c) controlled, d) familiar, e) paternal, and f) closed. A further breakdown indicated that a school could be classified as having a climate that was either open or closed (Halpin & Croft).

Those climate dimensions supported in that original research, and measured on the Organizational Climate Description Questionnaire (OCDQ), were later revised by Hoy et al. (1991). Another revision specifically for middle schools (OCDQ-RM) was again developed to address the unique characteristics often attributed to a middle school structure: interdisciplinary teams and activities, subject specialization, and child-centered philosophies (Hoy et al., 1996).

According to Hoy & Tarter (1997), the capacity of principal's behavior is measured along three dimensions to the extent to which it is supportive, directive, or restrictive. Defined further,

“Supportive behavior is genuine concern and support of teachers. In contrast, directive behavior is starkly task oriented with little concern for the needs of the teachers, and restrictive behavior produces impediments for teachers as they try to do their work” (p. 43).

Principals demonstrating supportive behavior motivate teachers through construction criticism, modeling examples of challenging work, and the provision of direct support to the social needs and achievement of teachers. Directive behavior is manifested in domination and monitoring over all aspects of teacher activities; restrictive behavior hinders teacher productivity by saddling teachers with demands that impede growth.

Three aspects of teacher behavior—collegial, committed, and disengaged—are also defined:

"Collegial behavior supports open and professional interaction among teacher colleagues, and committed teacher behavior is open and helpful to students. Disengaged behavior is intolerant and disrespectful; it depicts a general sense of alienation and separation among teachers in the school" (Hoy & Tarter, 1997, p. 43).

Teacher behavior that is collegial further displays a liking and respect to help one another personally and professionally. Behavior that is committed promotes teacher work to ensure student success. Conversely, behavior of the teacher that is disengaged depicts both a lack of focus to professional activities and a lack of acceptance of colleagues (Hoy et al., 1996; Hoy & Tarter, 1997; Hoy et al., 1991).

Additionally, there are two core features of school climate in this typology. The three characteristics of principal behavior define leadership behavior termed *openness*. Principal behavior that is open demonstrates supportiveness of teachers, low directiveness, and low restrictiveness—or aspects that do not interfere with the constructs of teaching. Along this same venue, three dimensions define openness in teacher behavior. This refers to interactions that are open-minded and liberal, highly committed to student success, and mutually respectful acceptance that leads to high collegial relations (Hoy & Tarter, 1997). Schools depicting open climates have a propensity toward staff interested in their work, trust and cooperation amongst colleagues (Hoy, 1990), and principals who interact positively with both students and teachers.

Conversely, schools with *closed* climates tend to have teachers who are not committed to students, tasks, or one another. Principal leadership is controlling and rigid with importance placed on trivia and busywork. Coupled with that comes a high degree of teacher frustration and apathy with a lack of respect for colleagues and leadership (Anderson, 1982; Halpin & Croft, 1963; Hoy et al., 1996; Hoy & Tarter, 1997).

In a study by Kelley, Thornton, and Daugherty (2005), the relationships between leadership dimensions and measures of school climate were investigated. Both principals' and teachers' perceptions were compared with respect to leadership styles. The study consisting of 31 principals and 155 teachers revealed that "the presence or absence of a strong educational leader, the climate of the school, and attitudes of the teaching staff can directly influence student achievement" (Kelly et al., 2005, p. 18). This study finding was also supported by research describing the impact of effective leadership and an increase in student achievement, whereby climate, leadership and worthy instruction were considered to be a feature of high-functioning schools (Waters, Marzano & McNulty, 2004).

The results of this study demonstrated that teachers' perceptions of principal effectiveness are positively correlated to school climate dimensions (Kelly et al., 2005). Whereas the climate instrument used in the research of Kelly et al. (2005) is not the same as the one used in this researcher's study, the connection can be made that specific characteristics of principal leadership have an influence on teachers' perceptions of climate within the school.

### Professional Learning Community (PLC)

Before one understands what a professional learning community entails, it is first important to establish a working knowledge of what the research deems professional learning. "Professional learning that changes educators must be manifest in educators changing students" (Mizell, 2007, p. 20). Professional development must have as its purpose a plan to achieve change in both teacher and student performance.

The term learning community has become associated with school reform (SEDL, 1999). In a study by Bulach and Malone (1994), they proposed that when initiating any type of school reform, school climate must be considered. In their study of 12 schools, a climate survey was used that included collaboration as a domain—also a foundational piece of an effective PLC (DuFour et al., 2006; Hord & Sommers, 2008; Roberts & Pruitt, 2009; Schlecty, 2005). Bulach and Malone (1994) also considered openness and trust factors as variables in their study. They concluded that an existing school climate is a significant factor in the implementation of reform initiatives within a school (Bulach & Malone).

Interestingly, they also hypothesized that high scores on school climate were the result of successful school reform implementation. There is no determination of which was the cause or effect in their study, and suggested that future research should investigate school climate before initiating change or reform within a school, as well as after implementation to determine causality (Bulach & Malone, 1994).

In a qualitative study conducted by Grippen (2007), the extent that the development of a voluntary professional learning community within a struggling middle school impacted staff morale and school climate was researched. Grippen focused on the development of both collaboration and teacher leadership as having a positive impact on school climate and indicated that... “the emergence of teacher leaders and voluntary professional learning communities is a powerful combination...” (p. 56). The results reported in this research indicated that stakeholders in the school must embark upon structuring a positive school climate before taking on larger issues of school reform (Grippen).

According to Senge (1990), “the organizations that will truly excel in the future will be the organizations that discover how to tap people’s commitment and capacity to learn at all levels in the organization” (p.4). He supports that personal mastery is a discipline and the success of an organization and its capacity for learning relies on all of its members working together in a system (Senge).

### Dimensions of a Professional Learning Community

What composes a true PLC is the manner in which educators respond to the needs of their individual schools. With its focus on professional learning, the PLC concept likens itself to a process rather than relocated to a simple committee or department meeting (Jessie, 2007).

The PLC supports five key dimensions: shared leadership, shared vision, collective creativity and learning, peer review or shared personal practice, and supportive conditions/capacities (Cowley, 1999; Hord & Sommers, 2008). In the PLC, the entire staff is involved as a community of learners, with the learning focused on effective teaching practices and increased student learning (DuFour et al., 2008). This learning is based on collegial inquiry and reflective dialogue with a focus on problem solving and providing new opportunities for student learning.

### Supporting Conditions

According to Hord and Sommers (2008), there are two types of supporting conditions: “the logistical conditions and the capacities and relationships developed across the participants in order that they work well and productively with each other” (pp. 13-14). In order to support the relevancy of the PLC, substantial time with the



opportunity for conversation must be provided. A provision must be made to structure schedules that reduce teacher isolation, foster collaborative practice and communication, staff development, time to meet, and developing teachers as leaders. Opportunities are provided for teachers to visit one another's classrooms to observe and engage in peer coaching and feedback. This is probably the last of the characteristics of a PLC to be developed as historically, teachers operate in isolation of one another (Hord, 2007; Hord & Sommers, 2008). Although the PLC supports a helping and trusting environment, it is up to the principal to facilitate this relationship-building process. Research findings by Tschannen-Moran (2009) support the hypothesis that the ability of a faculty to trust is based on teacher professionalism, stemming from the professional orientation of school leaders.

#### Peer Review or Shared Personal Practice

Reviewing the practice of teachers and instructional behaviors by peers should be a standard practice in a PLC. Evaluation is not a part of this process; rather it is a practice of classroom visitation, observation, and feedback through reflective dialogue (DuFour et al., 2004; Hord & Sommers, 2008). Professional development opportunities provided in these skills will help to encourage an environment of support and trust as a result of collaborative relationships.

The expectation in a PLC is that all are involved, and that teachers learn with and from one another in a culture of learning, problem solving, and collective leadership (Hord & Sommers, 2008) to promote personal and group learning experiences. Feedback is intended to support improvement in both the individual and in the organization.

Roland Barth's message in *Learning by Heart* brings the over-arching tenet of a learning community concept and shared personal practice full circle when he states: "I wonder how many children's lives might be saved if we educators disclosed what we know to each other" (2001, p. 60).

### Collective Creativity

Collective creativity or learning supports the premise that individuals learn more together than if they learn independently (Hord & Sommers, 2008). PLC teams are organized to engage in collective learning and inquiry into best practices to support student achievement. New methods are explored, tested, and results are analyzed for effectiveness (DuFour et al., 2004). Conversations revolve around problem-solving, creating conditions for student learning, exploring instructional strategies, curriculum, and ways to better serve students.

The community within a school is evidenced by all administrators and teachers from all departments and grade levels coming together to learn collegially in a continuous cycle of reflection, learning and assessment. "What the community determines to learn and how they will learn it in order to address students' learning needs is the bottom line" (Hord & Sommers, 2008, p. 9).

### Shared Vision

"You cannot have a learning organization without shared vision" (Senge, 1990, p. 209). The vision of the school serves the purpose of painting a picture and guiding the collective direction of the stakeholders, and provides a compelling sense of what should

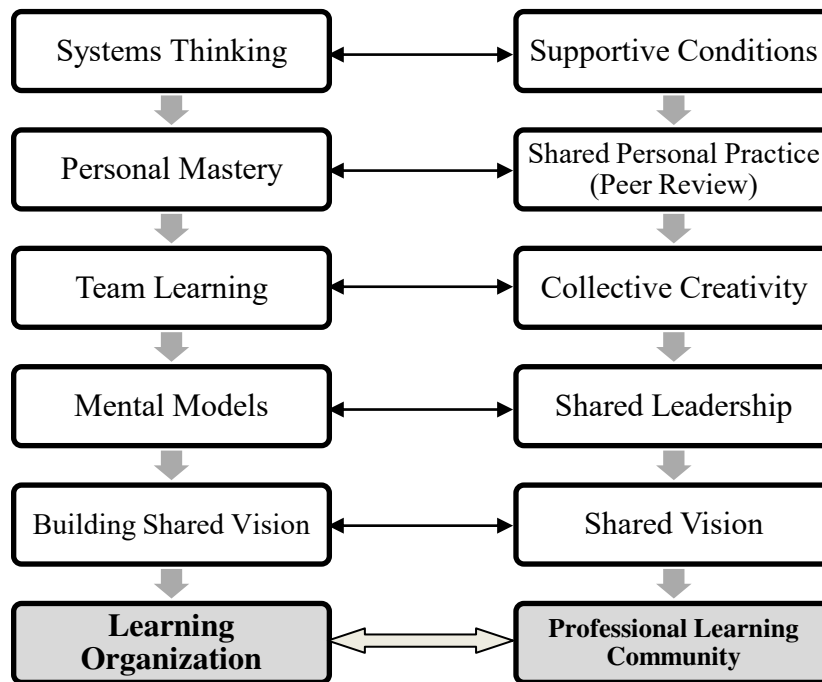
be accomplished to fulfill the goals and purpose of the school (Blankenstein, 2004). The vision details the direction in which the school is headed.

Educators in PLCs examine the practices in the school to be sure they are aligned with the fundamental purpose of learning for all students. They establish goals and articulate their commitment to work collaboratively toward those goals (DuFour et al., 2004).

### Shared and Supportive Leadership

One of the defining characteristics of a PLC is that authority and decision-making are shared. This sharing of authority may pose problems for some principals as well as for some staff members. Traditionally, principals are viewed as all-knowing (Hord & Sommers, 2008); however, learning communities need to organize to generate new ways to take advantage of and capitalize on the need for everyone to contribute and share decision-making responsibilities with all professionals in the school. Appreciating that some limits must be set with some decisions being reserved as the responsibility of the principal, it is paramount that those boundaries are understood and defined (Hord & Sommers, 2008).

Figure 3 was developed to portray the correlation between the five dimensions that support Senge's (1990) theory of a learning organization and the evolution of the dimensions that support a professional learning community.



*Figure 3: Correlation of Senge’s Theory of Learning Organizations with Professional Learning Community Dimensions*

### Leadership Towards a Learning Community

Principals have the ability to improve relationships with teachers and improve perceptions by focusing on building quality relationships through leadership style (Edgeron & Kritsonis, 2006). Research by Edgeron and Kritsonis (2006) found that these relationships could have far-reaching impact on both organizational climate and on student achievement outcomes. What the principal does is the most significant determinant of climate. According to research by Stringer (2002),

“...the most powerful determinants of this subjective organizational reality that we call climate are the day-to-day practices of the leaders of the organization. And this means that the perceptions and the consequent motivation and performance can be managed by changing leadership techniques” (p. 5).

Furthermore,

“Leaders who know how to create and sustain high-performing climates and who know how to make the most of the organization’s motivational capital are the leaders who will also have the greatest personal impact” (Stringer, 2002, p. 225).

### Elements of Effective Leadership

Research by Hord and Sommers (2008, pp. 32-33) supports seven elements of effective leadership related to sustaining PLCs: a) communication, b) collaboration, c) coaching, d) change, e) conflict, f) creativity, and g) courage. The key role of the principal is to include others in creating and promoting the shared vision of the school. “Leaders have two jobs: first, to be the head learner, and second, to develop other leaders” (Hord & Sommers, p. 30). Whereas the principal does not have to be the lead content specialist, he or she does have to model learning while developing leadership in others. The principal must keep the other leaders in the school focused on learning and not get mired in daily managerial tasks. As the shift is made from schools as organizations to schools as learning communities, leadership must change from that of centralized decision making to shared leadership (Roberts & Pruitt, 2009).

Facilitative leadership is demonstrated by the principal’s behaviors that lead toward growing teachers as leaders. The responsibility for success transfers from one or two people to every stakeholder in the learning community (Blankenstein, 2004).

The key component in the professional learning community focuses on what takes place when members meet. Without a united purpose, there is no common goal. Learning must be that goal. The school principal must continuously communicate the message that

the focus at the school is on learning. It is imperative that teachers and principals learn and grow professionally (McAdamis, 2007).

Constructivist leadership promotes building community and allowing participants to form relationships and work collaboratively through reflection, inquiry, dialogue and action with the sole purpose of learning together to meet the purpose and vision of the PLC (Roberts & Pruitt, 2009). “Although the process of building a learning community begins with the principal, attending to the needs of all learners cannot be realized through the leadership actions of the building principal alone” (p. 36).

As positional leaders of the staff share authority within the school organization so that leadership becomes distributed over multiple people (Mayrowetz, 2008), staff members study, work collaboratively and learn ways they can participate in decision-making focused on students’ best interests (Hord, 2007). A summary of Kelly, Thornton, and Daugherty’s (2005) research indicated that when provided with feedback, principals who are “highly skilled can develop feelings of trust, open communication and collegiality” (p. 23) to influence the climate within the school. These shared and supported leadership opportunities enhance both the value of teachers and complements a climate of respect, professionalism and trust with “trust and mutual respect being the key elements to successful group decision making and consensus building” (McEwan, 2003, p. 109).

#### Teachers as Leaders

Many teachers who have roles outside of an actual classroom are looked upon as leaders; however, they may not be the people to who staff direct questions of classroom

application (Buffum et al., 2008). Many schools have master teachers who are turned to for guidance, however, if it is expected that a professional learning community support the building of capacity for teacher leadership, those individuals must be identified. Most importantly, those individuals must be empowered by the principal and the other teachers.

Teachers working in learning communities must do so on a daily basis, improving interaction, and overcoming mistrust. “Trust is a prime factor in developing positive and productive relationships among staff” (Hord, 2007, p. 40). Teachers must align themselves with the goals and objectives that are common to both student and teacher learning. “Teachers will become more aware of the link between their practice and student learning and will reflect on the extent to which their professional learning impacts student achievement” (McAdamis, p. 47). “Student learning depends on every teacher learning all the time” (Fullan, 2007, p. 35).

Current teacher preparation programs now focus more intently on cognition, learning, pedagogy and constructivist theoretical frameworks. Programs focus on helping up and coming teachers to become problem solvers engaged in reflective dialogue, practice, and inquiry. This preparation supports a teacher’s ability to analyze what occurs within the classroom, which could be conducive to reinforcing the learning community concept.

In a study by Lansberry (2009), it was discovered that climate scores were lower among teachers with 6 or more years of classroom experience. Conversely, teachers who have access to and participate in networks and collegial work tend to feel more positively about working in the profession. However, the quality of teaching depends not just on the

qualities of the teachers in the classroom but also on how the climate factors embedded in the workplace affect teachers and their teaching (Darling-Hammond, 2002).

### Summary

A review of the literature relating to school climate and PLC dimensions was presented in this chapter. An analysis of key historical organizational and climate theories was also presented. A thorough examination of current literature regarding climate and PLC dimensions was detailed, as well as important elements paramount to the effective working of a true community of learners.

It was found that certain leadership elements were not deemed important only for the sake of position; rather, specific elements also promoted a sense of trust by teachers in their sense of autonomy to develop their capacity to engage in collegial peer relationships to promote professional learning with the ultimate goal of student achievement.

Furthermore, important associations were made between the five disciplines describing Senge's theory of the learning organizations and the five dimensions supporting a PLC. Finally, it was discovered that perceptions of specific climate elements within a school might have bearing on the support of and existence of a true community of learners.

Chapter three details a comprehensive plan for the research design and methodology to explore teachers' perceptions of school climate and their influence on the existence of professional learning community dimensions.



## CHAPTER THREE: METHODOLOGY

### Introduction

The methodology utilized in this study was appropriate in relation to the proposed prevailing characteristics, based on teacher perceptions of school climate, that were attributed to the existence of schools with the PLC dimensions. A request was made to 23 middle school principals from one central Florida school district to survey teachers at their respective schools. Teachers were then asked to complete the online survey titled School Climate and Professional Learning Community Survey for Middle School Teachers. A quantitative research design was followed to include both descriptive and inferential statistics with the intent of determining whether: (a) a relationship existed between school climate and the degree in which a school displayed PLC dimensions and (b) whether a relationship existed between demographic variables and teachers' perceptions of school climate. This district was selected for both its diversity in middle school types (traditional, charter, magnet/choice, Title I) in existence, as well as the two-year focus by the district's Professional Development Department with school administrators on implementing effective PLC practices.

### Statement of Problem

Although the research on PLCs is wide and deep, there is a void in the study of the perceptions that teachers and teacher leaders have on not only the key dimensions that constitute a community of learners (Hord, 2007), but on whether the existing climate has an effect on making such a community possible within a school. Many schools fail to

move beyond simply sharing instructional practices, and doing the meaningful work of job-embedded collaborative decision-making around curriculum, assessment and instruction (Graham & Ferriter, 2008).

“The complexity in identifying schools as PLCs offers a challenge for researchers, principals, staff, parents, and other stakeholders. While many principals and faculties conceptualize their schools as organizations operating as learning communities, they rarely meet the operational criteria” (Olivier, Antoine, Cormier, Lewis, Minckler & Stadalis, 2009).

Since teachers are vital in meeting the operational criteria for successful PLC schools, it is imperative to gather teachers’ beliefs and input on whether their school is a PLC and on how well their school is functioning as a PLC based upon the five key dimensions.

### Research Questions

The fundamental research questions and hypotheses for focus in this research study included the following:

#### *Research Question 1*

RQ1: To what extent, if any, is there a significant relationship between school climate and the degree of PLC (high vs. medium vs. low)?

H1<sub>o</sub>: No significant relationship exists between school climate and the degree of PLC (high vs. medium vs. low).

H1<sub>a</sub>: A significant relationship exists between school climate and the degree of PLC (high vs. medium vs. low).

### *Research Question 2*

RQ2: To what extent, if any, do the school climate dimensions predict PLC dimensions?

H2<sub>o</sub>: The school climate dimensions do not predict PLC dimensions.

H2<sub>a</sub>: The school climate dimensions predict the PLC dimensions.

### *Research Question 3*

RQ3: To what extent, if any, is there a relationship between demographic variables and teachers' perception of school climate?

H3<sub>o</sub>: No significant relationship exists between the demographic variables and teachers' perception of school climate.

H3<sub>a</sub>: A significant relationship exists between the demographic variables and teachers' perception of school climate.

### Population and Sample

The population for both the climate analysis and PLC dimension analysis was drawn from a group of 23 public middle schools housing grades six through eight in one central Florida school district. These schools included traditional, Title I, charter, and magnet/choice options. The sample for this study included the individual certified classroom teachers in each school responding to the combined climate and PLC dimension surveys. Schools with a response rate of at least 50% of teachers were to be included in the sample for analysis; however, because no single school met the criteria of having a response rate of 50%, all teacher responses gathered from each of the ten schools were included in the sample for analysis.

The sample size necessary for this analysis considered level of significance, power, and effect size. For the purpose of this research, the significance, or alpha level (identified as  $p$  or  $\alpha$ ) is the probability “used to determine whether the outcome is significant or not” (Creighton, 2007, p. 35). The alpha criteria used for this research was  $\alpha = .05$ , which indicates a 95% confidence level of a correct conclusion when the null hypothesis was true.

The power of significance test is the probability of rejecting the null hypothesis when it is false (Cohen, 1992), or the probability of committing a Type II error. The level of power for this research was set at .80, and was considered in determining the sample size a priori (Cohen).

This study required several different analyses, including correlation, multiple regressions and chi-square. Based on Cohen’s table (1992), the effect size for this study was based on the chi-square analysis, with three degrees of freedom; this required the most stringent sample size to yield a medium effect. With an alpha value set at  $\alpha = .05$ , the 110 participants included yielded a power of .80 with a medium effect.

### Instrumentation

School climate was measured using the Organizational Climate Description Questionnaire (OCDQ-RM) for middle school teachers; and the School Professional Staff as Learning Community Questionnaire (SPSaLCQ) was used to determine the existence of PLC dimensions. The surveys were combined into a single format titled School Climate and Professional Learning Community Survey for Middle School Teachers, to be administered electronically on SurveyMonkey.

## Organizational Climate Description Questionnaire for Middle School

The Organizational Climate Description Questionnaire (OCDQ-RM) for middle school teachers contained 50 questions with a Likert-type response scale which included four possibilities: RO (Rarely Occurs), SO (Sometimes Occurs), O (Often Occurs), and VFO (Very Frequently Occurs). The OCDQ instrument, originally developed by Halpin and Croft (1963) and field test in elementary schools, relied on respondents' perceptions to define climate, and confidently asserted that "the climate-profiles may indeed constitute a better criterion of a school's 'effectiveness' than many measures that already have entered the field of educational administration with fake passports, and which now masquerade as criteria" (pp. 82-83). Later revised by Hoy et al. (1996) to address middle schools, the OCDQ-RM broke down respondents' selections pertaining to climate into six key dimensions. These dimensions included: "a) supportive principal behavior, b) directive principal behavior, c) restrictive principal behavior, d) collegial teacher behavior, e) committed teacher behavior, and f) disengaged teacher behavior" (p. 43).

### Instrument Reliability and Validity

The respective reliability scores for each subtest on the middle school version included: "Supportive (.96), Directive (.88), Restrictive (.89), Collegial (.90), Committed (.93), and Disengaged (.87)" (Hoy et al., 1996, p. 45). The properties of the six subtests of the OCDQ-RM are strong. All the scales have high reliability coefficients, with reliability of the subtests on this final former being higher than the pilot.

The construct validity of each of the six dimensions of openness was correlated with each dimension of the previous OCDQ index. The index of teacher openness

correlated positively with the original index ( $r = .67, p < .01$ ). The index of principal openness also correlated positively ( $r = .52, p < .01$ ). In the study by Hoy et al. (1991), it was determined that the factor analysis also supported the construct validity of organizational climate.

Three critical dimensions of principal's behavior are included on the OCDQ-RM:

1. Directive behavior
2. Restrictive behavior
3. Supportive behavior (Hoy et al., 1996; Hoy & Tarter, 1997)

Three dimensions of teacher's behavior were included on the OCDQ-RM:

1. Collegial behavior
2. Committed behavior
3. Disengaged behavior (Hoy et al., 1996; Hoy & Tarter, 1997))

#### School Professional Staff as Learning Community Questionnaire

The Southwest Educational Development Laboratory (SEDL) and the Appalachia Educational Laboratory (AEL) teamed to conduct both the pilot test and field tests of the School Professional Staff as Learning Community Questionnaire (SPSaLCQ) developed by Shirley Hord (1996). The SPSaLCQ Survey supports five key dimensions: shared leadership, shared vision, collective creativity, peer review, and supportive conditions/capacities (Cowley, 1999). Each of the five dimensions contained questions requiring responses chosen from a Likert-type scale ranging from five (high) to one (low). The scales included three statements—two located at each end-point and one located at the mid-point—to delineate between the high, middle, and low ranges on the scale (Cowley). When scored, the higher the overall score on the instrument, the more closely the school was deemed a learning community.

### Instrument Reliability and Validity

The tests for reliability and validity were met. The determination for the internal consistency coefficient was a .94 using Cronbach's Alpha. Generally, a .75 or higher indicates appropriate internal consistency of an instrument (SEDL, 1999). The stability reliability coefficient for the instrument was .6147, with the potential to increase or decrease if the sample size increased (SEDL).

The content validity, measured at three different stages, was deemed to have adequate content validity for the purpose of measuring the model of a professional learning community (SEDL, 1999). When compared with a similar instrument, the concurrent validity was a .7489 with a significance level of .001. When determining construct validity, the known group was compared with another group of teachers. "The higher scores from the school known to be a learning community differed significantly (.0001) from those in the field test" (SEDL, 1999, ¶ 21).

"After testing the instrument, it was concluded that, overall, the 17-item instrument is very useful as a screening, filtering, or measuring device to assess the maturity of a school's professional staff as a learning community" (SEDL, 1999, ¶ 24). The survey appeared to be a useful tool to measure the development and sustainability of professional learning communities and work toward school improvement (SEDL).

Demographic information was also included in the survey. This information included the number of years teaching experience, number of years at the current school, teaching assignment, and the type of school (traditional, Title I, charter, magnet/choice) in which the teacher worked.

### Data Collection

Following district protocol, a formal application to conduct research and gather data was submitted to the Office of Assessment, Accountability, and Evaluation for consideration by the district Research Review Board. All required documentation and information was provided. As part of the required documentation, an explanation of the research and methodology was included, along with appropriate consent forms and a copy of the survey instrument.

Principals received a letter outlining the purpose of the research and a request to survey teachers electronically. A paper response was required by the principals to consent or decline teacher participation. The researcher provided an envelope with return postage for this purpose. Follow-up electronic mail or telephone calls were made to those principals not responding within a two-week time period. Upon approval of the principal, the survey was sent electronically to classroom teachers at each school. An email was included containing an explanation of research to include the purpose of the study, request for participation, assurance of anonymity, and informed consent. Included was an electronic link and code to access the survey. Participants had two weeks to complete the survey. If an adequate number of responses had not been received within the two-week time period, a second email was sent as a reminder to complete the survey. After the first reminder notice was delivered, a second email message was sent to serve as a thank-you to those who completed the survey and as a reminder to those who did not, along with the web link and access codes originally provided. A third email was sent with emphasis placed on the importance of responding and a friendly reminder that the survey window was coming to a close (Dillman, Smyth & Christian, 2009).



The OCDQ-RM questionnaire, SPSaLCQ questionnaire, and demographic information were combined into a single format—titled School Climate and Professional Learning Community Survey for Middle School Teachers—and administered to the teachers at the middle schools. Surveys remained anonymous and were not linked to specific teachers. Unique alphanumeric access codes were created for each school as a means to track only the numbers of responses received per school.

### Data Analysis

Once the combined surveys were administered and completed, data were entered for analysis into Statistical Package for the Social Sciences (SPSS) version 16.0 for Windows. Descriptive statistics included frequencies and percentages, means and standard deviations. Frequencies and percentages were conducted for categorical (nominal) data. Because frequency is the number of participants fitting into a specific category, it was also important to know what percentage of the sample corresponded to each category.

Means and standard deviations were performed on interval and ratio data. The mean, or what is considered the average, is the sum of the scores divided by the total number of scores. Standard deviation measures the average of the deviations of each score from the mean, or the spread of values in a set of data (Howell, 2007).

Table 2 provides an outline of the research questions, data sources, and statistical procedures that were used. Climate and PLC surveys listed were combined into a single, electronic format for middle school teachers, with the addition of demographic data.

*Table 2: Research Questions, Data Sources, and Statistical Analyses*

Research Question	Data Source(s)	Statistical Analysis
1. To what extent, if any, is there a significant relationship between school climate and the degree of PLC (high vs. medium vs. low)?	Organizational Climate Description Questionnaire Revised Middle  School Professional Staff as Learning Community Questionnaire	Spearman Rho Correlations
2. To what extent, if any, do the school climate dimensions predict PLC dimensions?	Organizational Climate Description Questionnaire Revised Middle  School Professional Staff as Learning Community Questionnaire	Five Multiple Regression/Multivariate Comparisons
3. To what extent, if any, is there a relationship between demographic variables and teachers' perception of school climate?	Organizational Climate Description Questionnaire Revised Middle	18 Chi-Square Analyses

To examine research question 1, Spearman rho correlations were conducted to assess to what extent, if any, a relationship exists between teachers' perception of school climate and the degree of PLC (high vs. medium vs. low). When defining degree of PLC for this particular study, a high degree of PLC included a mean score of 70 or greater, a medium degree of PLC included a mean score ranging from 41 to 69, and a low degree of PLC included a mean score of 40 and below. Spearman rho correlation is a bivariate measure of association (strength) of the relationship between two variables. This statistical measure is used when the variables are ordinal in value (Lomax, 2007; Pallant, 2007). Correlation is an appropriate statistical measure when the purpose of research is

used to measure and describe whether a relationship exists between two or more variables (Creighton, 2007), as well as describing the magnitude of strength of that relationship (Pallant, 2007).

Positive coefficients indicate a direct relationship whereby when one variable increases, the other variable increase as well. Conversely, negative correlation coefficients indicate an indirect relationship whereby when one variable increases, the other variable decreases (Green & Salkind, 2008). When determining the strength of the relationship or correlation between the two variables, Cohen's standard was used, whereby 0.2 represented a weak relationship between the two variables, 0.5 represented a moderate association, and 0.8 represented a strong association (Howell, 2007).

For research question 2, five multiple regressions were conducted to investigate the best predictors, if any, of the PLC dimensions. Numerous bivariate observations increase the risk of Type I errors or the probability of falsely rejecting the null hypothesis of no difference when it is true (Creighton, 2007). This suggests that a relationship exists when it does so merely by chance. For this reason, a multiple regression/multivariate comparison was conducted to evaluate the combined effect of the independent, or predictor variables, on the dependent variable (Green & Salkind; 2008; Stevens, 2002). Five simultaneous multiple regressions were conducted to determine if the six independent variables predicted the five PLC dimensions. In this instance, the independent variables included the dimensions of school climate: supportive, directive, restrictive, collegial, committed, and disengaged. The five dependent variables reflected the PLC dimensions: shared leadership, shared vision, collective creativity, peer review, and supportive conditions/capacities.

Multiple regressions were an appropriate analysis because the goal of the research was to assess the extent of a relationship among interval/ratio (predictor) variables on an interval/ratio criterion variable. Standard multiple regression was used, whereby all independent—or predictor variables—were entered simultaneously. Each independent variable was evaluated in terms of its predictive power of the dependent (criterion) variable over all the other independent variables (Pallant, 2007).

The F test was used to assess whether the set of independent variables collectively predicted the dependent variables. R-squared—the multiple correlation coefficient for statistical significance—was reported and used to determine how much variance in the dependent variable could be accounted for by the set of independent variables (Howell, 2007). The *t*-test was used to determine the significance of each predictor (independent variable); beta coefficients were used to determine the extent of prediction for each independent variable. For significant predictors, every one unit increase in the predictor, the dependent variable will increase or decrease by the number of unstandardized beta coefficients (Howell, 2007; Tabachnick & Fidell, 2001).

The assumptions of multiple regressions were assessed. These included linearity, homoscedasticity, and absence of multicollinearity. Linearity assumes a straight line relationship between predictor and criterion variables. Homoscedasticity—or homogeneity of variance—assumes that scores are normally distributed about the regression line (Howell, 2007; Lomax, 2007; Pallant, 2007). Both linearity and homoscedasticity were assessed through the examination of scatter plots. The absence of multicollinearity assumes that predictor variables are not significantly related.

To examine research question 3, 18 chi-square analyses were conducted to determine to what extent, if any, a relationship existed between the demographic variables and teachers' perception of school climate. The demographic variables were presented as nominal/categorical (number of years teaching experience, number of years at this location, and type of school) on the survey.

For demographic variables that were nominal/categorical (number of years teaching experience, number of years at this location, and type of school), eighteen chi-square analyses were conducted to determine whether relationships existed between the variables. To perform this analysis, the continuous variable, teachers' perception of school climate, was dichotomized into high and low. Row and column percentages were interpreted for each variable. For chi-square to operate appropriately, data must come from random sample distributions, and the expected frequencies should not be too small. The chi-square test statistic should generate reasonably accurate results if the expected frequencies are greater than or equal to five for at least 80% of the categories (Green & Salkind, 2008) with no more than 20% of the cells composed of frequencies below five, with no cells having an expected frequency less than one (Pagano, 1990).

### Summary

A description of the proposed research to include the population targeted for study, as well as a thorough description of the survey, was outlined in this chapter. A detailed review, to include reliability and validity of each instrument, was provided for both the Organizational Climate Description Questionnaire for middle schools and the School Professional Staff as Learning Community Questionnaire. The method for data

collection and statistical analyses selected for investigation of individual research questions were outlined with justification provided for each.

The results of the data collection and statistical analyses are provided in detail in Chapter 4. Each analysis provided is detailed with respect to its corresponding research question. Implications of the study and recommendations for future research are included in Chapter 5.

## CHAPTER FOUR: ANALYSIS OF DATA

### Introduction

The purpose of this study was to explore whether there are prevailing characteristics, based on teacher perceptions of school climate, that predicate the existence of schools with the professional learning community (PLC) dimensions embedded in teacher practice. As part of this exploration, Peter Senge's (1990) theory of learning organizations was utilized as a framework for exploring the dimensions that comprise a job-embedded community of learners (DuFour & Eaker, 1998; Hord, 1997; Hord, 2007). In a similar context, several overlapping climate theories provided the foundation for exploring the characteristics of school climate (Halpin & Croft, 1963; Tagiuri & Litwin, 1968) and more recently supported through extensive research (Hoy, 1990; Hoy & Tarter, 1997; Hoy et al., 1991).

A synopsis of the instrumentation included in this research was included, as well as the process for survey distribution and characteristics of the respondents from which the data were acquired. Data analysis included both descriptive and inferential statistics.

In order to examine the hypotheses established for this study, Spearman rho correlations were conducted to assess to what extent, if any, a relationship existed between teachers' perception of school climate and the degree of PLC within a school. Five multiple regressions were conducted to examine a second hypothesis, which investigated which climate dimensions, if any, were predictors of PLC dimensions. Finally, 18 chi-square analyses were conducted to investigate a third hypothesis to

determine if relationships existed between perceptions of school climate and specific demographic variables.

### Statement of the Problem

Although the research on PLCs is wide and deep, there is a void in the study of the perceptions that teachers and teacher leaders have on not only the key dimensions that constitute a community of learners (Hord, 2007), but on whether the existing climate has an effect on making such a community possible within a school. Many schools fail to move beyond simply sharing instructional practices, and doing the meaningful work of job-embedded collaborative decision-making around curriculum, assessment and instruction (Graham & Ferriter, 2008).

“The complexity in identifying schools as PLCs offers a challenge for researchers, principals, staff, parents, and other stakeholders. While many principals and faculties conceptualize their schools as organizations operating as learning communities, they rarely meet the operational criteria” (Olivier, Antoine, Cormier, Lewis, Minckler & Stadalis, 2009).

Since teachers are vital in meeting the operational criteria for successful PLC schools, it is imperative to gather teachers’ beliefs and input on whether their school is a PLC and on how well their school is functioning as a PLC based upon the five key dimensions.



## Research Questions

The following research questions were explored:

Research Question 1: To what extent, if any, is there a significant relationship between school climate and the degree of PLC (high vs. medium vs. low)?

Research Question 2: To what extent, if any, do the school climate dimensions predict PLC dimensions?

Research Question 3: To what extent, if any, is there a relationship between demographic variables and teachers' perception of school climate?

## Survey Instruments

### Organizational Climate Description Questionnaire for Middle Schools

The Organizational Climate Description Questionnaire (OCDQ-RM) for middle school teachers utilized for this study contained 50 questions with a Likert-type response scale which included four possibilities: RO (Rarely Occurs), SO (Sometimes Occurs), O (Often Occurs), and VFO (Very Frequently Occurs). Responses were assigned a numerical value for scoring purposes: RO (1), SO (2), O (3), and VFO (4). The OCDQ instrument, originally developed by Halpin and Croft (1963), relied on teachers' and administrators' perceptions to define climate.

Later revised by Hoy et al. (1996), the OCDQ-RM broke down respondents' selections pertaining to climate into six key dimensions. These dimensions included: "a) supportive principal behavior, b) directive principal behavior, c) restrictive principal behavior, d) collegial teacher behavior, e) committed teacher behavior, and f) disengaged teacher behavior" (p. 43).

## School Professional Staff as Learning Community Questionnaire

The School Professional Staff as Learning Community Questionnaire (SPSaLCQ) developed by Shirley Hord (1996) supports five key dimensions: shared leadership, shared vision, collective creativity, peer review, and supportive conditions/capacities (Cowley, 1999). Each of the five SPSaLCQ dimensions contained questions requiring responses chosen from a Likert-type scale ranging from five (high) to one (low). The scales included three statements—two located at each end-point and one located at the mid-point—to delineate between the high, middle, and low ranges on the scale (Cowley). When scored, the higher the overall score on the instrument, the more closely the school was deemed a learning community.

Additionally, demographic information was included as part of the survey construct. Participants were asked to select the number of years of teaching experience, years of experience at the current school site, teaching assignment, and school type. Responses were chosen from a list of possible categorical choices.

## Survey Distribution and Response Rates

Following district protocol, a formal application to conduct research and gather data was submitted to the Office of Assessment, Accountability, and Evaluation for consideration by the district Research Review Board. All required documentation and information was provided. As part of the required documentation, an explanation of the research and methodology was included, along with appropriate consent forms and a copy of the survey instrument.

Twenty-three principals received a letter through US mail outlining the purpose of the research and a request to survey teachers electronically. A paper response was required by the principals to consent or decline teacher participation. The researcher provided an envelope with return postage for this purpose. A series of three follow-up electronic mail or telephone calls were made to those principals not responding within a two-week time period. Ten principals provided consent and three declined consent; the remaining ten did not respond. Upon approval of the principal, the survey was sent electronically to classroom teachers at each of the ten schools where principals gave consent to survey teachers. An email was included containing an explanation of research which included the purpose of the study, request for participation, assurance of anonymity, and informed consent. Also included was an electronic link and code to access the survey. The access code was based on an alphanumeric identifier, known only to the researcher, with the numeric portion representing the number of teachers at each school who received the survey.

The OCDQ-RM questionnaire, SPSaLCQ questionnaire, and demographic information were combined into a single format and administered to the classroom teachers at the middle schools. Surveys remained anonymous and contained no identifying information or link to individual teachers. Participants had an initial two week time period to complete the survey electronically. A second email was sent following this window as a reminder and request for survey completion. After the reminder notice was delivered, a third email message was sent to serve as a thank-you to those who completed the survey and as a reminder to those who did not, along with the web link and access codes originally provided. This final email was sent with emphasis placed on the

importance of responding and a friendly reminder that the survey window was coming to a close (Dillman, Smyth & Christian, 2009). Of the five hundred five respondents—representing 40% of the schools initially contacted for participation—who were sent the electronic link, one hundred ten respondents completed the survey after three attempts through electronic mail and survey access, yielding a 22% survey return rate.

### Demographic Information and Characteristics of Respondents

One hundred ten teachers participated in the study (n = 110). Participants endorsed a range of years for overall teaching experience (from one year to 21 years or more). The majority of participants (31, 28.2%) reported between 2 - 5 years of teaching experience, followed closely by those with 6 - 10 years of experience (28, 25.5%). For years of teaching experience at their current school, the majority of participants (50, 45.5%) reported having between 2 - 5 years of experience at that location. Teachers were grouped by current teaching assignment into one of 10 types. The majority of teachers were assigned to intensive reading (20, 18.5%) or exceptional student education (19, 17.6%). Schools were classified into one of four types, and the majority of teachers reported working at a Title 1 school (72, 65.5%). In instances where n ≠ 110, not all respondents answered every question. Frequencies and percentages for participant characteristics are presented in Table 3.

*Table 3: Frequencies and Percentages on Participant Characteristics*

Characteristic	<i>n</i>	%
<b>Years of teaching experience</b>		
1 year	6	5.5
2-5 years	31	28.2
6-10 years	28	25.5
11-15 years	19	17.3
16-20 years	6	5.5
21 years or more	20	18.2
<b>Years of experience at current school</b>		
1 year	23	20.9
2-5 years	50	45.5
6-10 years	19	17.3
11-15 years	13	11.8
16-20 years	3	2.7
21 years or more	2	1.8
<b>Current teaching assignment type</b>		
Exceptional student education	19	17.6
Intensive reading	20	18.5
English/Language Arts	15	13.9
Math	12	11.1
Science	10	9.3
Social Studies	15	13.9
Health/PE	2	1.9
Vocational education	8	7.4
Music	5	4.6
Foreign language	2	1.9
<b>School Type</b>		
Traditional	19	17.3
Title I	72	65.5
Charter	10	9.1
Magnet/Choice	9	8.2

Participants were associated with ten schools, and of these schools, the majority (20, 18.2%) was associated with school #8, while the minority (1, 0.9%) was associated with school #2. Frequencies and percentages of the number of participants in each school are presented in Table 4.

*Table 4: Frequencies and Percentages for Participants in Each School*

Characteristic	<i>n</i>	%
School Number		
1	11	10.0
2	1	0.9
3	16	14.5
4	10	9.1
5	9	8.2
6	13	11.8
7	12	10.9
8	20	18.2
9	7	6.4
10	11	10.0

In addition to the demographic variables described, two instruments were used to answer the research questions. School climate was measured using the Organizational Climate Description Questionnaire (OCDQ-RM) for middle school teachers, and the School Professional Staff as Learning Community Questionnaire (SPSaLCQ) was used to determine the existence of PLC dimensions. The OCDQ-RM provides six school climate dimensions. These dimensions were constructed following the guidelines provided by Hoy (1997) and include: supportive behavior, committed behavior, directive behavior, collegial behavior, disengaged behavior and restrictive behavior. The means and standard deviations on the composite scores are provided in Table 5.

*Table 5: Means and Standard Deviations on Organizational Climate Description*

*Questionnaire (OCDQ-RM) Subscales*

Subscale	<i>n</i>	Minimum	Maximum	<i>M</i>	<i>SD</i>
Supportive Behavior	109	22.09	41.23	27.87	5.46
Committed Behavior	109	21.33	33.18	25.92	3.08
Directive Behavior	109	9.43	16.69	13.07	2.33
Collegial Behavior	109	20.94	35.27	26.80	4.11
Disengaged Behavior	109	10.00	19.75	15.52	2.36
Restrictive Behavior	109	6.00	12.78	9.98	1.80

The SPSaLCQ provides five dimensions of a professional learning community.

The subscales were created by summing the responses in each section of questions. The five composite scores or subscales include: shared leadership, shared vision, collective creativity, peer review and supportive conditions. The means and standard deviations on the composite scores are provided in Table 6.

*Table 6: Means and Standard Deviations on School Professional Staff as Learning*

*Community Questionnaire (SPSaLCQ) Subscales*

Subscale	<i>n</i>	Minimum	Maximum	<i>M</i>	<i>SD</i>
Shared Leadership	100	2.00	10.00	6.38	2.06
Shared Vision	97	4.00	15.00	11.17	3.08
Collective Creativity	97	5.00	25.00	17.61	4.81
Peer Review	97	2.00	10.00	4.87	2.14
Supportive Conditions	94	5.00	25.00	16.62	5.12

## Data Analysis

### Hypothesis 1

To examine hypothesis 1, six Spearman rho correlations were conducted to assess to what extent, if any, a relationship exists between teacher's perception of school climate and the degree of PLC (high vs. medium vs. low). When defining degree of PLC for this particular study, a high degree of PLC included mean scores of 70 or greater, a medium degree of PLC included mean scores ranging from 41 to 69, and a low degree of PLC included mean scores of 40 and below. The total PLC score was trichotomized into three levels for analysis.

The results reveal that significant relationships exist between degree of PLC and several school climate variables. Negative correlations were found between degree of PLC and disengaged behavior ( $r_s = -.410, p < .01$ ), and between degree of PLC and restrictive behavior ( $r_s = -.384, p < .01$ ), suggesting that as the degree of PLC increases from low to medium to high, there is a decrease in teachers' perceptions of restrictive behavior and disengaged behavior. Positive correlations were found between degree of PLC and supportive behavior ( $r_s = .241, p = .026$ ), and between degree of PLC and committed behavior ( $r_s = .412, p < .01$ ), and between degree of PLC and collegial behavior ( $r_s = .478, p < .01$ ), suggesting that as the degree of PLC increases from low to medium to high, there is an increase in teachers' perceptions of supportive behavior, committed behavior and collegial behavior. No significant correlation was found between degree of PLC and directive behavior.



The significant correlation coefficients were evaluated according to Cohen's standard, where .30 or less represents a small association, .30-.49 represents a medium association, and .50 or larger correlations represent a large size effect or correlation between the two variables (Cohen, 1988). Significant items with a small association were found between degree of PLC and supportive behavior, whereas significant items with a medium association were found between degree of PLC and committed behavior, collegial behavior, disengaged behavior and restrictive behavior. The null hypothesis—that no relationships exist between degree of PLC and school climate—is partially rejected. There is a significant negative relationship between degree of PLC and disengaged and restrictive behavior and a significant positive relationship between degree of PLC and supportive, committed and collegial behavior. The null hypothesis is accepted for directive behavior, where no relationship was found with degree of PLC. The results of the correlations are presented in Table 7.

Table 7: Spearman rho Correlations between Degree of PLC and School Climate

*Dimension*

School Climate	Degree of PLC
Supportive Behavior	.241*
Committed Behavior	.412**
Directive Behavior	-.146
Collegial Behavior	.478**
Disengaged Behavior	-.410**
Restrictive Behavior	-.384**

*Note.* \*Correlation is significant at the 0.05 level (2-tailed). \*\*Correlation is significant at the 0.01 level (2-tailed).

### Hypothesis 2

To examine hypothesis 2, five multiple regressions were conducted to investigate which of the school climate dimensions (supportive, directive, restrictive, collegial, committed and disengaged) are the best predictors, if any, of the PLC dimensions.

In preliminary analysis the assumptions of multiple regression were assessed. The assumptions of normality, linearity and homoscedasticity were evaluated through an examination of the residual scatter plots: the assumptions were met. The absence of multicollinearity was assessed through examination of the Variance Inflation Factors (VIF); VIF values over 10 will suggest the presence of multicollinearity (Stevens, 2002). The assumption was violated for supportive behavior and restrictive behavior, which were highly correlated with one another. When supportive behavior was entered into the model, restrictive behavior had little to contribute to the prediction. In comparing

supportive behavior and restrictive behavior to the dependent variables used in the analyses that follow, restrictive behavior was more highly correlated with the dependent variables; therefore supportive behavior was selected to create a better regression model. Restrictive behavior was not included in the regression analysis.

### Shared Leadership

The regression with five school climate dimensions (supportive, directive, collegial, committed and disengaged) predicting shared leadership was significant,  $F(5, 94) = 8.81, p = .000$ , indicating the model of five predictors did a good job in predicting shared leadership. Of the reasons why shared leadership can vary, the predictors accounted for 31.9% ( $R^2 = .319$ ) of those reasons. Table 8 presents the beta coefficients, where a significant finding was found; for every one unit increase in supportive behavior, shared leadership scores increased by .12 units. For example, a one unit increase in supportive behavior might be from “rarely occurs” to “sometimes occurs” is related to an increase of .12 in shared leadership. Of all the variables in this model, supportive behavior was the only significant predictor of shared leadership. The null hypothesis is rejected; the school climate dimensions as a group predict the PLC dimension of shared leadership, but the only significant predictor is supportive behavior.

*Table 8: Multiple Regression with School Climate Predicting Shared Leadership*

Independent Variables	B	SE	$\beta$	<i>t</i>	<i>p</i>
Supportive Behavior	0.12	0.06	.30	2.06	.043
Committed Behavior	0.01	0.15	.02	0.09	.931
Directive Behavior	-0.11	0.11	-.12	-1.00	.322
Collegial Behavior	0.14	0.10	.28	1.39	.167
Disengaged Behavior	0.03	0.12	.04	0.28	.781

Shared Vision

The regression with five school climate dimensions (supportive, directive, collegial, committed and disengaged) predicting shared vision was significant,  $F(5, 91) = 6.01, p = .000$ , indicating the model of five predictors did a good job in predicting shared vision. Of the reasons why shared vision can vary, the predictors accounted for 24.8% ( $R^2 = .248$ ) of those reasons. Table 9 presents the beta coefficients, where no significant findings were found; of all the variables in this model, there were no significant predictors of shared leadership. The null hypothesis is rejected; the school climate dimensions as a group predict the PLC dimension of shared vision, but there were no single significant predictors.

*Table 9: Multiple Regression with School Climate Predicting Shared Vision*

Independent Variables	B	SE	$\beta$	<i>t</i>	<i>p</i>
Supportive Behavior	0.12	0.09	.20	1.30	.196
Committed Behavior	0.11	0.24	.11	0.47	.639
Directive Behavior	-0.06	0.17	-.04	-0.34	.733
Collegial Behavior	0.16	0.17	.21	0.97	.337
Disengaged Behavior	-0.06	0.20	-.04	-0.28	.779

Collective Creativity

The regression with five school climate dimensions (supportive, directive, collegial, committed and disengaged) predicting collective creativity was significant,  $F(5, 91) = 6.96, p = .000$ ; the model of five predictors did a good job in predicting collective creativity. Of the reasons why collective creativity can vary, the predictors accounted for 27.7% ( $R^2 = .277$ ) of those reasons. Table 10 presents the beta coefficients, where no significant findings were found; of all the variables in this model, there were no significant predictors of collective creativity. The null hypothesis is rejected; the school climate dimensions as a group predict the PLC dimension of collective creativity, but there were no single significant predictors.

Table 10: Multiple Regression with School Climate Predicting Collective Creativity

Independent Variables	B	SE	$\beta$	<i>t</i>	<i>p</i>
Supportive Behavior	0.21	0.14	.22	1.48	.141
Committed Behavior	0.08	0.36	.05	0.23	.817
Directive Behavior	0.16	0.26	.08	0.62	.540
Collegial Behavior	0.42	0.25	.35	1.65	.103
Disengaged Behavior	-0.07	0.30	-.03	-0.23	.822

#### Peer Review

The regression with five school climate dimensions (supportive, directive, collegial, committed and disengaged) predicting peer review was significant,  $F(5, 91) = 3.82, p = .003$ ; the model of five predictors did a good job in predicting peer review. Of the reasons why peer review can vary, the predictors accounted for 17.4% ( $R^2 = .174$ ) of those reasons. Table 11 presents the beta coefficients, where no significant findings were found; of all the variables in this model, there were no significant predictors of peer review. The null hypothesis is rejected; the school climate dimensions as a group predict the PLC dimension of peer review, but there were no single significant predictors.

*Table 11: Multiple Regression with School Climate Predicting Peer Review*

Independent Variables	B	SE	$\beta$	<i>t</i>	<i>p</i>
Supportive Behavior	-0.01	0.07	-.02	-0.11	.912
Committed Behavior	0.10	0.17	.15	0.62	.535
Directive Behavior	0.02	0.12	.03	0.19	.853
Collegial Behavior	0.14	0.12	.27	1.19	.237
Disengaged Behavior	-0.04	0.14	-.04	-0.27	.789

Supportive Conditions

The regression with five school climate dimensions (supportive, directive, collegial, committed and disengaged) predicting supportive conditions was significant,  $F(5, 88) = 8.18, p = .000$ ; the model of five predictors did a good job in predicting supportive conditions. Of the reasons why supportive conditions can vary, the predictors accounted for 31.7 % ( $R^2 = .317$ ) of those reasons. Table 12 presents the beta coefficients, where no significant findings were found; of all the variables in this model, there were no significant predictors of supportive conditions. The null hypothesis is rejected; the school climate dimensions as a group predict the PLC dimension of supportive conditions, but there were no single significant predictors.

*Table 12: Multiple Regression with School Climate Predicting Supportive Conditions*

Independent Variables	B	SE	$\beta$	<i>t</i>	<i>p</i>
Supportive Behavior	0.08	0.14	.08	0.58	.565
Committed Behavior	0.27	0.37	.16	0.74	.460
Directive Behavior	0.05	0.28	.02	0.19	.851
Collegial Behavior	0.38	0.26	.29	1.43	.156
Disengaged Behavior	-0.25	0.32	-.12	-0.80	.425

### Hypothesis 3

To examine hypothesis 3, 18 chi-square analyses were conducted to assess if relationships exist between six perceptions of school climate and the demographic variables (number of years teaching experience, number of years at this school location, and type of school).

To prepare the data that was used for these analyses, the six perceptions of school climate were dichotomized into two levels (high vs. low). A median split was performed and the values that fell above the median were categorized as “high” and the values that fell below the median were categorized as “low.” The values that fell on the median could not be categorized into either group and were not used in the analyses. The sample size for each analysis varies depending on the number of cases deleted from the specific analysis (those with values that fell on the median).



### Years of Teaching Experience

Six chi square analyses were conducted to assess the relationship between number of years teaching (1 year vs. 2-5 years vs. 6-10 years vs. 11-15 years vs. 16-20 years vs. 21 years or more) and the school climate behavior dichotomized into two levels (high vs. low). A 2x 6 chi square analysis was conducted to assess whether a relationship exists between number of years teaching and supportive behavior. The chi square was not significant,  $\chi^2(5) = 3.98, p = .552$ . The null hypothesis was accepted; there was no significant relationship between number of years teaching and supportive behavior. The results of the chi-square are presented in Table 13.

A 2x 6 chi square analysis was conducted to assess whether a relationship exists between number of years teaching and committed behavior. The chi square was not significant,  $\chi^2(5) = 3.21, p = .668$ . The null hypothesis was accepted; there was no significant relationship between number of years teaching and committed behavior. The results of the chi-square are presented in Table 13.

A 2x 6 chi square analysis was conducted to assess whether a relationship exists between number of years teaching and directive behavior. The chi square was not significant,  $\chi^2(5) = 3.66, p = .600$ . The null hypothesis was accepted; there was no significant relationship between number of years teaching and directive behavior. The results of the chi-square are presented in Table 13.

A 2x 6 chi square analysis was conducted to assess whether a relationship exists between number of years teaching and collegial behavior. The chi square was not significant,  $\chi^2(5) = 3.86, p = .570$ . The null hypothesis was accepted; there was no

significant relationship between number of years teaching and collegial behavior. The results of the chi-square are presented in Table 13.

A 2x 6 chi square analysis was conducted to assess whether a relationship exists between number of years teaching and disengaged behavior. The chi square was not significant,  $\chi^2 (5) = 1.93, p = .851$ . The null hypothesis was accepted; there was no significant relationship between number of years teaching and disengaged behavior. The results of the chi-square are presented in Table 13.

A 2x 6 chi square analysis was conducted to assess whether a relationship exists between number of years teaching and restrictive behavior. The chi square was not significant,  $\chi^2 (5) = 3.49, p = .625$ . The null hypothesis was accepted; there was no significant relationship between number of years teaching and restrictive behavior. The results of the chi-square are presented in Table 13.

Table 13: Chi Squares on Number of Years Teaching and School Climate Behaviors

	School Climate Behavior		$\chi^2$	<i>p</i>
	Low	High		
Years teaching experience	Supportive Behavior		3.98	.552
1 year	2	4		
2-5 years	13	13		
6-10 years	13	10		
11-15 years	8	6		
16-20 years	4	1		
21 years or more	13	6		
Total	53	40		
Years teaching experience	Committed Behavior		3.21	.668
1 year	2	4		
2-5 years	17	12		
6-10 years	12	13		
11-15 years	9	8		
16-20 years	2	4		
21 years or more	6	10		
Total	48	51		
Years teaching experience	Directive Behavior		3.66	.600
1 year	4	2		
2-5 years	15	14		
6-10 years	12	10		
11-15 years	8	9		
16-20 years	1	5		
21 years or more	9	8		
Total	49	48		
Years teaching experience	Collegial Behavior		3.86	.570
1 year	2	3		
2-5 years	17	12		
11-15 years	9	9		
16-20 years	2	2		
21 years or more	5	12		
Total	47	52		

Table 13 (cont.)

	Low	High	$\chi^2$	<i>p</i>
Years teaching experience	Disengaged Behavior			
1 year	3	3	1.98	.851
2-5 years	11	17		
6-10 years	14	12		
11-15 years	10	7		
16-20 years	3	3		
21 years or more	9	10		
Total	50	52		
Years teaching experience	Restrictive Behavior			
1 year	4	1	3.49	.625
2-5 years	15	14		
6-10 years	15	11		
11-15 years	8	10		
16-20 years	1	3		
21 years or more	9	8		
Total	52	47		

*Note.*  $df = 5$

#### Number of Years Teaching at Current School

Six chi square analyses were conducted to assess the relationship between number of years teaching at current school location (1 year vs. 2-5 years vs. 6-10 years vs. 11-15 years vs. 16-20 years vs. 21 year or more) and the school climate behaviors dichotomized into two levels (high vs. low). A 2x 6 chi square analysis was conducted to assess whether a relationship exists between the number of years teaching at the current school location and supportive behavior. The chi square was not significant,  $\chi^2 (5) = 4.85, p = .435$ . The null hypothesis was accepted; there was no significant relationship between number of years teaching at this location and supportive behavior. The results of the chi-square are presented in Table 14.

A 2x 6 chi square analysis was conducted to assess whether a relationship exists between the number of years teaching at current school location and committed behavior.

The chi square was not significant,  $\chi^2 (5) = 7.75, p = .169$ . The null hypothesis was accepted; there was no significant relationship between number of years teaching at the current school location and committed behavior. The results of the chi-square are presented in Table 14.

A 2x 6 chi square analysis was conducted to assess whether a relationship exists between number of years teaching at current school location and directive behavior. The chi square was not significant,  $\chi^2 (5) = 4.77, p = .445$ . The null hypothesis was accepted; there was no significant relationship between number of years teaching at current school location and directive behavior. The results of the chi-square are presented in Table 14.

A 2x 6 chi square analysis was conducted to assess whether a relationship exists between number of years teaching at current school location and collegial behavior. The chi square was significant,  $\chi^2 (5) = 12.70, p = .026$ . The null hypothesis was rejected; there was a significant relationship between number of years teaching at current school location and collegial behavior. For current school location, a greater number of participants reported high collegial behavior. For the categories 2-5 years and 11-15 years, there were more participants than expected that endorsed high collegial behaviors. Also, for participants with 6-10 years of experience, a larger number reported low collegial behavior as compared to high collegial behavior. The results of the chi-square are presented in Table 14.

A 2x 6 chi square analysis was conducted to assess whether a relationship exists between number of years teaching at current school location and disengaged behavior. The chi square was not significant,  $\chi^2 (5) = 1.39, p = .926$ . The null hypothesis was accepted; there was no significant relationship between number of years teaching at

current school location and disengaged behavior. The results of the chi-square are presented in Table 14.

A 2x 6 chi square analysis was conducted to assess whether a relationship exists between number of years teaching at current school location and restrictive behavior. The chi square was not significant,  $\chi^2(5) = 4.45, p = .487$ . The null hypothesis was accepted; there was no significant relationship between number of years teaching at current school location and restrictive behavior. The results of the chi-square are presented in Table 14.

*Table 14: Chi Squares on Number of Years Teaching at Current School and School Climate Behaviors*

	School Climate Behavior		$\chi^2$	<i>p</i>
	Low	High		
Years at current school	Supportive Behavior		4.85	.435
1 year	9	12		
2-5 years	24	18		
6-10 years	8	6		
11-15 years	9	3		
16-20 years	1	1		
21 years or more	2	0		
Total	53	40		
Years at current school	Committed Behavior		7.78	.169
1 year	10	11		
2-5 years	22	23		
6-10 years	12	6		
11-15 years	2	9		
16-20 years	2	1		
21 years or more	0	1		
Total	48	51		

Table 14 (cont.)

	Low	High	$\chi^2$	<i>p</i>
Years at current school	Directive Behavior		4.77	.445
1 year	14	7		
2-5 years	22	22		
6-10 years	6	12		
11-15 years	5	4		
16-20 years	1	2		
21 years or more	1	1		
Total	49	48		
Years at current school	Collegial Behavior		12.69	.026
1 year	10	11		
2-5 years	21	26		
6-10 years	12	4		
11-15 years	2	10		
16-20 years	2	0		
21 years or more	0	1		
Total	47	52		
Years at current school	Disengaged Behavior		1.39	.926
1 year	11	11		
2-5 years	24	24		
6-10 years	6	10		
11-15 years	6	5		
16-20 years	2	1		
21 years or more	1	1		
Total	50	52		
Years at current school	Restrictive Behavior		4.45	.487
1 year	14	7		
2-5 years	24	23		
6-10 years	6	10		
11-15 years	7	5		
16-20 years	1	1		
21 years or more	0	1		
Total	52	47		

Note. *df* = 5

#### School Type

Six chi square analyses were conducted to assess the relationship between school type (traditional vs. Title 1 vs. charter vs. magnet/choice) and the school climate behavior

dichotomized into two levels (high vs. low). A 2x 4 chi square analysis was conducted to assess whether a relationship exists between school type and supportive behavior. The chi square was significant,  $\chi^2 (3) = 36.18, p = .000$ . The null hypothesis was rejected; there was a significant relationship between school type and supportive behavior. However, caution should be given in the interpretation of these results because the cell count was less than 5 in 25% of the cells. The results show that all traditional and magnet/choice participants endorsed a low level of supportive behavior. In contrast, all charter school participants endorsed a high level of supportive behavior. The results of the chi-square are presented in Table 15.

A 2x 3 chi square analysis was conducted to assess whether a relationship exists between school type and committed behavior. The chi square was significant,  $\chi^2 (2) = 22.30, p = .000$ . The null hypothesis was rejected; there was a significant relationship between school type and committed behavior. The results show that a larger number of traditional and charter participants endorsed a high level of committed behavior. In contrast, a larger number of Title 1 participants endorsed a low level of committed behavior. There were no magnet/choice schools in this analysis. The results of the chi-square are presented in Table 15.

A 2x 4 chi square analysis was conducted to assess whether a relationship exists between school type and directive behavior. The chi square was significant,  $\chi^2 (3) = 20.67, p = .000$ . The null hypothesis was rejected; there was a significant relationship between school type and directive behavior. However, caution should be given in the interpretation of these results because the cell count was less than 5 in 62.5% of the cells. The results show that a larger number of traditional participants endorsed a high level of



directive behavior. In contrast, a larger number of charter and magnet/choice participants endorsed a low level of directive behavior. The results of the chi-square are presented in Table 15.

A 2x 4 chi square analysis was conducted to assess whether a relationship exists between school type and collegial behavior. The chi square was significant,  $\chi^2 (3) = 40.36, p = .00$ . The null hypothesis was rejected; there was a significant relationship between school type and collegial behavior. However, caution should be given in the interpretation of these results because the cell count was less than 5 in 37.5% of the cells. The results show that a larger number of traditional participants and all charter and magnet/choice participants endorsed a high level of collegial behavior. In contrast, a larger number of Title 1 participants endorsed a low level of collegial behavior. The results of the chi-square are presented in Table 15.

A 2x 4 chi square analysis was conducted to assess whether a relationship exists between school type and disengaged behavior. The chi square was significant,  $\chi^2 (3) = 28.40, p = .000$ . The null hypothesis was rejected; there was a significant relationship between school type and disengaged behavior. However, caution should be given in the interpretation of these results because the cell count was less than 5 in 37.5% of the cells. The results show that a larger number of traditional participants and all charter participants endorsed a low level of disengaged behavior. In contrast, a larger number of Title 1 and all magnet/choice participants endorsed a high level of disengaged behavior. The results of the chi-square are presented in Table 15.

A 2x 4 chi square analysis was conducted to assess whether a relationship exists between school type and restrictive behavior. The chi square was significant,  $\chi^2 (3) =$

21.83,  $p = .000$ . The null hypothesis was rejected; there was a significant relationship between school type and restrictive behavior. However, caution should be given in the interpretation of these results because the cell count was less than 5 in 37.5% of the cells. The results show that a larger number of traditional participants and all charter participants endorsed a low level of restrictive behavior. In contrast, all magnet/choice participants endorsed a high level of restrictive behavior. The results of the chi-square are presented in Table 15.

*Table 15: Chi Squares on School Type and School Climate Behaviors*

	School Climate Behavior		$\chi^2$	$p$
	Low	High		
School type	Supportive Behavior		36.18	.000
Traditional	18	0		
Title 1	26	30		
Charter	0	10		
Magnet/choice	9	0		
Total	53	40		
School type	Committed Behavior		22.30*	.000
Traditional	2	16		
Title 1	45	26		
Charter	1	9		
Magnet/choice	48	51		
Total				
School type	Directive Behavior		20.67	.000
Traditional	1	6		
Title 1	30	41		
Charter	9	1		
Magnet/choice	9	0		
Total	49	48		
School type	Collegial Behavior		40.37	.000
Traditional	2	15		
Title 1	45	18		
Charter	0	10		
Magnet/choice	0	9		
Total	47	52		

Table 15 (cont.)

	Low	High	$\chi^2$	<i>p</i>
School type	Disengaged Behavior		28.40	.000
Traditional	15	4		
Title 1	25	39		
Charter	10	0		
Magnet/choice	0	9		
Total	50	52		
School type	Restrictive Behavior		21.82	.000
Traditional	12	5		
Title 1	30	33		
Charter	10	0		
Magnet/choice	0	9		
Total	52	47		

*Note.* *df* = 3; \**df* = 2

### Summary

To assess whether there are prevailing characteristics, based on teacher perceptions of school climate, that predicate the existence of schools with the PLC dimensions embedded in teacher practice, statistical analyses using Spearman rho correlation, multiple regression and chi-square were conducted. Preliminary examination was conducted on the research variables. The predictor variables included the school climate dimensions obtained from the Organizational Climate Description Questionnaire (OCDQ-RM) for middle school teachers and include: supportive behavior, committed behavior, directive behavior, collegial behavior, disengaged behavior and restrictive behavior. The outcome variables included the PLC dimensions obtained from the School Professional Staff as Learning Community Questionnaire (SPSaLCQ) and include: shared leadership, shared vision, collective creativity, peer review and supportive conditions. It was also of interest to understand what, if any, relationship exists between participants or school characteristics and teachers' overall perception of school climate

(low vs. high). These variables included teacher years of experience, teacher years of experience at current school, and school type.

To examine research question 1, six Spearman rho correlations were conducted to assess to what extent, if any, a relationship exists between teachers' perceptions of school climate and the degree of PLC (high vs. medium vs. low). The null hypothesis was partially rejected. There was a significant negative relationship between degree of PLC and disengaged and restrictive behavior and a significant positive relationship between degree of PLC and supportive, committed and collegial behavior.

To examine research question 2, five multiple regressions were conducted to investigate which of the school climate dimensions (supportive, directive, restrictive, collegial, committed and disengaged) are the best predictors, if any, of the PLC dimensions. In each multiple regression the model of collective predictors was significant in predicting the PLC dimensions. The null hypothesis was rejected; as a collective group, the school climate dimensions predict each of the PLC dimensions.

To examine hypothesis 3, 18 chi-square analyses were conducted to assess if relationships exist between six perceptions of school climate and the demographic variables (number of years teaching experience, number of years at this school location, and type of school). The null hypothesis was rejected for type of school; there was a significant relationship between type of school and each of the six school climate dimensions. The null hypothesis was partially rejected for years of teaching at current school where a significant relationship was found between years at current school and collegial behavior. The null hypothesis was accepted for years of teaching experience

where no significant relationship was found between years of experience and school climate.

In summary, the null hypotheses were rejected or partially rejected for each research question. Significant relationships were found between teachers' perceptions of school climate and the dimensions of PLC. Of the demographic variables, only years of teaching experience was found to be not significantly related to the school climate dimensions. This will be discussed in more detail in Chapter 5.

## CHAPTER FIVE: DISCUSSION OF FINDINGS AND RECOMMENDATIONS

### Introduction

The purpose of this study was to determine whether there were significant relationships between teachers' perceptions of specific prevailing characteristics of school climate and the dimensions that support a professional learning community (PLC) through the utilization of descriptive and inferential statistics. Peter Senge's (1990) theory of learning organizations provided the foundational theory leading to the concept of professional learning communities; the work of Kurt Lewin and Renato Tagiuri (1968) provided the initial theoretical framework that is the basis of organizational climate. Recent research on the development of professional learning communities (DuFour & Eaker, 1998; DuFour et al., 2008; Hirsh & Hord, 2008; Hord, 1997) and school climate (Hoy & Tarter, 1997; Hoy et al., 1991) was also examined.

Teachers from ten middle schools in one central Florida school district were surveyed electronically (and anonymously) using a combined format of the Organizational Climate Description Questionnaire for middle schools (OCDQ-RM), revised initially by Hoy et al. (1996), and the School Professional Staff as Learning Community Questionnaire (SPSaLCQ) developed by Shirley Hord (1996). Demographic information was also included and combined with the OCDQ-RM and SPSaLCQ into a single survey titled School Climate and Professional Learning Community Dimensions Survey for Middle School Teachers.

This particular district was selected for both its diversity in middle school types (traditional, charter, magnet/choice, Title I) in existence, as well as the two-year focus by

the district's Professional Development Department with school administrators on implementing effective PLC practices. Because of this, attention to analyses related to teachers' perceptions of principal behaviors is important in this quantitative study.

Following analysis and interpretation of the results from chapter 4, the null hypotheses were rejected or partially rejected for each research question. Significant relationships were found between teachers' perceptions of school climate and the dimensions that support a PLC. Of the demographic variables, only years of teaching experience was found to be not significantly related to the school climate dimensions. A comprehensive discussion of findings in relation to the literature, implications of the study, and recommendations for future research are presented in this chapter.

#### Statement of the Problem

Although the research on PLCs is wide and deep, there is a void in the study of the perceptions that teachers and teacher leaders have on not only the key dimensions that constitute a community of learners (Hord, 2007), but on whether the existing climate has an effect on making such a community possible within a school. Many schools fail to move beyond simply sharing instructional practices, and doing the meaningful work of job-embedded collaborative decision-making around curriculum, assessment and instruction (Graham & Ferriter, 2008). Since teachers are vital in meeting the operational criteria for successful PLC schools, it is imperative to gather teachers' beliefs and input on whether their school is a PLC and on how well their school is functioning as a PLC based upon the five key dimensions.

### Discussion of Findings and Conclusions

The research question that is the premise for this study asked to what extent, if any, a significant relationship existed between school climate and the degree of PLC in a school. The findings of this research support the conclusion that school climate has a significant influence on the existence of and the degree to which the dimensions of PLC exist within a school. It can be noted that based on teachers' perceptions, the climate dimension of supportive principal behavior in particular has an impact on several threads related to the outcome results of the research; this notice of the importance of leadership is woven throughout the literature as well (Buffum et al., 2008; DuFour et al., 2008; Hirsh & Hord, 2008).

It can be concluded from the results that for a school to have a higher degree of the dimensions that support the existence of a successful PLC, teachers' perceptions of climate behaviors or dimensions as a whole play a critical role in several areas leading to such an endeavor. This concept of looking at the whole model rather than separate entities working in isolation is also connected throughout the literature with respect to both learning organizations (Senge, 1990) and the concept of team learning (Roberts & Pruitt, 2009).

In several instances in the research results, it was noted that although specific or individual dimensions of either climate or of PLC did not have statistical significance, those dimensions combined as a collective model did, in fact, have statistical significance. This could suggest that strength in one specific or isolated dimension of climate does not necessarily define a school's progress toward becoming a PLC;



however, a combination of those climate dimensions working in unison is necessary for attaining a successful PLC model.

As evidenced in the research, individual studies illustrated the fact there are several behaviors or dimensions of school climate, dependent upon which survey is utilized or upon whose research is studied (Anderson, 1982). When looking at ways to move a school toward operating as a job embedded professional learning community through the lens of the climate of the school, it would be advantageous for the principal or other stakeholders to review the composition of individual surveys in order to establish present levels of climate based on the behaviors that one is endeavoring to either evaluate or establish.

It should also be noted that the results of the summary analyses were based on the perceptions of middle school teachers in one district in one region of the state. Consideration should be given to the possibility of differing results if the sample was expanded to include a greater number of schools, a variety of school levels, or additional districts within the state.

#### Research Question One

To what extent, if any, is there a significant relationship between school climate and the degree of PLC (high vs. medium vs. low)?

H<sub>1o</sub>: No significant relationship exists between school climate and the degree of PLC (high vs. medium vs. low).

H<sub>1a</sub>: A significant relationship exists between school climate and the degree of PLC (high vs. medium vs. low).

To examine hypothesis 1, six Spearman rho correlations were conducted. The total PLC score was trichotomized into three levels (high, medium, low), or degrees of PLC, for analysis. It was found that significant relationships did, in fact, exist between several school climate variables and the degree of PLC.

Positive correlations were found between the degree of PLC and supportive behavior of the principal, as well as committed and collegial behaviors of the teacher. This suggests that as the degree of PLC in a school moves from low, to medium, to high, there is an increase in teachers' perceptions of supportive principal behavior as well as that of committed and collegial teacher behaviors. Based on the research, this relationship would be expected (DuFour et al., 2006; Roberts & Pruitt, 2009; Sergiovanni, 1992).

It is important to note that there was a significant negative relationship between both degree of PLC and disengaged behavior of the teacher and PLC and restrictive behavior of the principal. In other words, as the perceptions of disengaged teacher behavior and restrictive principal behavior increased, the degree of PLC present declined.

Significant items with a medium association were found between degree of PLC and the following climate behaviors: committed, collegial, disengaged, and restrictive. The null hypothesis can be partially rejected. The null hypothesis is, however, accepted for directive principal behavior, where no significant relationship was found with degree of PLC.

## Research Question Two

To what extent, if any, do the school climate dimensions predict PLC dimensions?

H2<sub>0</sub>: The school climate dimensions do not predict PLC dimensions.

H2<sub>a</sub>: The school climate dimensions predict the PLC dimensions.

Five multiple regressions were conducted to investigate which of the school climate dimensions or behaviors, if any, were the best predictors of the PLC dimensions. However, when looking at multicollinearity, it was found that the assumption was violated for supportive principal behavior and restrictive principal behavior. These two climate behaviors were highly correlated with one another. It made more sense to remove restrictive principal behavior as it was skewing the variance.

When considering the PLC dimension of shared leadership, it is important to note that the regression with five school climate dimensions or behaviors (with restrictive principal behavior now removed) predicting shared leadership was significant. Of particular importance is to note that of all the variables, supportive principal behavior was the only significant predictor of shared leadership. The null hypothesis was rejected. The school climate dimensions as a group predict the PLC dimension of shared leadership, but the only significant predictor is supportive principal behavior.

With respect to the remaining dimensions of PLC—shared vision, collective creativity, peer review, and supportive conditions—analyses demonstrated that the model of five school climate dimensions (remembering that restrictive principal behavior was removed) as a group predict these PLC dimensions; however, there were no single significant predictors.

### Research Question Three

To what extent, if any, is there a relationship between demographic variables and teachers' perception of school climate?

H3<sub>o</sub>: No significant relationship exists between the demographic variables and teachers' perception of school climate.

H3<sub>a</sub>: A significant relationship exists between the demographic variables and teachers' perception of school climate.

To examine hypothesis 3, 18 chi-square analyses were conducted to determine if relationships exist between demographic variables (years of teaching experience, number of years at present school location, and school type) and teachers' perceptions of the six dimensions or behaviors of school climate. With respect to assessing a relationship between years of teaching experience and the six dimensions of school climate, there were no significant relationships on any of the dimensions. The null hypothesis was accepted for all six dimensions.

There was, however, a significant relationship between the number of years teaching at the current school location and collegial behavior. The null hypothesis was rejected. A greater number of participants reported high collegial behavior. It is of interest to note that for those responding with 2-5 years and 11-15 years at the current school site, there were more participants than expected that supported collegial behaviors. This suggests that the longer an individual remains at a single school location, the greater the opportunity or likelihood of building collegial peer relationships consisting of professional interactions, respect, and willingness to assist one another (Hoy et al., 1991; Hoy & Tarter, 1997).

Participants with 6-10 years of experience reported low collegial behavior. This is an interesting anomaly. Further investigation may be required to determine what, if anything occurs between years 6 and 10 that would indicate a finding of low collegial behavior; this was also noted to have happened at year 6 with respect to school climate as evidenced in previous research (Lansberry, 2009). When considering the remaining five dimensions of school climate, the null hypothesis was accepted for all. There were no significant relationships between number of years teaching at the current school locations and supportive, directive, or restrictive principal behaviors or between committed and disengaged teacher behaviors.

A final analysis was conducted to assess the relationship between school type and school climate behavior. Findings supported a significant relationship between school type and each of the school climate dimensions or behaviors. These results should be interpreted with caution, based upon the fact that all school types in this study were not represented equally, and as discussed in chapter 4, the cell counts in some areas were less than 5. Discussion of these findings is broken down according to climate behavior.

Supportive principal behavior-All traditional and magnet/choice participants endorsed a low level of supportive behavior, whereas all charter school participants endorsed a high level of supportive behavior.

Directive principal behavior-A larger number of participants from traditional schools endorsed a high level of directive behavior, whereas a larger number of charter and magnet/choice participants endorsed a low level of directive behavior.

Restrictive principal behavior-A larger number of traditional participants and all charter participants endorsed a low level of restrictive behavior. Conversely, all magnet/choice participants endorsed a high level of restrictive behavior.

Committed teacher behavior-A larger number of traditional and charter participants endorsed a high level of committed behavior. A larger number of Title I participants endorsed a low level of committed behavior. No magnet/choice participants responded to questions in this portion of the analysis. Given the number of magnet/choice school participants in the study, it is difficult to surmise why there were no responses for climate questions associated with committed teacher behavior from any respondents.

Collegial teacher behavior-A large number of traditional participants and all charter and magnet/choice participants endorsed a high level of collegial behavior. Conversely, a larger number of Title I participants endorsed a low level of collegial behavior.

Disengaged teacher behavior-A larger number of traditional and all charter participants endorsed a low level of disengaged behavior, whereas a larger number of Title I and all magnet/choice participants endorsed a high level of disengaged behavior.

It has been concluded and supported through the research that the leadership in the school has a significant impact on teachers' perceptions of climate and willingness to work together collegially and collaboratively, and in most cases, the results are consistent with the research (Blankenstein, 2004; Edgerson & Kritsonis, 2006; Hord & Sommers, 2008; Stringer, 2002). Of particular interest however, are the results pertaining to those of

magnet/choice participants. Given that magnet/choice participants supported a high level of restrictive principal behavior, which typically hinders teacher work (Hoy & Tarter, 1997); it surprised the researcher that there were high levels of both collegial and disengaged teacher behaviors represented in the survey results. By the actual definition of both behaviors (Hoy & Tarter), collegial behaviors support professional interactions whereby teachers assist one another on both personal and professional levels. In contrast, disengaged behaviors denote a lack of focus to professional activities, whereby teachers are typically not accepting of their peers (Hoy & Tarter). These two teacher behaviors representative of the climate perceptions appear to contradict one another.

There were also no survey responses from magnet/choice participants to recognize the existence of teachers’ perceptions of committed behaviors which are geared toward helping students with both academic and social growth. Committed teacher behavior on the survey utilized refers to the teachers’ commitment to students (Hoy et al., 1996). This contradicts the very definition of magnet/choice schools outlined in the research (EdGov, 2010). A visual summary of the demographic variable school type on perceptions of climate behaviors is presented in Table 16.

*Table 16: Visual Summary of School Type on Climate Behaviors*

School Type	Supportive Principal	Directive Principal	Restrictive Principal	Committed Teacher	Collegial Teacher	Disengaged Teacher
Title I	Split	Split	Split	Low	Low	High
Charter	High	Low	Low	High	High	Low
Magnet/Choice	Low	Low	High	-----	High	High
Traditional	Low	High	Low	High	High	Low

### Implications of the Study

There are several implications of this study based on the results as well as on the review of the literature. One implication suggests a pattern regarding teachers' perceptions of school climate having a significant influence on the degree to which they operate as a professional learning community. The participants who are reflective of each school where surveys responses were high in the areas of supportive principal behavior, collegial teacher and committed behaviors, also tended to have higher mean scores regarding the existence of the dimensions that support a professional learning community. Based on this, it would stand to reason that schools reflecting higher degrees of both principal and teacher openness (Hoy & Tarter, 1997), would also indicate a commitment to student success as well as support of collegial and professional interaction, thereby having a higher likelihood of operating as a job-embedded professional learning community. As evidenced in the research, teachers' perceptions of climate within the school have a significant influence on how readily they operate as a collaborative unit (Darling-Hammond, 2002).

Another implication of this study references the extent to which school climate dimensions predict professional learning community dimensions. The results demonstrated that the school climate dimensions as a group predicted the professional learning community dimensions in every dimension except for that of shared leadership; when supportive principal behavior increased, likewise did the existence of shared leadership. This speaks to the need for and importance of establishing supportive leadership behaviors as well as the necessity to distribute leadership throughout the building, as was evidenced repeatedly throughout the literature and analyses



(Blankenstein, 2004; Hord & Sommers, 2008; Mayrowetz, 2008; McAdamis, 2007; Roberts & Pruitt, 2009). Because of this, it would be advantageous for school staffs wishing to either begin professional learning communities or sustain what has been started, to investigate the climate in their individual school buildings.

With any reform, the climate to support it must be in place (Bulach & Malone, 1994; Grippen, 2007; Stringer, 2002). Principals will need to be open to the results of teachers' perceptions of the climate at hand; similarly, teachers should be receptive to the perceptions of principals as well. It would stand to reason that finding this common ground could only lead to school improvement toward developing an open climate conducive to a job-embedded community of learners, with the ultimate goal of increased student achievement (Darling-Hammond, 2002; DuFour et al., 2008; Hoy & Tarter, 2007; Mizell, 2007). More importantly, this is critical in instances where staffs demonstrate high levels of closed climate behaviors (restrictive, disengaged) which impede the change to or existence of professional learning communities within a school. Communication and collaboration are paramount among all stakeholders.

Further implications of the research suggest that the type of school in which teachers work have an impact on how they perceive school climate. The results were not necessarily what were expected given the operational definitions of each school type used in this study; however, it is difficult to generalize results given that not all schools had equal representation in the sample size. Results were indicative of only a sample of middle schools housing grades six through eight in one central Florida school district.

The need for additional attention to Title I schools, which represented 60% of the participating schools denoted in this study is noteworthy. No clear leadership behavior of

climate was identified as significant; however, teacher behaviors were quite evident, indicating closed climates and high levels of disengaged behavior. Additional supports in working with students from lower socioeconomic populations, instructional practices, and intentional goal setting to meet the additional responsibility of meeting state and federal mandates for improvement (EdGov, 2009) are necessary. The research (Bulach & Malone, 1994; Grippen, 2007; Stringer, 2002) supports the importance of establishing a school climate prior to any significant reform, so guidance here is also required. For those Title I schools represented specifically in this study, the results indicate the need to develop not only a professional community of learners, but the climate to support one (Bulach et al., 1995).

This district has provided its principals with on-going professional development opportunities pertaining to the leadership role in professional learning communities. The results suggest that further learning opportunities exist in the areas of analyzing individual school climates toward building the supporting dimensions that constitute a professional learning community, not only for school leaders, but for teachers as well. As evidenced in the research (Grippen, 2007; Honnert, 2010), professional development for sustainability where PLCs are currently functioning is recommended.

#### Recommendations for Further Research

This study was conducted specifically to determine whether there was a relationship between teachers' perceptions of school climate and the existence of PLC dimensions. Because a significant amount of research supports the principal's role in implementing professional learning communities, this researcher felt it to be a worthy

endeavor to explore the perception of those immersed in the daily work of the PLC, which would be the teachers. Based on the results of this research, it is evident that the role of a supportive principal is paramount to shaping teachers' perceptions of both school climate and degree of PLC within a school. With this in mind, it would be appropriate to conduct further research to explore both principals' and teachers' perceptions of climate and effective PLC implementation as a comparison study. This would be particularly vital as part of a school reform initiative, as perceptions that are misaligned would have the potential to squelch any moves toward school reform.

As part of the demographic information gathered for this study, teachers were asked to select the teaching assignment that most closely represented their current assignment from a list of ten categories. It was noted in this study that the most highly represented teaching assignments were intensive reading and exceptional student education. For purposes of this particular research, this question was included to define the characteristics of the respondents; however, the researcher chose not to include this demographic further in the statistical analysis. As part of further research, this variable could be included to determine if there is any significance to a particular teaching assignment on either school climate or on successful PLC implementation. Given state and federal mandates for student achievement in core subject areas, it might be possible that teachers who are in perceived positions of greater accountability discern school climate or PLC implementation differently than those who are not in such a position.

When considering the studies that have been presented in this research regarding the effect of school climate on student achievement (Bulach et al., 1995; Kelley et al., 2005; Waters et al., 2004) and given that the over-arching goal of a professional learning

community is to improve teacher practice to ultimately increase student achievement (DuFour et al., 2008), a recommendation for future research would be to explore a study utilizing the variables of school climate and successful PLC implementation to determine if any significant relationships exist with respect to student achievement. In other words, to what extent, if any, do school climate dimensions and degree of PLC implementation predict student achievement?

A final recommendation would be to conduct similar research with the use of cognitive interviewing and qualitative research methods when addressing the degree of PLC within a school. In the field test of the SPSaLCQ (Meehan, Orletsky & Sattes, 1997) developed by Hord (1996), it was recommended to combine all five dimensions into one overall average score. The higher the score, the greater the degree of PLC can be attributed to that school. As stated, the mean scores on the survey in this research were calculated in just that manner. More detailed data could possibly be gleaned from participants through the use of the SPSaLCQ instrument as a qualitative means for gathering data when seeking to discern teachers' perceptions of PLC in relation to climate. This methodology may provide the opportunity for more robust results. This may prove to be even more beneficial when considering the anomalies that can occur with results such as with magnet/choice respondents in this researcher's study.

### Summary

This study contributes to the body of knowledge in the area of school climate and the reflective, collaborative practice of improving teacher and student learning as evidenced in effective professional learning communities. More specifically, the purpose

of this research was to explore whether there are prevailing characteristics, based on teachers' perceptions of school climate, that predicate the existence of school with the PLCs embedded in teacher practice.

The implications and recommendations surfacing from this study stem from a direct connection to the research presented previously and are worthy of reiteration here. The profile of school climate is a picture of the school at a specific point in time. The picture does not explain why things are the way they are; it describes what exists at that time. Teachers and administrators who discover that their schools are in need of change must begin to investigate possible causes of the existing climate (Hoy et al., 1996).

Similarly, there are challenges in moving a school from a traditional model to a professional learning community (Roberts & Pruitt, 2009). When a school operates as a PLC, the focus shifts from teaching to learning (Many & King, 2008), not only for the students but also for the teachers who learn to operate out of a sense of collaboration rather than a culture of isolation.

As evidenced in the results, there were significant relationships between school climate and the degree of PLC within a school; and, school climate dimensions predicted PLC dimensions as a whole or model. Supportive leadership was a thread woven throughout the results, with evidence of bearing significance to positively influencing perceptions of climate and the prediction of the existence of PLC dimensions.

While there was not a significant relationship between all demographic variables and teachers' perceptions of school climate, of significance was the variable of school type. An implication of this study demonstrated the need to look more closely at Title I

schools specifically and the barriers to perception of school climate and PLC implementation.

The focus of this study was on teachers' perceptions of school climate and their influence on the existence of the dimensions that support a professional learning community. As a result, there is a greater awareness of the significant influence that specific dimensions of climate have in providing the essential foundation necessary to support and sustain a job-embedded community of learners.

APPENDIX A: SCHOOL PROFESSIONAL STAFF AS LEARNING COMMUNITY  
QUESTIONNAIRE

## School Professional Staff as Learning Community Questionnaire

**Directions:** This questionnaire concerns your perceptions about your school staff as a learning organization. There are no right or wrong responses. Please consider where you believe your school is in its development of each of the five numbered descriptors shown in bold-faced type on the left. Each sub-item has a five-point scale. On each scale, circle the number that best represents the degree to which you feel your school has developed.

**Date:** \_\_\_\_\_

**Name:** \_\_\_\_\_

**School:** \_\_\_\_\_

<b>1. School administrators participate democratically with teachers sharing power, authority, and decision making.</b>	<b>1a</b>	5 _____ 4 _____ 3 _____ 2 _____ 1	Although there are some legal and fiscal decisions required of the principal, school administrators consistently involve the staff in discussing and making decisions about school issues.	Administrators invite advice and counsel from staff and then make decisions themselves.	Administrators never share information with the staff nor provide opportunities to be involved in decision making.
	<b>1b</b>	5 _____ 4 _____ 3 _____ 2 _____ 1	Administrators involve the entire staff.	Administrators involve a small committee, council, or team of staff.	Administrators do not involve any staff.
-----					
<b>2. The staff shares visions for school improvement that have an undeviating focus on student learning, and these visions are consistently referenced in the staff's work.</b>	<b>2a</b>	5 _____ 4 _____ 3 _____ 2 _____ 1	Visions for improvement are discussed by the entire staff such that consensus and a shared vision result.	Visions for improvement are not thoroughly explored; some staff members agree and others do not.	Visions for improvement held by the staff members are widely divergent.
	<b>2b</b>	5 _____ 4 _____ 3 _____ 2 _____ 1	Visions for improvement are always focused on students, teaching, and learning.	Visions for improvement are sometimes focused on students, teaching, and learning.	Visions for improvement do not target students, teaching, and learning.
	<b>2c</b>	5 _____ 4 _____ 3 _____ 2 _____ 1	Visions for improvement target high-quality learning experiences for all students.	Visions for improvement address quality learning experiences in terms of students' abilities.	Visions for improvement do not include concerns about the quality of learning experiences.



<b>3. The staff's collective learning and application of the learnings (taking action) create high intellectual learning tasks and solutions to address student needs.</b>	<b>3a</b>	5 _____ 4 _____ 3 _____ 2 _____ 1	The entire staff meets to discuss issues, share information, and learn with and from one another.	Subgroups of the staff meet to discuss issues, share information, and learn with and from one another.	Individuals randomly discuss issues, share information, and learn with and from one another.
	<b>3b</b>	5 _____ 4 _____ 3 _____ 2 _____ 1	The staff meets regularly and frequently on substantive student-centered educational issues.	The staff meets occasionally on substantive student-centered educational issues.	The staff never meets to consider substantive educational issues.
	<b>3c</b>	5 _____ 4 _____ 3 _____ 2 _____ 1	The staff discusses the quality of their teaching and students' learning.	The staff does not often discuss their instructional practices nor its influence on student learning.	The staff basically discusses non-teaching and non-learning issues.
	<b>3d</b>	5 _____ 4 _____ 3 _____ 2 _____ 1	The staff, based on their learnings, makes and implements plans that address students' needs, more effective teaching, and more successful student learning.	The staff occasionally acts on their learnings and makes and implements plans to improve teaching and learning.	The staff does not act on their learning.
	<b>3e</b>	5 _____ 4 _____ 3 _____ 2 _____ 1	The staff debriefs and assesses the impact of their actions and makes revisions.	The staff infrequently assesses their actions and seldom makes revisions based on the results.	The staff does not assess their work.
<hr style="border-top: 1px dashed #000;"/>					
<b>4. Peers review and give feedback based on observing one another's classroom behaviors in order to increase individual and organizational capacity.</b>	<b>4a</b>	5 _____ 4 _____ 3 _____ 2 _____ 1	Staff members regularly and frequently visit and observe one another's classroom teaching.	Staff members occasionally visit and observe one another's teaching.	Staff members never visit their peers' classrooms.
	<b>4b</b>	5 _____ 4 _____ 3 _____ 2 _____ 1	Staff members provide feedback to one another about teaching and learning based on their classroom observations.	Staff members discuss non-teaching issues after classroom observations.	Staff members do not interact after classroom observations.

**5. School conditions and capacities support the staff's arrangement as a professional learning organization.**

<b>5a</b>	5 _____ 4 _____ 3 _____ 2 _____ 1	Time is arranged and committed for whole staff interactions.	Time is arranged but frequently the staff fails to meet.	Staff cannot arrange time for interacting.
<b>5b</b>	5 _____ 4 _____ 3 _____ 2 _____ 1	The size, structure, and arrangements of the school facilitate staff proximity and interaction.	Considering the size, structure, and arrangements of the school, the staff are working to maximize interaction.	The staff takes no action to manage the facility and personnel for interaction.
<b>5c</b>	5 _____ 4 _____ 3 _____ 2 _____ 1	A variety of processes and procedures are used to encourage staff communication.	A single communication method exists and is sometimes used to share information.	Communication devices are not given attention.
<b>5d</b>	5 _____ 4 _____ 3 _____ 2 _____ 1	Trust and openness characterize all of the staff members.	Some of the staff members are trusting and open.	Trust and openness do not exist among the staff members.
<b>5e</b>	5 _____ 4 _____ 3 _____ 2 _____ 1	Caring, collaborative, and productive relationships exist among all staff members.	Caring and collaboration are inconsistently demonstrated among the staff members.	Staff members are isolated and work alone at their task.

Hord, Shirley M. (1996). *School Professional Staff as Learning Community Questionnaire*. Available by permission from:  
 SEDL  
 4700 Mueller Blvd.  
 Austin, TX 78723  
<http://www.sedl.org>

APPENDIX B: PERMISSION TO USE SCHOOL PROFESSIONAL STAFF AS  
LEARNING COMMUNITY QUESTIONNAIRE



## SEDL License Agreement

To: Kathryn Kelton (Licensee)  
2531 N. Cochrane Road  
Avon Park, FL 33825

From: Nancy Reynolds  
Information Associate  
SEDL  
Information Resource Center-Copyright Permissions  
4700 Mueller Blvd.  
Austin, TX 78723

Subject: Permission to reprint and distribute SEDL materials

Date: May 21, 2009; revised November 19, 2009

Thank you for your interest in using SEDL's **School Professional Staff as Learning Community Questionnaire (SPSLCQ)** developed by Shirley Hord in 1996. This questionnaire will be referred to as the "work" in this License Agreement.

SEDL is pleased to grant permission for the use of the material cited above by the Licensee who will include the work in her dissertation titled *A Study of the Comparison Between Teacher Perceptions of School Climate and the Existence of Professional Learning Community Dimensions* from the University of Central Florida in Orlando, FL. The Licensee also will distribute the work to survey teachers and principals in a sampling of counties in Florida. The following are the terms, conditions, and limitations governing this limited permission to reproduce the work:

1. All reprinting and distribution activities shall be solely in the medium in which the work has been made available for your use *from a PDF version of the work* and shall be solely for educational use only. Precise compliance with the following terms and conditions shall be required for any permitted reproduction of the work described above.
2. The Licensee may add demographics before or after the work to run descriptive statistics as part of her methodology. She also may convert the work to an electronic format to be administered in a password-protected environment. No additional adaptations, deletions, or changes will be made in the material, nor shall any derivative work based on or incorporating the work be created, without the prior written consent of SEDL.
3. This permission is non-exclusive, non-transferable, and limited to the one-time use specified herein. This permission is granted solely for use for the period May 21, 2009 through May 21, 2010. SEDL expressly reserves all rights in this material.

Wire: 800-476-8861  
Fax: 512-476-2286

[www.sedl.org](http://www.sedl.org)

4700 MUELLER BLVD., AUSTIN, TX 78723

SEDL License Agreement, p. 2

4. You must give appropriate credit: "Reproduced with permission of SEDL," or attribute SEDL as appropriate to the professional style guidelines you are following. All reproductions of the materials used by you shall also bear the following copyright notice provided on each page of use: "Copyright 1996 SEDL, Austin, TX."
5. An exact copy of any reproduction of the work you produce shall be promptly provided to SEDL. All copies of the work produced by you which are not distributed nor used shall be destroyed or sent to SEDL, save and except a maximum of three archival copies you are permitted to keep in permanent records of the activity you conducted.
6. This License Agreement to reproduce the work is limited to the terms hereof and is personal to the person to whom it has been granted; and it may not be assigned, given, or transferred to any other person or entity.
7. SEDL is not charging the Licensee a copyright fee to use the work.

I'm e-mailing you a PDF of this License Agreement. Please print and sign one copy below, indicating that you understand and agree to comply with the above terms, conditions and limitations, and send the original back to me. If you wish to keep a copy with original signatures, please also print, sign, and return a second copy and, after I receive and sign it, I'll return it with both of our signatures to you.

Thank you, again, for your interest in using SEDL's **School Professional Staff as Learning Community Questionnaire**. If you have questions about SEDL's License Agreement, please contact me by phone at 800-476-6861, ext. 6548 or 512-391-6548, or by e-mail at [nancy.reynolds@sedl.org](mailto:nancy.reynolds@sedl.org).

Sincerely,

Nancy Reynolds

Nancy Reynolds for SEDL

January 11, 2010

Date signed

Agreed and accepted:

Signature: Kathryn E. Kelton

11/22/09

Date signed

Printed Name: Kathryn E. Kelton

APPENDIX C: ORGANIZATIONAL CLIMATE DESCRIPTION QUESTIONNAIRE-  
REVISED MIDDLE

## OCDQ-RM

**Directions:** The following are statements about your school, Please indicate the extent to which each statement characterizes your school.

	Rarely Occurs	Sometimes Occurs	Often Occurs	Frequently Occurs	Very Often
1. The principal compliments teachers.	1	2	3	4	5
2. Teachers have parties for each other.	1	2	3	4	5
3. Teachers are burdened with busywork.	1	2	3	4	5
4. Routine duties interfere with the job of teaching.	1	2	3	4	5
5. Teachers "go the extra mile" with their students.	1	2	3	4	5
6. Teachers are committed to helping their students.	1	2	3	4	5
7. Teachers help students on their own time.	1	2	3	4	5
8. Teachers interrupt other teachers who are talking in staff meetings.	1	2	3	4	5
9. The principal rules with an iron fist.	1	2	3	4	5
10. The principal encourages teacher autonomy.	1	2	3	4	5
11. The principal goes out of his/her way to help teachers.	1	2	3	4	5
12. The principal is available after school to help teachers when assistance is needed.	1	2	3	4	5
13. Teachers invite other faculty members to visit them at home.	1	2	3	4	5
14. Teachers socialize with each other on a regular basis.	1	2	3	4	5
15. The principal uses constructive criticism.	1	2	3	4	5
16. Teachers who have personal problems receive support from other staff members.	1	2	3	4	5
17. Teachers stay after school to tutor students who need help.	1	2	3	4	5
18. Teachers accept additional duties if students will benefit.	1	2	3	4	5
19. The principal looks out for the personal welfare of the faculty.	1	2	3	4	5
20. The principal supervises teachers closely.	1	2	3	4	5
21. Teachers leave school immediately after school is over.	1	2	3	4	5
22. Most of the teachers here accept the faults of their colleagues.	1	2	3	4	5
23. Teachers exert group pressure on non-conforming faculty members.	1	2	3	4	5
24. The principal listens to and accepts teachers' suggestions.	1	2	3	4	5
25. Teachers have fun socializing together during school time.	1	2	3	4	5
26. Teachers ramble when they talk at faculty meetings.	1	2	3	4	5
27. Teachers are rude to other staff members.	1	2	3	4	5
28. Teachers make "wise cracks" to each other during meetings.	1	2	3	4	5
29. Teachers mock teachers who are different.	1	2	3	4	5
30. Teachers don't listen to other teachers.	1	2	3	4	5
31. Teachers like to hear gossip about other staff members.	1	2	3	4	5
32. The principal treats teachers as equals.	1	2	3	4	5
33. The principal corrects teachers' mistakes.	1	2	3	4	5
34. Teachers provide strong social support for colleagues.	1	2	3	4	5
35. Teachers respect the professional competence of their colleagues.	1	2	3	4	5
36. The principal goes out of his/her way to show appreciation to teachers.	1	2	3	4	5
37. The principal keeps a close check on sign-in times.	1	2	3	4	5
38. The principal monitors everything teachers do.	1	2	3	4	5
39. Administrative paperwork is burdensome at this school.	1	2	3	4	5
40. Teachers help and support each other.	1	2	3	4	5
41. The principal closely checks teacher activities.	1	2	3	4	5
42. Assigned non-teaching duties are excessive.	1	2	3	4	5
43. The interactions between team/unit members are cooperative.	1	2	3	4	5
44. The principal accepts and implements ideas suggested by faculty members.	1	2	3	4	5
45. Members of teams/units consider other members to be their friends.	1	2	3	4	5
46. Extra help is available to students who need help.	1	2	3	4	5
47. Teachers volunteer to sponsor after school activities.	1	2	3	4	5
48. Teachers spend time after school with students who have individual problems.	1	2	3	4	5
49. The principal sets an example by working hard himself/herself.	1	2	3	4	5
50. Teachers are polite to one another.	1	2	3	4	5

APPENDIX D: PERMISSION TO USE ORGANIZATIONAL CLIMATE  
DESCRIPTION QUESTIONNAIRE



Re: Permission Request to Use the OCDQ-RM

From:  **Wayne Hoy** (whoy@mac.com)

Sent: Thu 11/19/09 1:21 AM

To: [kathryn.kelton@knights.ucf.edu](mailto:kathryn.kelton@knights.ucf.edu)

Hi Kathryn--

You have my permission to use the OCDQ-RM for your doctoral research. Simply download the instrument from my web page [[www.coe.ohio-state.edu/whoy](http://www.coe.ohio-state.edu/whoy)], copy it, and use it. I would appreciate a summary of your findings.

Good luck.

*Wayne*

**Wayne K. Hoy**  
**Fawcett Professor of**  
**Education Administration**

**hoy.16@osu.edu**  
**[www.coe.ohio-state.edu/whoy](http://www.coe.ohio-state.edu/whoy)**

Department of Educational Research, Technology, and Leadership  
University of Central Florida  
4000 Central Florida Boulevard  
Orlando, Florida, 32816

November 18, 2009

Dear Dr. Hoy,

My name is Kathryn Kelton, and I am a doctoral candidate in the Department of Educational Research, Technology, and Leadership at the University of Central Florida, Orlando. I am completing a doctoral dissertation entitled "A Study of the Comparison Between Teacher Perceptions of School Climate and the Existence of Professional Learning Community Dimensions". I am respectfully requesting your permission to use the Organizational Climate Description Questionnaire for Middle Schools (OCDQ-RM) as part of the process in conducting my research.

In my research, I am looking to determine if there are specific pervading characteristics of school climate that predicate the existence of schools with the professional learning community dimensions embedded in teacher practice. I am looking at relationships between school climate and the existence of PLC dimensions. I have cited references to many sources of your work on school climate in my study, as it is extensive in the body of research, and would like to use your instrument for its reliability and validity as well as for its organization of the six dimensions of climate. Those dimensions will align well with the dimensions in the PLC survey I will also be using as I research any significant relationships.

I will be adding demographic questions (gender, education level, number of years teaching, years at the school, type of school). These questions will not alter the content or intended purpose of the OCDQ-RM. You will be acknowledged as author and copyright owner and that the work is used with your permission. I will gladly share my research results with you if you are interested in receiving that information.

Thank you for your consideration. I appreciate your support in my research efforts.

Respectfully,

Kathryn E. Kelton  
kathryn.kelton@knights.ucf.edu  
keltonke@embarqmail.com

## APPENDIX E: ELECTRONIC SURVEY

## Default Section

Thank you for agreeing to participate in this study regarding teachers' perceptions of school climate and its impact on the professional learning community dimensions. This survey is directed toward middle school teachers. Your participation is vital to this study.

Only **classroom teachers** (i.e., content area, exceptional student education, vocational, band, chorus, PE, etc.) are requested to complete this survey. If you hold another position (i.e., paraprofessional, secretary, cafeteria, etc.) please exit the survey at this time.

This survey appears lengthy, but **only takes approximately 15 minutes to complete**. Please answer each of the questions according to your own personal perceptions. Your responses are completely anonymous. Thank you for your participation in this research.

There are three sections to this survey. Directions are provided for responding to each. There are no extended or written responses in this survey.

**\* Please enter the teacher access code provided to you.**

**By entering the access code, you are providing your consent to participate in this study. You may exit the survey at any point and withdraw from the study without consequence.**

## Part I

**Click the circle beside the response that best reflects the number of years of experience you have as a teacher. Include this current school year.**

- 1 year
- 2-5 years
- 6-10 years
- 11-15 years
- 16-20 years
- 21 years or more

**Click the circle beside the response that best reflects the number of years you have been teaching at THIS school. Include this current school year.**

- 1 year
- 2-5 years
- 6-10 years
- 11-15 years
- 16-20 years
- 21 years or more

**Click the circle beside the response that BEST reflects your current teaching assignment.**

- Exceptional Student Education (ESE)
- Intensive Reading
- English/Language Arts
- Math
- Science
- Social Studies
- Health/PE
- Vocational Education (culinary arts, carpentry, drafting, etc.)
- Music (Band, orchestra, chorus, etc.)
- Foreign Language

**Click the circle beside the response that reflects the type of school in which you are currently teaching (click all that apply).**

- Traditional (Non-Title I, Non-Charter, Non-Magnet/Choice)
- Title I
- Charter
- Magnet/Choice

## Part II

**Directions: The following are statements about your school. On a scale from Rarely Occurs, Sometimes Occurs, Often Occurs, or Very Frequently Occurs, please indicate the extent to which each statement characterizes your school.**

	Rarely Occurs	Sometimes Occurs	Often Occurs	Very Frequently Occurs
1. The principal compliments teachers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Teachers have parties for each other.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Teachers are burdened with busywork.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Routine duties interfere with the job of teaching.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Teachers "go the extra mile" with their students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Teachers are committed to helping their students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Teachers help students on their own time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Teachers interrupt other teachers who are talking in staff meetings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. The principal rules with an iron fist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. The principal encourages teacher autonomy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Directions: The following are statements about your school. On a scale from Rarely Occurs, Sometimes Occurs, Often Occurs, or Very Frequently Occurs, please indicate the extent to which each statement characterizes your school.**

	Rarely Occurs	Sometimes Occurs	Often Occurs	Very Frequently Occurs
11. The principal goes out of his/her way to help teachers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. The principal is available after school to help teachers when assistance is needed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Teachers invite other faculty members to visit them at home.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Teachers socialize with each other on a regular basis.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. The principal uses constructive criticism.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Teachers who have personal problems receive support from other staff members.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Teachers stay after school to tutor students who need help.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Teachers accept additional duties if students will benefit.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. The principal looks out for the personal welfare of the faculty.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. The principal supervises teachers closely.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



**Directions: The following are statements about your school. On a scale from Rarely Occurs, Sometimes Occurs, Often Occurs, or Very Frequently Occurs, please indicate the extent to which each statement characterizes your school.**

	Rarely Occurs	Sometimes Occurs	Often Occurs	Very Frequently Occurs
21. Teachers leave school immediately after school is over.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. Most of the teachers here accept the faults of their colleagues.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. Teachers exert group pressure on non-conforming faculty members.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. The principal listens to and accepts teachers' suggestions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. Teachers have fun socializing together during school time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. Teachers ramble when they talk at faculty meetings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. Teachers are rude to other staff members.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. Teachers make "wise cracks" to each other during meetings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
29. Teachers mock teachers who are different.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30. Teachers don't listen to other teachers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Directions: The following are statements about your school. On a scale from Rarely Occurs, Sometimes Occurs, Often Occurs, or Very Frequently Occurs, please indicate the extent to which each statement characterizes your school.**

	Rarely Occurs	Sometimes Occurs	Often Occurs	Very Frequently Occurs
31. Teachers like to hear gossip about other staff members.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
32. The principal treats teachers as equals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
33. The principal corrects teachers' mistakes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
34. Teachers provide strong social support for colleagues.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35. Teachers respect the professional competence of their colleagues.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
36. The principal goes out of his/her way to show appreciation to teachers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
37. The principal keeps a close check on sign-in times.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
38. The principal monitors everything teachers do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
39. Administrative paperwork is burdensome at this school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
40. Teachers help and support each other.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Directions: The following are statements about your school. On a scale from Rarely Occurs, Sometimes Occurs, Often Occurs, or Very Frequently Occurs, please indicate the extent to which each statement characterizes your school.**

	Rarely Occurs	Sometimes Occurs	Often Occurs	Very Frequently Occurs
41. The principal closely checks teacher activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
42. Assigned non-teaching duties are excessive.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
43. The interactions between team/unit members are cooperative.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
44. The principal accepts and implements ideas suggested by faculty members.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
45. Members of teams/units consider other members to be their friends.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
46. Extra help is available to students who need help.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
47. Teachers volunteer to sponsor after school activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
48. Teachers spend time after school with students who have individual problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
49. The principal sets an example by working hard himself/herself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
50. Teachers are polite to one another.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Part III

**Directions:** This questionnaire concerns your perceptions about your school staff as a learning organization. There are no right or wrong responses. Please consider where you believe your school is in its development of each of the five numbered descriptors shown in bold faced type. Each sub-item has a five-point scale. On each scale, select the number that best represents the degree to which you feel your school has developed.

**1. School administrators participate democratically with teachers sharing power, authority, and decision making.**

**1A**

5

4

3

2

1

Although there are some legal and fiscal decisions required of the principal, school administrators consistently involve the staff in discussing and making decisions about school issues.

Administrators invite advice and counsel from staff and then make decisions themselves.

Administrators never share information with the staff nor provide opportunities to be involved with decision making.

**1b**

5

4

3

2

1

Administrators involve the entire staff.

Administrators involve a small committee, council, or team of staff.

Administrators do not involve any staff.

Copyright 1996, SEDL, Austin, TX

**2. The staff shares visions for school improvement that have an undeviating focus on student learning, and these visions are consistently references in the staff's work.**

**2A**



5

Visions for improvement are discussed by the entire staff such that consensus and a shared vision result.



4



3

Visions for improvement are not thoroughly explored; some staff members agree and others do not.



2



1

Visions for improvement held by the staff members are widely divergent.

**2B**



5

Visions for improvement are always focused on students, teaching, and learning.



4



3

Visions for improvement are sometimes focused on students, teaching, and learning.



2



1

Visions for improvement do not target students, teaching, and learning.

**2C**



5

Visions for improvement target high-quality learning experiences for all students.



4



3

Visions for improvement address quality learning experiences in terms of students' abilities.



2



1

Visions for improvement do not include concerns about the quality of learning experiences.

Copyright 1996, SEDL, Austin, TX

**3. The staff's collective learning and application of the learnings (taking action) create high intellectual learning tasks and solutions to address student needs.**

**3A**



5

The entire staff meets to discuss issues, share information, and learning with and from one another.



4



3

Subgroups of the staff meet to discuss issues, share information, and learn with and from one another.



2



1

Individuals randomly discuss issues, share information, and learn with and from one another.

**3B**



5

The staff meets regularly and frequently on substantive student-centered educational issues.



4



3

The staff meets occasionally on substantive student-centered educational issues.



2



1

The staff never meets to consider substantive educational issues.

**3C**



5

The staff discusses the quality of their teaching and students' learning.



4



3

The staff does not often discuss their instructional practices nor its influence on student learning.



2



1

The staff basically discusses non-teaching and non-learning issues.

Copyright 1996, SEDL, Austin, TX

**3D**



5

4

3

2

1

The staff, based on their learnings, makes and implements plans that address students' needs, more effective teaching, and more successful student learning.

The staff occasionally acts on their learnings and makes and implements plans to improve teaching and learning.

The staff does not act on their learning.

**3E**



5

4

3

2

1

The staff debriefs and assesses the impact of their actions and makes revisions.

The staff infrequently assesses their actions and seldom makes revisions based on the results.

The staff does not assess their work.

Copyright 1996, SEDL, Austin, TX

**4. Peers review and give feedback based on observing one another's classroom behaviors in order to increase individual and organizational capacity.**

**4A**



5

Staff members regularly and frequently visit and observe one another's classroom teaching.



4



3

Staff members occasionally visit and observe one another's teaching.



2



1

Staff members never visit their peers' classrooms.

**4B**



5

Staff members provide feedback to one another about teaching and learning based on their classroom observations.



4



3

Staff members discuss non-teaching issues after classroom observations.



2



1

Staff members do not interact after classroom observations.

Copyright 1996, SEDL, Austin, TX



**5. School conditions and capacities support the staff's arrangement as a professional learning organization.**

**5A**

5

Time is arranged and committed for whole staff interactions.

4

3

Time is arranged but frequently the staff fails to meet.

2

1

Staff cannot arrange time for interacting.

**5B**

5

The size, structure, and arrangements of the school facilitate staff proximity and interaction.

4

3

Considering the size, structure, and arrangements of the school, the staff are working to maximize interaction.

2

1

The staff takes no action to manage the facility and personnel for interaction.

**5C**

5

A variety of processes and procedures are used to encourage staff communication.

4

3

A single communication method exists and is sometimes used to share information.

2

1

Communication devices are not given attention.

**5D**

5

Trust and openness characterize all of the staff members.

4

3

Some of the staff members are trusting and open.

2

1

Trust and openness do not exist among the staff members.

Copyright 1996, SEDL, Austin, TX

**5E**



5

Caring, collaborative,  
and productive  
relationships exist  
among all staff  
members.



4



3

Caring and  
collaboration are  
inconsistently  
demonstrated among  
the staff members.



2

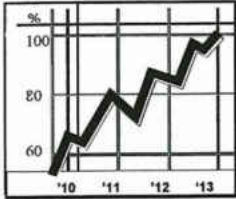


1

Staff members are  
isolated and work  
alone at their task.

Copyright 1996, SEDL, Austin, TX

APPENDIX F: DISTRICT APPROVAL TO CONDUCT RESEARCH



# ASSESSMENT, ACCOUNTABILITY AND EVALUATION

SCHOOL BOARD OF POLK COUNTY  
 1915 SOUTH FLORAL AVENUE  
 BARTOW, FLORIDA 33830  
 PHONE (863) 534-0688  
 FAX (863) 534-0770



**Wilma Ferrer**  
 Senior Director  
 (863) 534-0691  
 51491

**Candy Amato**  
 Assessment  
 Senior Coordinator  
 (863) 534-0690  
 51490

**Yakup Bilgili, Ph.D.**  
 Research & Evaluation  
 Senior Coordinator  
 (863) 534-0736  
 51534

**Donna Buckner**  
 Accountability  
 Senior Coordinator  
 (863) 534-0717  
 51515

**Rob Campbell**  
 Testing & Data Analysis  
 Senior Coordinator  
 (863) 647-4895  
 68246

**Eileen Schofield**  
 Administrative  
 Secretary  
 (863) 534-0688  
 51488

February 20, 2010

Kathryn E. Kelton  
 2351 N. Cochrane Road  
 Avon Park, FL 33825

Topic: School Climate and PLC Dimensions

The Polk County Public Schools Research Review Board has **approved** your "*Study of the Comparison between Teacher Perceptions of School Climate and the Existence of Professional Learning Community Dimensions*" research proposal for the period of February 20, 2010 to July 1, 2010. Approval is contingent on:

- Notifying the school district of any major changes to the protocols or project.
- Providing a copy of your final and any supplemental reports to the district.

Please submit copies of your final reports to my attention at the Office of Research and Evaluation upon dissemination of the report.

If you have any questions, or if I can be of any further assistance, please do not hesitate to contact me.

Sincerely,

Yakup Bilgili, Ph.D.  
 Chair, Research Review Board  
 Polk County Public Schools  
 P: 863-534-0736 (51534) F: 863-534-0770  
[Yakup.Bilgili@polk-fl.net](mailto:Yakup.Bilgili@polk-fl.net)

"The Mission of Polk County Public Schools is to ensure rigorous, relevant learning experiences for our students that result in high achievement."

APPENDIX G: LETTER TO PRINCIPALS

March 8, 2010

School Principal  
Name of School  
City, State

Dear Principal,

I am a doctoral student at the University of Central Florida and former Senior Coordinator of Elementary Reading/Reading First for the XXXX County School District. I am respectfully requesting permission to provide your teachers with an opportunity to participate in an important study. As part of my doctoral research regarding teachers' perceptions of school climate and its impact on professional learning community dimensions, I would like to survey the teaching staff at your school.

I am aware of the demands placed upon busy teachers, and can assure you that the time required to complete the survey is minimal, taking approximately 15 minutes at most. In order to collect the data both efficiently and with minimal interruption, I would like to survey your teachers electronically. The survey can be accessed from any computer, including from each participant's home. I will provide each teacher with a pass code for online survey access.

My research includes all the procedural safeguards and confidentiality required by the University of Central Florida's Institutional Review Board. This verification has been submitted to your district's Assessment, Accountability, and Evaluation Department along with my research application and proposal. Responses will remain anonymous, with survey material destroyed upon completion of the study. Survey results will contain no connection or identifying information to your teachers or to your school.

It is my hope that the responses and participation of your teachers will help fill the void in the research regarding teachers' perceptions of school climate and its impact on the existence of professional learning community dimensions.

Please indicate below your permission for your teachers to participate in this important research. I have provided an envelope with postage for your convenience and request your return of this letter to me by US mail service. I appreciate your time and consideration.

Respectfully,

Kathryn Kelton  
Doctoral Candidate  
University of Central Florida

- My permission is granted to survey teachers.
- My permission is not granted to survey teachers.

---

(Principal's Signature)

---

(Date)

APPENDIX H: EMAIL LETTER TO TEACHERS

Dear Teacher,

I am a doctoral student at the University of Central Florida (UCF) and former Senior Coordinator of Elementary Reading/Reading First for the XXXX County School District. I am respectfully inviting and requesting your participation in an important research study I am conducting.

This research concerns the relationship between teachers' perceptions of school climate and the existence of professional learning community dimensions in middle schools in a central Florida school district. This research will investigate the influences, if any, that school climate has on the existence of a job-embedded community of learners.

**Explanation of Research: Please read the attachment entitled "Explanation of Research".**

This brief document clearly outlines the purpose of research and *assurance of anonymity*. Should you wish to see the final results of this study, please reply to this email requesting the final report. All final reports will be sent by email after final manuscript completion in July, 2010. **If you agree to participate**, please read the directions below for accessing the survey.

**Survey Instrument:** The survey instrument you are being requested to complete may be accessed electronically on a *secure website*. To complete the survey, you may click on the following link: <https://www.surveymonkey.com>.... You will be prompted to enter an access code to complete the survey. The access code is: XXXX

**Timeline:** It will be important to complete the survey at the above link **within two weeks** of receiving this email to ensure that your input is included in this important study. **The survey should take approximately 15 minutes to complete**, and can be completed from any computer having Internet access.

Your responses to the survey will contribute to the body of knowledge and assist in filling a void in the existing research regarding teachers' perceptions of climate and the existence of professional learning community dimensions.

Should you have any questions regarding this study, please don't hesitate to contact me by email at [keltonke@embarqmail.com](mailto:keltonke@embarqmail.com) or by telephone at (863) 441-3963. In addition, my faculty advisor, Dr. Janet McGee, is also available to respond to inquiries at [jmcgee@mail.ucf.edu](mailto:jmcgee@mail.ucf.edu) or by telephone at (407) 823-1474.

Thank you in advance for your participation in completing the survey in the midst of your already demanding schedule. I deeply appreciate your support in my research efforts.

Wishing you a successful remainder of the school year!

Respectfully,

Kathryn E. Kelton  
Doctoral Student—University of Central Florida  
Department of Educational Research, Technology, and Leadership



APPENDIX I: INFORMED CONSENT FOR EXEMPT RESEARCH



## EXPLANATION OF RESEARCH

**Title of Project:** A STUDY OF THE COMPARISON BETWEEN TEACHER PERCEPTIONS OF SCHOOL CLIMATE AND THE EXISTENCE OF PROFESSIONAL LEARNING COMMUNITY DIMENSIONS

**Principal Investigator:** Kathryn Kelton

**Faculty Supervisor:** Dr. Janet M. McGee

I am respectfully requesting your participation in an important research study I am conducting concerning the relationship between teachers' perceptions of school climate and the existence of professional learning community dimensions in middle schools in a central Florida school district. Participation is voluntary; however, your responses will add value to the study and will contribute to the body of knowledge and assist in filling a void in the research.

**The purpose** of this study is to determine whether there are pervading characteristics, based on teachers' perceptions of school climate that support the dimensions that define a professional learning community (PLC). Because teachers are vital in meeting the operational criteria for successful PLC implementation, this study will target the influence that teacher perceptions of school climate have on the existence of a job-embedded community of learners.

The survey, accessible through a secure website, should take approximately 15 minutes to complete. There is a brief turnaround time of two weeks from the date you receive your email to complete the survey. It may be best to complete the survey right after reading this explanation.

There are no anticipated risks to you by your participation. This study is completely anonymous. There are no questions asking for any identifying information. In order to collect the data, you will be provided with an access code to complete the survey electronically on a secure site. The code is used only to track that the survey was completed and is not attached to any individual person. All information gathered through the survey instrument will be held in strict confidence, with no one other than the researcher having access to it. All data collected will be kept in a locked file cabinet for a period of six months, and then shredded.

**The data results** obtained from the information you supply will be combined with others who complete the survey, with the possibility of the results being published. Any published results will have no connection to you, nor will they contain information that would personally identify you or your school in any way.

Should you have questions regarding this study, please contact me by email at [keltonke@embarqmail.com](mailto:keltonke@embarqmail.com) or by telephone at (863) 441-3963. In addition, Dr. Janet McGee, Faculty Supervisor, Department of Educational Research, Technology, and Leadership, will also be available to respond to any questions. Dr. McGee may be contacted at (407) 823-1474 or by email at [jmcgee@mail.ucf.edu](mailto:jmcgee@mail.ucf.edu).

Thank you for your participation. Participants interested in receiving results of the completed study should reply to the original email with your request. The final copy of the report will be sent by email after final dissertation completion in July, 2010.

**IRB contact about your rights in the study or to report a complaint:** Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). This research has been reviewed and approved by the IRB. For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901.

APPENDIX J: UNIVERSITY OF CENTRAL FLORIDA INSTITUTIONAL REVIEW  
BOARD APPROVAL



University of Central Florida Institutional Review Board  
 Office of Research & Commercialization  
 12201 Research Parkway, Suite 501  
 Orlando, Florida 32826-3246  
 Telephone: 407-823-2901 or 407-882-2276  
[www.research.ucf.edu/compliance/irb.html](http://www.research.ucf.edu/compliance/irb.html)

**Approval of Exempt Human Research**

**From: UCF Institutional Review Board #1  
 FWA00000351, IRB00001138**

**To: Kathryn Kelton**

**Date: March 03, 2010**

Dear Researcher:

On 3/3/2010, the IRB approved the following activity as human participant research that is exempt from regulation:

Type of Review: Exempt Determination  
 Project Title: A STUDY OF THE COMPARISON BETWEEN TEACHER PERCEPTIONS OF SCHOOL CLIMATE AND THE EXISTENCE OF PROFESSIONAL LEARNING COMMUNITY DIMENSIONS  
 Investigator: Kathryn Kelton  
 IRB Number: SBE-10-06732  
 Funding Agency:  
 Grant Title:  
 Research ID: N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Joseph Bielitzki, DVM, UCF IRB Chair, this letter is signed by:

Signature applied by Joanne Muratori on 03/03/2010 09:37:21 AM EST

IRB Coordinator

APPENDIX K: SAMPLE SURVEY ITEMS FROM THE OCDQ-RM SUBSCALES  
WITH CORRESPONDING ITEM NUMBERS

## Sample OCDQ-RM Survey Items

### Supportive Principal Behaviors

- a) The principal encourages teacher autonomy. (10)
- b) The principal uses constructive criticism. (15)
- c) The principal listens to and accepts teachers' suggestions. (24)
- d) The principal sets an example by working hard himself/herself. (49)

### Directive Principal Behaviors

- a) The principal supervises teachers closely. (20)
- b) The principal corrects teachers' mistakes. (33)
- c) The principal keeps a close check on sign-in times. (37)
- d) The principal monitors everything teachers do. (38)

### Restrictive Principal Behaviors

- a) Teachers are burdened with busywork. (3)
- b) Routine duties interfere with the job of teaching. (4)
- c) Administrative paperwork is burdensome at this school. (39)
- d) Assigned non-teaching duties are excessive. (42)

### Collegial Teacher Behaviors

- a) Teachers socialize with each other on a regular basis. (14)
- b) Teachers provide strong social support for colleagues. (34)
- c) Teachers respect the professional competence of their colleagues. (35)
- d) The interactions between team/unit members are cooperative. (43)

### Committed Teacher Behaviors

- a) Teachers help students on their own time. (7)
- b) Teachers accept additional duties if students will benefit. (18)
- c) Extra help is available to students who need help. (46)
- d) Teachers spend time after school with students who have individual problems. (47)

### Disengaged Teacher Behaviors

- a) Teachers interrupt other teachers who are talking in staff meetings. (8)
- b) Teachers mock teachers who are different. (29)
- c) Teachers don't listen to other teachers. (30)
- d) Teachers like to hear gossip about other staff members. (31)

Sample items from subscales were taken directly from OCDQ-RM (Hoy & Tarter, 1997).

## LIST OF REFERENCES

- Anderson, C. S. (1982). The search for school climate: A review of the research. *Review of Educational Research*, 52(3), 368-420.
- Barth, R. (2001). *Learning by heart*. San Francisco, CA: Jossey Bass.
- Bartlett II, J. E., Kotrlik, J. W., & Higgins, C. C. (2001). Organizational research: Determining appropriate sample size in survey research. *Information Technology, Learning, and Performance Journal*, 19(1), 43-50.
- Blankstein, A. M. (2004). *Failure is not an option: Six principles that guide student Achievement in high-performing schools*. Thousand Oaks, CA: Corwin Press.
- Buffum, A., Erkens, C., Hinman, C., Huff, S., Jessie, L. G., & Martin, T. L., et al. (2008). *The collaborative administrator: Working together as a professional learning community*. Thousand Oaks, CA: Solution Tree.
- Bulach, C.R., Malone, B. (1994). The relationship of school climate to the implementation of school reform. *ERS SPECTRUM*, 12 (4), 3-8.
- Bulach, C. R., Malone, B. & Castleman, C. (1995). An investigation of variables related to student achievement. *Mid-Western Educational Researcher* 8 (2), 23-29.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2<sup>nd</sup> ed.). St. Paul, MN: West Publishing Company.
- Cohen, (1992). A power primer. *Psychological Bulletin*, 112(1), 155-159.
- Cowley, K. (1999, November). *A study of teacher efficacy and professional learning community in selected schools*. Paper presented at the meeting of the American Evaluation Association, Orlando, FL.
- Creighton, T. B. (2007). *Schools and data: The educator's guide for using data to improve decision making* (2<sup>nd</sup> ed). Thousand Oaks, CA: Corwin Press.
- Darling-Hammond, L. (1996, March). The quiet revolution: Rethinking teacher development. *Educational Leadership*, 53(6), 4-10.
- Dillman, D. A., Smyth, J. D., & Christian, L. M. (2009). *Internet, mail, and mixed-mode surveys: The tailored design method* (3<sup>rd</sup> ed). Hoboken, NJ: John Wiley & Sons, Inc.
- DuFour, R., DuFour, R., & Eaker, R. (2008). *Revisiting professional learning communities at work: new insights for improving schools*. Bloomington, IN: Solution Tree.

- DuFour, R., DuFour, R., Eaker, R., & Karhanek, G. (2004). *Whatever it takes: How professional learning communities respond when kids don't learn*. Bloomington, IN: National Educational Service.
- DuFour, R., DuFour, R., Eaker, R., & Many, T. (2006). *Learning by doing: A handbook for professional learning communities at work*. Bloomington, IN: Solution Tree.
- DuFour, R., & Eaker, R. (1998). *Professional learning communities at work: Best practices for enhancing student achievement*. Bloomington, IN: National Educational Service.
- Eaker, R., & Keating, J. (2008, Summer). A shift in school culture. *The Journal of Staff Development*, 29(3), 14-17.
- Edgerson, D. E., & Kritsonis, W. A. (2006). Analysis of the influence of principal-teacher relationships on student academic achievement: A national focus. *National Journal for Publishing and Mentoring Doctoral Student Research*, 1(1), 1-4.
- EdGov (2009). Title I implementation: Update on recent evaluation findings. Retrieved May 25, 2010 from <http://www2.ed.gov/about/offices/list/opepd/ppss/reports.html#title>.
- EdGov (2010). Magnet schools assistance. Retrieved May 25, 2010 from <http://www2.ed.gov/programs/magnet/index.html>.
- Florida Department of Education (2006, November). Florida's charter schools: A decade of progress, Retrieved May 25, 2010 from [http://www.floridaschoolchoice.org/information/charter\\_schools/files/Charter\\_10Year\\_Book.pdf](http://www.floridaschoolchoice.org/information/charter_schools/files/Charter_10Year_Book.pdf).
- Fullan, M. (2007, Summer). Change the terms for teacher learning. *The Journal of the National Staff Development Council*, 28(3), 35-36.
- Graham, P., & Ferriter, B. (2008, Summer). One step at a time. *The Journal of the National Staff Development Council*, 29(3), 38-42.
- Green, S. B. & Salkind, N. J. (2008). *Using spss for windows and macintosh: Analyzing and understanding data (5<sup>th</sup> ed)*. Upper Saddle River, NJ: Pearson Education, Inc.
- Grippen, M. A. (2007). *From lethargy to leadership: The effect of a teacher-driven professional learning community as change agent for improving staff morale and school culture*. Capella University: UMI ProQuest Digital Dissertations. (UMI No. 3278300).
- Habermann, M. (2004, May). Can star teachers create learning communities? *Schools as Learning Communities*, 61(8), 52-56.



- Halpin, A. W. & Croft, D. B. (1963). *The organizational climate of schools*. Chicago, IL: Midwest Administration Center of the University of Chicago.
- Hinman, C. (2006). Developing a substantive professional learning community. *National Forum of Educational Administration and Supervision Journal* 24(1), 29-35.
- Hirsh, S., & Hord, S. M. (2008, December). Leaders and learner. *Principal Leadership*, 26-30.
- Honnert, A. (2010). *Plcs require more than learning a secret handshake: A case study of the transition to professional learning communities in one midwestern suburban middle school*. Aurora University: UMI ProQuest Digital Dissertations. (UMI No. 3401057).
- Hord, S. M. (1996). School professional staff as learning community [Survey]. Austin, TX: Southwest Educational Development Laboratory.
- Hord, S. M. (1997). *Professional learning communities: Communities of continuous inquiry and improvement* (rev. ed.). Austin, TX: Southwest Educational Development Laboratory.
- Hord, S. M. (2007, Summer). Learn in community with others. *Journal of the National Staff Development Council*, 28(3), 39-40.
- Hord, S. M. (2007). What is a plc? *SEDL Letter*, 19(1), 3-5.
- Hord, S. M., & Sommers, W. A. (2008). *Leading professional learning communities: Voices from research and practice*. Thousand Oaks, CA: Corwin Press.
- Howell, D. C. (2007). *Statistical methods for psychology* (6th ed.). Belmont, CA: Thomson Wadsworth.
- Hoy, W. K. (1990). Organizational climate and culture: A conceptual analysis of the school workplace. *Journal of Educational and Psychological Consultation*, 1(2), 149-168.
- Hoy, W. K., Hoffman, J., Sabo, D., & Bliss, J. (1996). The organizational climate of middle schools: The development and test of the OCDQ-RM. *Journal of Educational Administration*, 34(1), 41-59.
- Hoy, W. K., & Tarter, J. C. (1997). *The road to open and healthy schools: A handbook for change*. Thousand Oaks, CA: Corwin Press.
- Hoy, W. K., Tarter, J. C., & Kottkamp, R. B. (1991). *Open schools/healthy schools: Measuring organizational climate*. Thousand Oaks, CA: Corwin Press.

- Jessie, L. G. (2007). The elements of a professional learning community: Professional learning communities will change how you and your staff view learning. *Leadership Compass*, 5(2).
- Kelley, R. C., Thornton, B., & Daugherty, R. (2005, Fall). Relationships between measures of leadership and school climate. *Education*, 126(1), 17-25.
- Lansberry, L. J. (2009). *A study of the relationship between school climate and adequate yearly progress*. Indiana University of Pennsylvania: UMI ProQuest Digital Dissertations. (UMI No. 3352430)
- Litwin, G H. & Stringer, R. A. (1968). *Motivation and organizational climate*. Boston, MA: Harvard University.
- Lomax, R. G. (2007). *An introduction to statistical concepts* (2<sup>nd</sup> ed.). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Many, T. & King, D. (2008). District speak with one voice: Clarity and coherence come from professional learning communities. *National Staff Development Council*, 29(3), 28-32.
- Martin-Kniep, G. O. (2004). *Developing learning communities through teacher expertise*. Thousand Oaks, CA: Corwin Press.
- Mayrowetz, D. (2008). *Making sense of distributed leadership: Exploring the multiple usages of the concept in the field*. *Educational Administration Quarterly*, 44(3), 424-435.
- McAdamis, S. (2007, Summer). A view of the future: Teamwork is daily work. *The Journal of the National Staff Development Council*, 28(3), 43-47.
- McEwan, E. K. (2003). *7 steps to effective instructional leadership* (2<sup>nd</sup> ed.). Thousand Oaks, CA: Corwin Press.
- Meehan, M. L., Orletsky, S. R., & Sattes, B. (1997). *Field test of an instrument measuring the concept of professional learning community in schools*. (Report No. 800/624-9120). Charleston, WV: Appalachia Educational Laboratory. (ERIC Document Reproduction Service No. ED 433358)
- Mizell, H. (2007, Summer). Narrow the focus; Expand the possibilities. *The Journal of the National Staff Development Council*, 28(3), 18-22.
- Olivier, D. F., Antoine, S., Cormier, R., Lewis, V., Minckler, C., & Stadalis, M. (2009, March). *Assessing schools as professional learning communities symposium: Professional learning communities assessment-revised*. Paper presented at the Annual Meeting of the Louisiana Education Research Association, Lafayette, LA.

- Owens, R. G. & Valesky, T. C. (2007). *Organizational behavior in education: Adaptive leadership and school reform*. Boston, MA: Pearson education, Inc.
- Pagano, R. R. (1990). *Understanding statistics in the behavioral sciences* (3<sup>rd</sup> ed.). St. Paul, MN: West Publishing Company.
- Pallant, J. (2007). *SPSS survival manual: A step by step guide to data analysis using spss for windows* (3<sup>rd</sup> ed.). New York, NY: McGraw Hill Open University Press.
- Roberts, S. M., & Pruitt, E. Z. (2009). *Schools as professional learning communities: Collaborative activities and strategies for professional development*. Thousand Oaks, CA: Corwin Press.
- Stevens, J. P. (2002). *Applied multivariate statistics for the social sciences* (4th ed.). Mahwah, NJ: Lawrence Erlbaum Associates.
- Schlechy, P. C. (2005). *Creating great schools: Six critical systems at the heart of educational innovation*. San Francisco, CA: Jossey-Bass.
- Schmoker, M. (2006). *Results now: How we can achieve unprecedented improvements in teaching and learning*. Alexandria, VA: Association for Supervision and Curriculum Development.
- SEDL (1999). Assessing a school staff as a community of learners [On-line]. Available: <http://www.sedl.org/change/issues/issues71/pilottest.html>
- Senge, P. M. (1990). *The fifth discipline: The art and practice of the learning organization*. New York, NY: Doubleday.
- Sergiovanni, T. J. (1992). *Moral leadership: Getting to the heart of school improvement*. San Francisco, CA: Jossey-Bass.
- Stringer, R. (2002). *Leadership and organizational climate*. Upper Saddle River, NJ: Prentice Hall.
- Tagiuri, R., & Litwin, G. (1968). *Organizational climate: Explorations of a concept*. Boston, MA: Harvard University Press.
- Tabachnick, B. G. & Fidell, L. S. (2001). *Using multivariate statistics* (4<sup>th</sup> ed.). Boston, MA: Allyn and Bacon
- Tschannen-Moran, M. (2009, April). Fostering teacher professionalism in schools: The role of leadership orientation and trust. *Educational Administration Quarterly*, 45(2), 217-247.
- Waters, T., Marzano, R., & McNulty, B. (2004). Leadership that sparks learning. *Educational Leadership*, 61(7).