

2005

The importance of the teams in Iowa team-based variable pay pilot project schools

Sarah Sebring Binder
Iowa State University

Follow this and additional works at: <https://lib.dr.iastate.edu/rtd>

 Part of the [Educational Administration and Supervision Commons](#)

Recommended Citation

Binder, Sarah Sebring, "The importance of the teams in Iowa team-based variable pay pilot project schools " (2005). *Retrospective Theses and Dissertations*. 1830.
<https://lib.dr.iastate.edu/rtd/1830>

This Dissertation is brought to you for free and open access by the Iowa State University Capstones, Theses and Dissertations at Iowa State University Digital Repository. It has been accepted for inclusion in Retrospective Theses and Dissertations by an authorized administrator of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.

NOTE TO USERS

This reproduction is the best copy available.

UMI[®]

The importance of the teams in Iowa team-based variable pay pilot project schools

by

Sarah Sebring Binder

A dissertation submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of
DOCTOR OF PHILOSOPHY

Major: Education (Educational Leadership)

Program of Study Committee:
Joanne Marshall, Major Professor
Tom Alsbury
Richard Manatt
Mack Shelley
Zora Zimmerman

Iowa State University

Ames, Iowa

2005

Copyright © Sarah Sebring Binder, 2005. All rights reserved.

UMI Number: 3184584

Copyright 2005 by
Binder, Sarah Sebring

All rights reserved.

INFORMATION TO USERS

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleed-through, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

UMI[®]

UMI Microform 3184584

Copyright 2005 by ProQuest Information and Learning Company.

All rights reserved. This microform edition is protected against
unauthorized copying under Title 17, United States Code.

ProQuest Information and Learning Company
300 North Zeeb Road
P.O. Box 1346
Ann Arbor, MI 48106-1346

**Graduate College
Iowa State University**

This is to certify that the doctoral dissertation of

Sarah Sebring Binder

has met the dissertation requirements of Iowa State University

Signature was redacted for privacy.

Major Professor

Signature was redacted for privacy.

For the Major Program

TABLE OF CONTENTS

LIST OF TABLES	vii
ABSTRACT	x
CHAPTER I. INTRODUCTION	1
Statement of the Problem	1
Previous Research on Team-Based Variable Pay Pilot Project	4
Purpose of the Study	11
Significance of the Study	14
CHAPTER II. LITERATURE REVIEW	16
Methodology for Review of Literature	16
Research Questions and Relevant Literature	19
History and Purpose of Team Based Variable Pay Pilot Project	20
Iowa Teacher Quality Legislation	20
Team-Based Variable Pay Pilot Project and Chadwick's Study (2002)	22
TBVP Pilot Project and Binder's Capstone Study (2003)	27
Related Research on School-Based Performance Pay Plans and Student Achievement	28
Professional Growth and Development	31
Collaboration and Professional Growth and Development	31
Capacity Building and Professional Growth and Development	32
Iowa Professional Development Model and School Improvement	39
TBVP and the Iowa Professional Development Model and School Improvement	39
Research on Teams	41
Teams in the Business World	41
Teacher Teams in Education	42
Types of Teacher Teams in Education	43
Roles of Teacher Teams	51
Characteristics of Teamness	54
Common Tasks	56
Mutual Trust	57
Open Direct Conflict	57
Risk Taking	58
Awareness and Acceptance of Group Structure	58
Role of the Principal on Teacher Teams	59
Disadvantages of Teacher Teams in Schools	61
CHAPTER III. METHODOLOGY	65
Research Methodology	65
Research Methodology for Phase I: The Survey	67
Population and Sample of Schools in the Survey Study	68

The Participants in the Survey Study	70
Instrumentation for the Survey Study	70
Data Collection Procedures in the Survey Study	71
Data Analysis for the Survey Study	72
Research Methodology for Phase II: The Case Study	73
Population and Sample of Schools in the Case Study	78
The Case Study: On-Site Observations and Interviews	79
Instrumentation for the Case Study	82
Instrument Validation for the Case Study	86
Data Collection Procedures for the Case Study	87
Data Analysis and Interpretation for the Case Study	90
Validating Accuracy of the Findings	92
The Researcher's Role	93
Ethics	95
The Qualitative Research Paradigm	98
Limitations	100
CHAPTER IV: DISCUSSION	102
Phase One: A Summary of Teacher Teams in TBVP Pilot Project Schools	102
Types of Teacher Teams in the Ten TBVP Pilot Project Schools	102
Types of Teacher Teams in the TBVP Pilot Project	
Elementary Schools	106
Roles of Teacher Teams in the Ten TBVP Pilot Project	
Elementary Schools	109
Types of Teacher Teams in the TBVP Pilot Project Middle Schools	115
Roles of Teacher Teams in the Ten TBVP Pilot Project	
Middle Schools	119
Types of Teacher Teams in the TBVP Pilot Project High Schools	123
Roles of Teacher Teams in the Ten TBVP Pilot Project High Schools	126
Team-Based Variable Pay Pilot Project Case Study Schools	131
Phase Two: Case Study	142
A Comparison of Three Teacher Teams in Team-Based Variable	
Pay Pilot Project Schools	142
Three Teacher Teams in TBVP Pilot Project Schools	143
The Role of the Three Teacher Teams	147
Structure and Context of the Three Teacher Teams	156
Interaction on the Three Teacher Teams	163
Impact of the Three Teacher Teams on Student Learning and Student	
Achievement	167
Strategies the Three Teacher Teams Use to Promote Student	
Achievement and Learning	172
Strategies the Principals Use to Promote Student Achievement	183
Impact on Professional Growth and Development	189
Effectiveness of the Principals in Promoting Professional Growth	
and Development	195

Characteristics of Teamness	197
Open, Direct Communication and Conflict	203
Risk Taking	205
Mutual Trust	207
Developing Teachers as Professionals (Adult Learning)	209
Developing Teachers as Leaders	213
Common Task	214
Common Identity and Shared Tenets	215
Awareness and Acceptance of Group Structure	216
Summary of Teacher Teams	217
Strategies Principals Use to Promote Teamness	222
Open Communication and Conflict	223
Mutual Trust	227
Risk Taking	229
Common Task, Common Identity, and Shared Tenets	231
Awareness and Acceptance of Group Structure	232
CHAPTER V: CONCLUSIONS	239
Importance of the Team in Team Based Variable Pay Pilot Project	239
Types of Teacher Teams in TBVP Pilot Project Schools	240
Roles of Teacher Teams in TBVP Pilot Project Schools	242
Teacher Teams Function as a Learning Community and Support	
Student Learning	243
Teacher Teams Impact Student Learning and Student Achievement	244
Strategies Teacher Teams and Principals	245
Use to Promote Student Achievement (Student Learning)	245
Teacher Teams Function as a Learning Community and Support	
Teacher Learning	247
Developing Teachers as Professionals	249
Purpose	250
Mutual Respect and Interaction	250
Interdependence	251
Strategies Teacher Teams and Principals Use to Impact	252
Professional Growth and Development (Teacher Learning)	252
Characteristics of Teamness Teacher Teams Exhibit	253
Strategies Teachers and Principals Use to Promote Teamness in	
Teacher Teams	259
Open Communication and Conflict	260
Mutual Trust	261
Risk Taking	262
Common Task, Common Identity, and Shared Tenets	262
Awareness and Acceptance of Group Structure	263
Recommendations	264
Types of Teacher Teams	264
Roles of Teacher Teams	266

Characteristics of Teamness	269
Strategies Principals Use to Promote Teamness	271
Teacher Teams and Student Achievement	272
The Importance of Teachers Teams and Professional Growth and Development	274
Other Findings	275
Recommendations for Future Research	283
Team-Based Variable Pay Pilot Project	287
APPENDIX A: HUMAN SUBJECTS APPROVAL	289
APPENDIX B: CONCEPT MAP AND DEFINITION OF TERMS	315
APPENDIX C: INTERVIEW PROTOCOLS	323
APPENDIX D: RICHARD DREYFUS ELEMENTARY SCHOOL CASE STUDY	331
APPENDIX E: SUSAN SARANDON ELEMENTARY SCHOOL CASE STUDY	357
APPENDIX F: HELEN HUNT ELEMENTARY SCHOOL CASE STUDY	385
REFERENCES	416
ACKNOWLEDGEMENTS	438

LIST OF TABLES

Table 1. Ten Team-Based Variable Pay Pilot Schools and Principals	71
Table 2. Types of Teacher Teams in Elementary Schools in Team-Based Variable Pay Pilot	74
Table 3. Types of Teacher Teams in Middle Schools in Team-Based Variable Pay Pilot	75
Table 4. Types of Teacher Teams in High Schools in Team-Based Variable Pay Pilot	76
Table 5. Schedule of Contacts and Telephone Surveys, Observations, Interviews	77
Table 6. Teacher Teams Selected for Case Study from TBVP Pilot Schools	80
Table 7. Comparison of Halls' (1995) Characteristics of Teamness and Crow and Pounder's (2000) Characteristics of Teacher Teams	85
Table 8. Halls' (1995) Characteristics of Teamness, Crow and Pounder's (2000) Constructs of Teacher Teams, and Binder's (2005) Developing Teachers as Professionals and Developing Teachers as Leaders	85
Table 9. Schedule of Observations of and Interviews with Teacher Teams in Case Study	88
Table 10. Comparison of Teacher Teams in TBVP Pilot Project Schools and Summary of Research of Teacher Teams	104
Table 11. Summary of Teacher Teams in TBVP Pilot Project Elementary Schools	110
Table 12. Purpose of Teacher Teams in TBVP Pilot Project Schools at the Elementary Level	112
Table 13. Composition of Teacher Teams in TBVP Pilot Project Schools at Elementary Level	113
Table 14. Structure and Context of Teacher Teams in the TBVP Elementary Schools	114
Table 15. Summary of Teacher Teams in TBVP Pilot Project Middle Schools	119
Table 16. Purpose of Teacher Teams in the TBVP Middle Schools	120

Table 17. Composition of Teacher Teams in the TBVP Middle Schools	121
Table 18. Structure and Context of Teacher Teams in the TBVP Middle Schools	123
Table 19. Summary of Teacher Teams in TBVP Pilot Project High Schools	126
Table 20. Purpose of Teacher Teams in the TBVP High Schools	128
Table 21. Composition of Teacher Teams in the TBVP High Schools	129
Table 22. Structure and Context of Teacher Teams in the TBVP High Schools	130
Table 23. Teacher Teams in TBVP Pilot Project Schools	132
Table 24. Summary of Exemplary Teacher Teams in TBVP Pilot Project Schools	136
Table 25. Three Elementary Schools in the Case Study	145
Table 26. Teacher Teams in the Three Elementary Schools in the Case Study	146
Table 27. Purpose of Teacher Teams TBVP Pilot Project	148
Table 28. Composition of Teacher Teams in TBVP Pilot Project	153
Table 29. Structure and Context of Teacher Teams in TBVP Pilot Project	156
Table 30. Interaction on the Teacher Teams in TBVP Pilot Project	163
Table 31. Roles of the Teacher Teams in TBVP Pilot Project	168
Table 32. Effectiveness of Teacher Teams in Promoting Student Achievement	173
Table 33. Strategies Teacher Teams Use to Promote Student Achievement (Student Learning)	184
Table 34. Strategies Principals Use to Promote Student Achievement (Student Learning)	186
Table 35. Strategies Teacher Teams Used to Impact Professional Growth and Development	190
Table 36. Strategies Principals Use to Impact Professional Growth and Development	195
Table 37. Teacher Teams Demonstrate Characteristics of Teamness	200

Table 38. Teachers Rate Hall's (1995) Characteristics of Teamness	203
Table 39. Strategies Principals use to Promote Teamness and Effective Teams	224

ABSTRACT

In May 2001, the Iowa legislature enacted Teacher Quality legislation to improve the quality of teachers and instruction in Iowa, with the primary intent to improve student achievement (Iowa General Assembly, 2001). This legislation included four components, one of which was the Team-Based Variable Pay Pilot Project (TBVP), which coupled alternative teacher compensation with student achievement.

There has been much research on alternative teacher compensation, which includes recognizing and rewarding teachers as a team, but the research has not focused on the importance of teacher teams in alternative teacher compensation. Dianne Chadwick (2002) found student and staff achievement were key to the success of TBVP; “variable pay” was not (IDE, 2003e). This researcher found that the principals believed the team structure to be the key to the success of TBVP (Binder, 2003).

The purpose of this qualitative study was to explore the importance of the “team” in TBVP Pilot Project schools in Iowa by collecting information from all the schools in the pilot project and conducting a case study of a limited number of teacher teams. The researcher used Crow and Pounder’s (2000) constructs of purpose, composition, structure and context, and interaction to provide a sketch of the teacher teams, how these teacher teams functioned, and the roles they played within their respective schools. The sketch led to purposeful sampling and a limited number of teacher teams in the TBVP Pilot Project schools were included in the case study.

The researcher used on-site interviews and observations to probe the degree to which teacher teams exhibited the characteristics of teamness and function as a learning

community. The researcher used Hall's (1995) characteristics of "teamness:" (1) common tasks, common identity, and shared tenets; (2) mutual trust; (3) open, direct communication and conflict, (4) risk taking, and (5) awareness and acceptance of group structure. The researcher identified the strategies the teacher teams and principals used to promote teamness, impact student achievement (student learning), and impact professional growth and development (teacher learning).

The researcher concluded that the team structure and the teacher teams represented the heart of the TBVP Pilot Project and may be one of the most effective strategies to improve student and teacher learning. Teachers and principals valued the increased cooperation, collaboration, communication, and shared commitment and credited the teacher teams.

The researcher made a number of recommendations related to traditional teacher teams, nontraditional teacher teams, the challenges teacher teams present, and the commitment needed to create teacher teams that impact student and adult learning. The traditional team structure alone was "not enough" nor were departments, grade level, and interdisciplinary teams "enough." Iowa's legislators need to continue to fund TBVP in order to explore further the role the teacher teams play. Principals need to know more about teacher teams in order to create, and recreate as needed, teacher teams that fulfill the promise of teacher teams and serve student and adult needs until every child is successful and every teacher is effective.

CHAPTER I. INTRODUCTION

Statement of the Problem

In May 2001, the Iowa legislature enacted Teacher Quality legislation to improve the quality of teachers and instruction in Iowa, with the primary intent to improve student achievement (HF and SF, 2001). This legislation included four components, one of which was the Team-Based Variable Pay Pilot Project (TBVP), which coupled an alternative teacher compensation schedule with student achievement as defined by the individual schools. Eighteen schools participated in the first year (2001-2002) of the pilot project and the nine pilot schools that met their student achievement goals received additional funding for teacher compensation. Ten schools participated in the second year (2003-2004) of the pilot project.

The Iowa legislature enacted the Teacher Quality legislation to improve the quality of instruction, which would, in turn, improve student achievement. In order to meet the *No Child Left Behind* (NCLB) goal of 100% of the students demonstrating proficiency in reading, math, and science by 2013, the percentage of students proficient (performing “at grade level” or the 40th percentile on the *Iowa Test of Basic Skills* (ITBS) and *Iowa Tests of Educational Development* (ITED) will need to increase from the current levels. When the Iowa Department of Education (IDE) published the *Annual Condition of Education Report* (IDE, 2003c), a review of the educational performance of Iowa’s students noted two disturbing trends: 1) overall, student performance has changed very little over the last three decades, and 2) achievement gaps between different groups of students have persisted. The *National Assessment of Educational Progress* (NAEP) trend mirrors the Iowa’s ITBS and

ITED trends. While the ITBS and ITED tests may not be the best measures of student achievement (Popham, 2001), according to the Iowa Department of Education, they meet the federal government's NCLB legislation requirements and represent Iowa's statewide assessments and Iowa's approved measures of student achievement (IDE, 2004a).

Iowa has implemented its accountability legislation to determine if team-based variable pay helps to hold schools accountable. The TBVP Pilot Project couples alternative teacher compensation with student achievement, and schools that meet their student achievement goals receive additional funding. The TBVP Pilot Project is voluntary and the schools that applied to participate in the project were required to have the support of the local education associations. The focus is to promote student achievement with personal and professional responsibility (Schalock, 1998). The TBVP Pilot Program was implemented to see if student achievement improved when teachers knew they would receive additional funding if schools met their student achievement goals (Schalock, 1998). The TBVP Pilot Project is a school-based performance pay plan. Individual teachers are recognized and rewarded as members of the school team—not as individual teachers—because teaching is a collective enterprise and the effects are cumulative (Odden & Kelley, 1997; Sanders, 2001). Student achievement is dependent on all teachers past, present, and future working together as a team (Clowes, 2003a; Goldhaber & Brewer, 1997; Haycock, 1998; Hill, 2000; Odden & Kelley, 1997; Rivkin *et al.*, 2001; Sanders, 2001; Schalock, 1998; Solmon & Podgursky, 2000; Wright *et al.*, 1997). Student achievement gains are correlated with measurable teacher and school characteristics (Goldhaber & Brewer, 1997; Rivkin *et al.*, 2001) and teachers have the greatest impact on student achievement gains (Hill, 2000; Wright *et al.*, 1997; Clowes, 2003a). The authors of the TBVP program

wanted teachers to be rewarded if their schools met their student achievement goals (Schalock, 1998).

Iowa's Team-Based Variable Pay (TBVP) Plan requires schools use their Comprehensive School Improvement Plans (CSIP) to develop student achievement goals and align professional growth and development with the student achievement goals. CSIP plans are designed to create a vision of teaching and learning that supports the needs of students and teachers as learners. Ideally, the school improvement process involves teachers in the development of the plan, the plan outlines and addresses the school's strengths and areas of need, professional development is aligned with established achievement goals, and teachers have opportunities to improve their teaching skills.

Holding schools accountable for achievement gains has had positive results (Olson, 2002). Hanushek and Raymond (2002) found that states with accountability systems experienced on average significantly higher growth between 4th and 8th grade on NAEP math scores than did states without accountability systems. Accountability systems vary from state to state, and district to district, but include performance goals for students and schools must meet performance goals. Accountability systems also include positive and negative consequences for school that meet and do not meet performance goals (Leithwood *et al.*, 2002). Chadwick (2002) found that, while not all schools met their TBVP goals, student achievement in the schools in the Iowa TBVP Pilot Project increased during the 2001-2002 school year. The mean growth on the ITBS in Reading Comprehension and Mathematics Total exceeded one year's growth for all TBVP schools (Chadwick, 2002), which could indicate the TBVP goals were motivating to students and teachers. It could also indicate all the teachers and students were focused on the TBVP goals. Chadwick's

(2002) findings indicate the TBVP Pilot Project was motivating to students and teachers, but the results were inconclusive because they were short-term, and after one year, Chadwick had no way of knowing if the pilot project would continue to motivate teachers and student achievement would continue to increase.

Previous Research on Team-Based Variable Pay Pilot Project

The IDE surveyed Team-Based Variable Pay Pilot Project schools during the first year of participation in the pilot project, and compared the perspectives of the teachers and principals on the importance of the “variable pay” in Team-Based Variable Pay with student achievement (IDE, 2003). The survey revealed many commonalities. Collectively, teachers from the individual schools agreed that:

1. Communication and ownership were critical elements.
2. Participation strengthened team-based cooperation, collaboration, and communication among staff members.
3. Participation increased the importance of the student achievement goals.
4. Teachers indicated they were proud to be a part of the pilot project.
5. Individual schools were able to tailor the pilot project to fit the individual schools (Chadwick, 2002).

While preliminary results from the first year of the pilot project indicated that participation in the TBVP Pilot Project heightened the focus on student achievement goals, increased teamwork, and improved student achievement in schools, they also revealed inconsistencies. Interviews with teachers highlighted three critical components of the

TBVP Pilot Project: the goal setting process, assessment of student achievement goals, and school leadership (Chadwick, 2002):

1. While goals are motivating to teachers and students, they must be challenging and attainable.
2. Assessments must be aligned with the curriculum, the standards and benchmarks, and the instructional strategies. All of the assessments used to demonstrate student achievement must be technically adequate.
3. School leadership is a critical factor in the TBVP Pilot Project.

One common finding in the 2002 TBVP Pilot Project that Chadwick's study revealed was that the teachers and principals were motivated by their teaching and performance as a school and their commitment to learning as teachers and principals (Chadwick, 2002). The teachers and principals reported during on-site interviews they were not motivated by the variable pay, though it was "nice;" instead, they were motivated by the recognition they would receive for their performance as a school and their professionalism as teachers and principals committed to their students and school. The results of the survey completed by the teachers and principals mirrored the results of the on-site interviews; the teachers and principals were motivated by student and school performance (Chadwick, 2002).

The present researcher conducted a preliminary qualitative study to determine the role of the principals in the Team-Based Variable Pay Pilot Project schools. This study consisted of four elementary schools that were representative of the schools in Iowa, including a rural school, a small community school, a suburban school, and an urban school. The schools demonstrated many, but not all, of the enabling conditions and key

workplace conditions that contribute to professional commitment and complement the enabling conditions (Binder, 2003; Odden & Kelley, 1997, 2000). Several themes emerged from the qualitative study, and the themes encompassed characteristics which appear to be contributing factors to school improvement. They included the following:

1. The importance of the capacity building of the school, including building both instructional and leadership capacity of school staff members;
2. The importance of quality use of resources, including the most important resource, time: instructional time for students, collaborative planning time for teachers, professional growth and development time of teachers, and shared leadership; and
3. Creating a caring school culture that is committed to learning (Binder, 2003).

Capacity is the ability of the education system to help all students meet challenging standards and succeed (Day *et al.*, 1995). Capacity can be increased utilizing new resources, using established resources in new ways, restructuring the student and teacher work days, and/or differentiating instruction and instructional delivery, all of which, in turn, lead to improving the performance of students. Building capacity includes developing and sharing knowledge so that each staff member is capable of providing instructional leadership in the classroom with students and in the school with staff members. Building capacity, using resources effectively, and creating a caring school culture that is committed to learning, all require effective leadership. Effective school leaders understand the importance of capacity building, and they recognize the importance of the effective use of resources as one aspect of capacity building. They understand the school culture must be caring, but it also must be committed to learning.

Chadwick (2002) found “variable pay” was not the key to the success of Team-Based Variable Pay; student and staff achievement were (IDE, 2003). Binder found the elementary schools in the qualitative study demonstrated varying degrees of capacity building, effective use of resources, and creating a caring school culture committed to learning. The emerging themes of the importance of the capacity building of the school, the importance of quality use of resources, and the importance of creating a caring school culture that is committed to learning, seemed to be supported by the teacher team structures in place in the schools (Binder, 2003). The role of the principal as effective leader emerged as a key factor as well (Binder, 2003).

The importance of the capacity building of the school, quality use of resources, and creating a school culture that is caring and committed to learning highlighted the importance of the role of the principal as effective leader. The principals believed the team structure to be the key to the success of Team-Based Variable Pay Pilot Program (Binder, 2003) and highlighted the importance of the team structure as the vehicle to build the capacity of the schools in order to meet the present and future needs of all students and staff members. The principals did not view themselves as leaders, but rather conductors; the teacher teams served as the train to improved student and teacher learning and the teachers were the engineers (Binder, 2003). The principals recognized the importance of quality use of teachers, their instructional time, their collaborative planning time, and their professional growth and development time. They used teacher teams to build capacity and made effective use of the valuable resource of time. This shared commitment to teacher teams led the researcher to ask what teams are in place in Team-Based Variable Pay Pilot Project schools and what roles do they play in improving student achievement.

Much has been written about the characteristics of effective teams, including the types of teams and the strategies leaders use to make the most of teams in the business world (Corkrum, 1995; French & Bell, 1995; Hall, 1995; Harvey & Drolet, 1994; Iacocca, 1984; Kinlaw, 1991; Likert, 1961; Snyder & Edwards, 1993; Varney, 1991). In the educational setting, research has been conducted on the effective use of teams as learning communities at the post secondary level including formal structures, such as cohorts, and informal structures. The research has noted a difference between learning teams and true learning teams, namely that learning teams are meeting the structural needs of institutions and/or students, whereas true learning teams are meeting the needs of students as learners. The research also has noted the importance of developing in future school leaders an understanding of the value of learning communities through experiencing the learning that takes place in true learning communities as a learner so that they can effectively develop learning communities in their schools as a leader and a learner (Baitland, 1992; Barnett *et al.*, 2000; Lebsack, 1993; Norris *et al.*, 2002; Norris *et al.*, 1996a; Norris *et al.*, 1996b; Weise, 1992).

Less has been written regarding the effective use of teams in K-12 schools. The primary focus of research on teams at the K-12 level has been on multidisciplinary teams used primarily in special education, interdisciplinary teams found primarily in middle schools, and “school-based management teams” used primarily to govern local schools in large de-centralized districts (Aronin, 1991; Barth, 1990; Doda, 1983; Drolet, 1993; Gibson, 1992; Hall, 1995; Katzenbach & Smith, 1993; Odden & Wohlstetter, 1995; Wohlstetter & Briggs, 1994). Relatively little research has been conducted on teacher teams committed to student and teacher learning, teaching, and teacher teams in the

elementary schools. Many school leaders may not have experienced as a learner the learning that takes place in learning communities and, as a result, may not have a strong interest in or have difficulty developing effective learning communities in their schools (Barnett *et al.*, 2000).

Teacher teams ideally provide opportunities for teachers to develop and improve their teaching skills. Professional growth and development for teachers is a critical component of successful alternative teacher compensation models (U.S. Department of Education, 2001; Education Commission of the States, 2001; Firestone & Pennell, 1993; Hoerr, 1998; Lashway, 2001b; Menro, 1998; Odden & Kelley, 1997). While multidisciplinary teams, interdisciplinary teams, and “school-based management teams” serve a purpose, that purpose generally is not to help teachers develop and improve their teaching skills.

When the Iowa legislature enacted the Teacher Quality legislation, it included four components, the Team-Based Variable Pay Pilot Project, and three additional components: (a) the Beginning Teacher Induction Program, which included a mentoring program for beginning teachers (first- and second-year teachers); (b) a component for career teachers that included professional growth and development; and (c) a component for professional development, the Iowa Professional Development Model (IPDM). The IPDM was a collaborative effort of the Iowa Department of Education and the Iowa Teacher Quality Professional Development stakeholder group, which consisted of Iowa educators from all levels and representatives of the major organizations and role groups involved in professional development and school improvement in Iowa. According to the stakeholder group, the IPDM (IDE, 2002) combines best practice on school improvement and staff

development. The recent research on school improvement and staff development highlights the importance of the following interlocking variables: (a) the importance of data for driving school improvement and student achievement goals; (b) the alignment of assessment with curriculum and instruction; (c) the provision for quality professional growth and development and research-based content; (d) the necessity for learning communities that study what is effective and work collaboratively to learn and implement new knowledge; (e) the study of the implementation of planned changes; (f) the evaluation, both formative and summative, of planned change for its impact on student learning; and (g) the guidance of strong leaders at all levels, including teachers and principals, operating collectively and collaboratively to govern the professional growth and development and school improvement (IDE, 2002). The IPDM stakeholders explicitly noted the necessity for learning communities that work collaboratively to learn and implement new knowledge and study what is effective. This requirement for learning communities mirrored the researcher's questions regarding teacher teams. What teacher teams are in place in TBVP schools and what roles do they play in improving student achievement?

Researchers in the Consortium for Policy Research in Education (CPRE) have focused on alternative teacher compensation programs in districts from Boston, to Philadelphia, Cincinnati, Dallas, and Los Angeles, and state-wide programs including North Carolina, Kentucky, Arizona, and Iowa. Iowa's plan is the only plan which includes teacher teams in the name given to the alternative teacher compensation program, Team-Based Variable Pay, which makes Iowa's program unique in that it appears Iowa recognizes the importance of teacher teams in student achievement. Odden (2000) has focused on knowledge and skill-based alternative teacher compensation programs and Kelley (2003)

has focused on the importance of the performance award programs and the implementation of the performance award programs. No one has focused on the importance of the teacher teams in alternative teacher compensation programs. Chadwick's (2002) study found teachers valued the increased cooperation, collaboration, communication, and shared commitment. Binder's (2003) study found principals credited the increased cooperation, collaboration, communication, and shared commitment to teacher teams.

Purpose of the Study

The purpose of this qualitative study was to explore the importance of the "team" in Team-Based Variable Pay Pilot Project schools in Iowa. The Iowa Professional Development Model, the fourth component of the Teacher Quality legislation, cited the value and need for learning communities and the collective force that a focus on student learning can exert on schools. Despite recognition by the Iowa Department of Education that learning communities in schools are valued and needed, effective learning communities may or may not be the reality. Learning communities may or may not exist in schools, and they may not function as true learning communities. If teacher teams are not present in all schools, certainly learning communities are not present. The study explored the reality of "team" in Team-Based Variable Pay Pilot Project schools in Iowa and the importance of "team" by collecting information from all the schools in the Team-Based Variable Pay Pilot Project and conducting a case study of a limited number of schools and the teacher teams, teachers, and principals in the individual schools, to probe the results of the survey in more depth.

The underlying question for the study was how important is the “team” in Team-Based Variable Pay Pilot Project schools. The questions for the first phase of the study, the descriptive phase, were:

1. What teacher teams exist in the schools in the TBVP Pilot Project?
2. What roles do the teacher teams play?

The descriptive data provided a sketch of the teacher teams in the schools in the TBVP Pilot Project, how these teacher teams function, and the roles they play within their respective schools. The ten schools in the TBVP Pilot Project were representative of the schools in Iowa: urban, suburban, and small rural community. The descriptive information collected from the ten TBVP Pilot Project schools led to purposeful sampling. A limited number of teacher teams in the TBVP Pilot Project were included in the case study.

The questions for the second phase of the study, the case study, explored the importance of the “team” in the limited number of TBVP Pilot Project case study schools:

3. How important is the “team” in TBVP Pilot Project schools? The sub-questions included:
 - a. How do teacher teams impact student learning and student achievement?
What strategies do teacher teams and principals use to promote student achievement (student learning)?
 - b. How do teacher teams function as a learning community and support teacher learning? What strategies do the teacher teams and the principals use to impact professional growth and development (teacher learning)?

- c. What characteristics of teamness do the team teachers exhibit? What strategies do the teacher teams and principals use to promote teamness in teacher teams?

Teacher teams serve as the unit in TBVP Pilot Project schools, because in order to qualify as a TBVP Pilot Project school, schools must identify the team(s) that will be working together to ensure that all students meet established student achievement goals (Creswell, 2003; Stake, 1995). Case study research is appropriate in studying TBVP teacher teams because: (a) the team is the basis of Team-Based Variable Pay, (b) this is an area of education where little research has been conducted, and (c) intense study of teacher teams could “bring to light important variables, processes, and interactions” (Isaac & Michael, 1990, p. 48).

On-site interviews and observations with teacher teams and principals probed the degree to which teacher teams exhibit the characteristics of teamness and function as a learning community in order to identify the strategies used by teacher teams, teachers, and principals to promote student achievement (student learning), impact professional growth and development (teacher learning), and promote teamness in teacher teams. Corkrum (1995) defined the five predictors of “teamness” as (1) common tasks, (2) mutual trust, (3) open, direct communication and conflict, (4) risk taking, and (5) awareness and acceptance of group structure. The five predictors predict team effectiveness. Common task includes the three characteristics of task: the vision, the purpose, and the results. Open, direct communication addresses conflict openly. Risk taking includes risk taking as a team member and as an adult learner. Awareness and acceptance of group structure includes defining roles as members and leaders, developing, and sharing expertise

(Corkrum, 1995). Common identity and tenets are additional predictors of “teamness” and are products of shared vision, shared purpose, and shared results (Hall, 1995).

Significance of the Study

The study explored the importance of the “team” in Team-Based Variable Pay. “Variable pay” was not the key to the success of the Team-Based Variable Pay Pilot Project (Chadwick, 2002). Rather, schools must create a caring school culture that is committed to learning. In order to meet the needs of students and teachers as learners, principals must build the capacity of the school. If the team is the key to the success of Team-Based Variable Pay, rather than “variable pay,” a qualitative study of teacher teams is critical. School leaders, including principals and teachers, need to know how to make the most of teacher teams.

The study provided a sketch of all the teacher teams in place in the Team-Based Variable Pay Pilot Project schools and a detailed picture of a limited number of teacher teams in schools in the Team-Based Variable Pay Pilot Project schools. The sketch and the detailed picture provided a valuable source of information to school leaders on teacher teams and how to make the most of the resources available to schools—teachers and time.

Knowing TBVP Pilot Project schools must have at least one “team” in place allowed the researcher to explore the teacher teams in the TBVP Pilot Project schools and probe the roles they play in their respective schools. The research questions formed a triangle: Teacher teams, which demonstrate the characteristics of teamness, including developing teachers as professional and leaders, will function as a learning community and support professional growth and development (teacher learning). Teacher teams, which

function as a learning community and support professional growth and development (teacher learning), will impact student learning and student achievement.

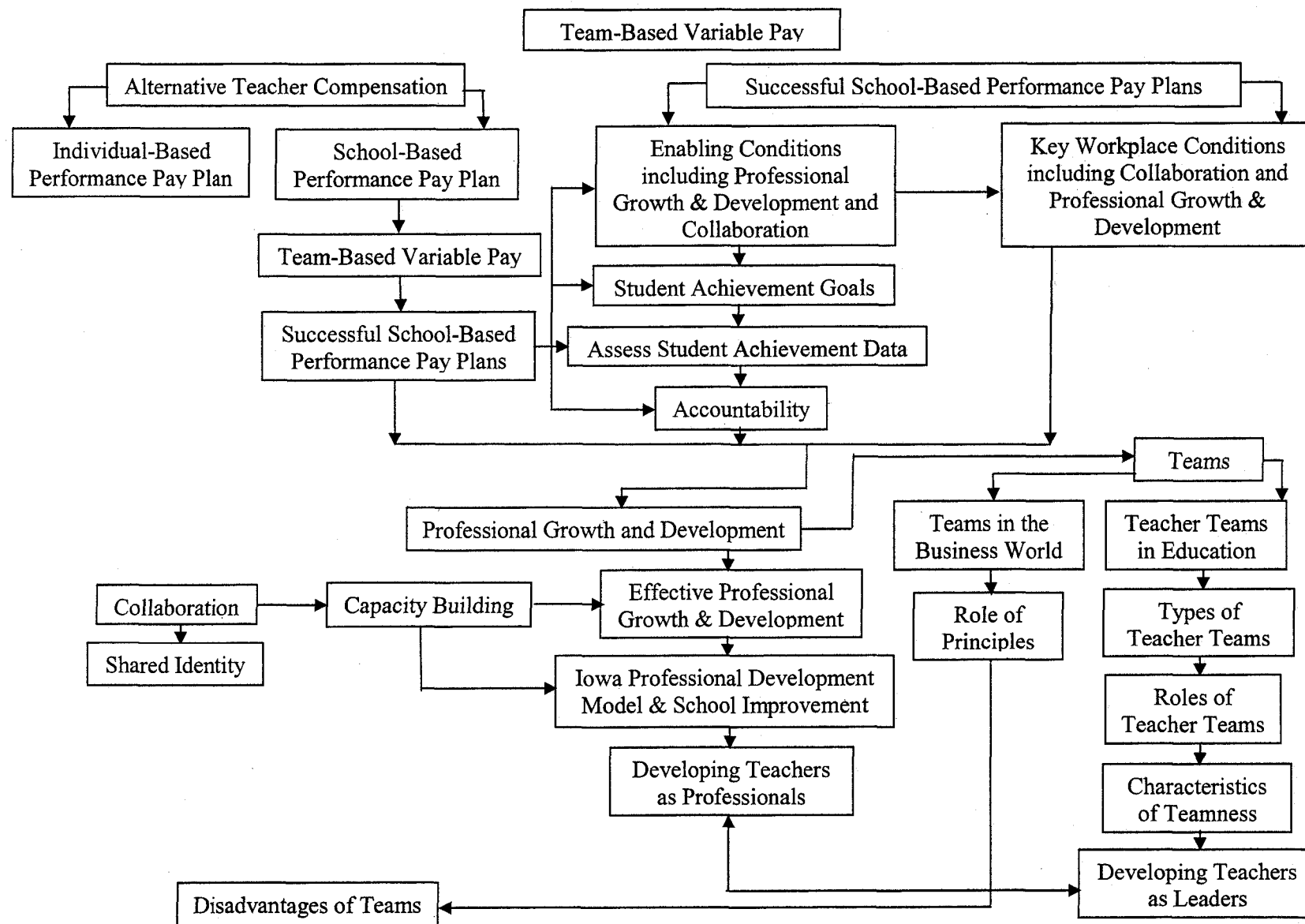
CHAPTER II. LITERATURE REVIEW

Methodology for Review of Literature

The methodology the researcher used in the review of literature included the following. The researcher identified the primary topic of interest as “Team-Based Variable Pay.” Because Team-Based Variable Pay is a school-based performance pay plan, the researcher reviewed literature on performance pay in general, school-based performance pay plans in particular, and the Team-Based Variable Pay Pilot Project.

The researcher identified key search terms for these concepts and used those concepts to search various indices (e.g. *Educational Resources Information Center*, ERIC, the *Current Index to Journals in Education*, CIJE, and *Resources in Education*, RIE, *Sociological Abstracts*, *PsycINFO*, and *Dissertation Abstracts International*) for peer-reviewed journals, books and dissertations. Using the core concepts and relevant literature, the researcher created a literature map as represented below. This enabled the researcher to visualize how her study of the topic would extend the research on the topic.

The researcher identified relevant literature from 1965 to 2005. The literature was primarily peer-reviewed journal articles. There was a great deal of previous research on performance pay and school-based performance pay plans, but very little research on Team-Based Variable Pay, and no research on teacher teams in relation to Team-Based Variable Pay or school-based performance pay plans. Thus, this study breaks new ground in considering the role of teacher teams (see research questions, page 12). A complete concept map and a list of definitions derived from the literature are included in Appendix B.



After reviewing the literature, the researcher determined that Crow and Pounder are leading researchers on teacher teams. The researcher used Crow and Pounder's (2000) constructs of purpose, composition, structure and context, and interaction to provide a framework to explore teacher teams and provide an overview of the teacher teams in the ten Team-Based Variable Pay Pilot Project schools and a detailed description of the three teacher teams in the case study. The Using their framework allowed the research to compare teacher teams across studies. The constructs represent the quantitative aspects of teacher teams: purpose, composition, structure, and context. The researcher also wanted to assess the qualitative aspects of teacher teams and their interaction. Therefore, the researcher used Hall's (1995) characteristics of teamness to provide a framework to explore how the teacher teams interact.

The researcher combined Crow and Pounder's (2000) quantitative constructs and Hall's (1995) qualitative characteristics of teamness to a) frame a discussion of relevant literature on teacher teams and b) organize the results of the survey, the observation, and the interview data collected from principals and lead teachers in the ten TBVP Pilot Project schools as well as the principals, teacher teams, and lead teachers on the three teacher teams in the case study. This study used the constructs and the characteristics of teamness as a guiding conceptual framework to explore the importance of teacher teams in TBVP Pilot Project schools. The headings in Chapter Four thus derive from both Crow and Pounder and Hall.

Research Questions and Relevant Literature

This research project focused on the importance of the team in Team-Based Variable Pay Pilot Project schools, one component of the Iowa Teacher Quality legislation (IGA, 2001). It is important to understand the history and purpose of the Iowa Teacher Quality legislation and the Team-Based Variable Pay Pilot Project, which rewards schools when they meet student achievement goals. The history and purpose of the Team-Based Variable Pay Pilot Project includes research on student achievement. Also relevant is research on professional growth and development, research on teacher teams in education, and how teacher teams can significantly contribute to student achievement.

Educating a child is like constructing a 13-story building one floor at a time (Sanders, 2001). It is based on the premise that a student can gain a year's worth of learning in a year of schooling, regardless of socioeconomic status, parent education level, ethnicity, or gender. Whether or not a student gains a year's worth of learning in a year of schooling depends on the quality of the student's teachers and the student's learning experiences up to that point in the educational continuum. Teaching is, therefore, a collective enterprise, with cumulative effects (Sanders, 2001). Student performance at the fourth grade level is the result of instruction that has occurred for five years of school, not just one year. The team of teachers is the key to construction of the 13-story educational building and to school improvement. The student's achievement is dependent on all teachers—past, present, and future (Odden & Kelley, 1997; Sanders, 2001; Solmon & Podgursky, 2000). The effects of teacher and school performance are long-lived, whether they support student achievement or squelch it (Haycock, 1998). Given the collective and cumulative nature of education, education is at its core a team function.

History and Purpose of Team Based Variable Pay Pilot Project

Iowa Teacher Quality Legislation

In May 2001 the Iowa legislature enacted Teacher Quality legislation (Senate File 476 and House File 672) to improve the quality of teachers and instruction in Iowa, with the intent of improving student achievement. The percent of Iowa's fourth grade students performing at or above proficiency level (40th percentile) in reading comprehension on the Iowa Test of Basic Skills (ITBS) was 76.7% proficient in 2002-2004 (IDE, 2004). In mathematics, the percent was 76.8% proficient in 2002-2004 (IDE, 2004). Approximately 25% of Iowa's fourth grade students are not proficient in reading comprehension or mathematics—that's one in four students. No Child Left Behind (U.S. Department of Education, 2002), the federal legislation, and Iowa's Teacher Quality legislation require that all students be proficient.

The purpose of the Iowa Teacher Quality legislation was to significantly and measurably improve student achievement in Iowa's schools by improving the effectiveness of teachers and the instruction they provide. Prior to the legislative initiative, there were signs pointing to inadequate attention to teacher quality in Iowa (White, 2002). Education Week's *Quality Counts* index of teacher quality, including teacher assessment, professional growth and development, teacher preparation programs and student teaching, gave Iowa a grade of D+ for its efforts to improve teacher quality, while the Thomas B. Fordham Foundation teacher quality index, which measures accountability, autonomy, content knowledge, and pathways to teaching as indicators of teacher quality, gave Iowa an F (Finn, *et al.*, 1999; White, 2002).

The Business and Education Forum, funded by business leader Marvin Pomerantz, enlisted the expertise of Alan Odden, leading researcher on teacher compensation, alternative teacher compensation, and school-based performance pay, to develop a proposal, which became known as the Pomerantz Proposal. Governor Vilsack and the Educator Compensation Design Team, led by John Forsyth, developed a counter proposal, the Iowa Teacher Compensation Design, which became known as the Forsyth Proposal. While the two proposals differed in their design, both included a variable pay or school-based performance award element (Forsyth, 2000; IASB, 2000; Odden, 2000; Pomerantz, 2000). Teacher quality and its many components, including alternative teacher compensation, dominated the 2001 legislative session (White, 2002). The initiative survived and resulted in the “Student Achievement and Teacher Quality” bill (HF 413 for funding and SF 476 for policy). The final bill was a compromise; neither the Pomerantz nor the Forsyth proposal was weighted more heavily and considered the “winner.” Supporters and non-supporters alike characterized the Teacher Quality legislation as the “lowest common denominator” (White, 2002).

The Iowa Teacher Quality legislation mandates that every student meet established student achievement goals. These goals involve statewide standardized testing that assesses progress toward the federal NCLB student achievement goals, as well as locally identified testing to meet state student achievement goals, which may include norm referenced and/or criterion referenced tests. National and state legislators believe achievement on standardized tests will demonstrate whether or not students are meeting standards and schools are successful.

The Iowa Teacher Quality legislation included four components: (1) the Beginning Teacher Induction Program, which included a mentoring program for beginning teachers (first- and second-year teachers); (2) a component for career teachers that included professional growth and development (evaluation); (3) the Iowa Professional Development Model, which was designed to align professional growth and development of teachers (staff development) with student achievement goals; and (4) the Team-Based Variable Pay (TBVP) Pilot Project, which coupled an alternative teacher compensation schedule with student achievement. The Teacher Quality initiative was initially voluntary and phased in over three years. Ninety-nine percent of the districts volunteered to participate in the initial implementation phase (White, 2002). Schools selected for the Team-Based Variable Pay Pilot Project were required to participate in all phases of the Teacher Quality legislation. This research focuses on the Team-Based Variable Pay Pilot Project (TBVP pilot project).

Team-Based Variable Pay Pilot Project and Chadwick's Study (2002)

The TBVP Pilot Project coupled alternative teacher compensation with student achievement. It was designed to reward staff members, functioning as a team, for improving student achievement in their schools. Pilot schools, like all Iowa schools, set student achievement goals and worked to meet these goals. The difference between the schools in the pilot project and other Iowa schools was that TBVP schools achieving their student achievement goals received additional funding for teacher compensation.

Participation in the TBVP Pilot Project was voluntary and teacher teams chose to participate, which eliminated the contentious role local education associations and the Iowa State Education Association (ISEA) might otherwise have played in a pilot project that was

not completely supported. The schools were required to define their “team” and determine which staff members were considered team members. Once the team and its membership were defined, the schools needed to determine how the additional funding would be distributed if the schools met their goals.

During the first year of the project, Dianne Chadwick, TBVP Pilot Project Consultant from the Iowa Department of Education, conducted a series of structured interviews with principals and teacher teams in participating schools and used this information to compile a first-year summary of the TBVP Pilot Project. In her report, Chadwick outlined the design of the TBVP pilot project in Iowa and compared it with alternative teacher compensation models that addressed student achievement in other states. The report also included an analysis of student achievement results at the TBVP school level, student achievement results at the state level, findings and recommendations regarding the TBVP pilot project (Chadwick, 2002).

Each of the schools determined its “team” or “mini teams within the school-wide team” and how much emphasis was placed on teacher team(s) and the pilot project. While nine of the 18 schools met their student achievement goals, all of the schools in the pilot project demonstrated progress toward student achievement goals. The mean growth on the ITBS in Reading Comprehension and Mathematics Total exceeded one year’s growth for all TBVP schools (Chadwick, 2002). Student achievement, as measured by locally developed criterion referenced tests, also increased. After only one year, however, the results were inconclusive. The goals differed from school to school, as did the locally developed criterion referenced tests, so growth across schools was not comparable. The pilot project measured growth for one year, not multiple years, so it was unclear if gains

would be sustainable over time and how those gains for schools within the TBVP Pilot Project would compare to comparable schools within the state that were not participating in the pilot project (Chadwick, 2002).

Chadwick's (2002) study revealed many commonalities among the teachers, the key participants. When interviewed, teachers from the TBVP schools shared the following points (Chadwick, 2002):

- Communication and ownership were critical elements of participation in the TBVP Pilot Project.
- Participation in the project strengthened team-based collaboration and cooperation among team members in schools, which contributed to increased communication.
- Participation increased the importance and prominence of the student achievement goals.
- Teachers reported increased ownership of the student achievement data.
- Teachers indicated they were proud to be a part of the pilot project. They were glad they had elected to participate in the voluntary pilot project.
- Individual schools were able to tailor the pilot project to fit the individual schools. It was not a "one program fits all" project. The teacher teams designed the student achievement goals to fit their individual schools and used the pilot project to focus on student achievement goals.

Chadwick's (2002) study did not focus on the importance of the teams in TBVP, but the teacher teams noted that participation in the pilot increased the team-based collaboration,

cooperation, communication and ownership, which included student achievement goals and student achievement data. Teacher teams noted they valued the team-based cooperation, collaboration, communication, and ownership. According to teacher teams, the team in TBVP was important.

Chadwick's (2002) interview results also highlighted three critical components of the TBVP Pilot Project: the goal setting process, assessment of student achievement goals, and school leadership (Chadwick, 2002). School leadership was a critical factor in the TBVP Pilot Project. According to the teachers, the greater the perceived school leadership, the greater the perceived value of the TBVP Pilot Project. Active participation and communication were identified as critical components of school leadership.

While the preliminary results of the pilot project were positive and indicated participation might improve the focus and increase the team work and student achievement in the schools, interviews with teacher teams also identified increased levels of teacher stress and dissatisfaction (Chadwick, 2002).

Chadwick (2002) made numerous recommendations to the Iowa Department of Education, the Iowa Senate and the Iowa House of Representatives, including conducting an additional two-year pilot study. This pilot project (2003-04 and 2004-05) would provide additional student achievement data to determine whether or not student achievement gains are sustainable over time and how these gains compared to comparable schools not participating in the TBVP Pilot Project. The longitudinal study would also allow further assessment of the motivational impact on students, teachers, and principals, and the role of school leadership (Chadwick, 2002). Chadwick's (2002) initial quantitative study and Binder's (2003) qualitative study (capstone study) focused on Year I (2001-2002). The

current qualitative study in this dissertation focused on teacher teams and the roles they play and included the first year (2003-2004) of the two-year pilot project (2003-2005), or Year II of the three years of the TBVP Pilot Project.

Chadwick's study did not determine what teacher teams exist or the roles the teacher teams play. A description of the teacher teams in the TBVP Pilot Project schools and the roles they play does not exist. One criteria for participation in the TBVP Pilot Project was the existence of teacher team(s), but it is unknown what characteristics of teamness these teacher teams exhibited and what role the teacher teams played in promoting student achievement (student learning), impacting professional growth and development (teacher learning), or what role the principals played in promoting teamness in teacher teams. In other words, a criteria for participation in the TBVP Pilot Project was the existence of teacher team(s), but it was not known if the teacher teams promoted student achievement (student learning), impacted professional growth and development (teacher learning), or were effective.

Milanowski found teacher ability is likely to change slowly because it requires professional growth and development, but motivation can be changed quickly and student achievement can be improved from year to year if teachers are rewarded (Milanowski, 1999). Chadwick (2002) found that only nine of the eighteen schools that participated in Year I of the TBVP pilot project met their student achievement goals and received additional funding for teacher compensation. Chadwick's results contradict Milanowski's findings (1999). Either the teachers were not motivated by the additional funding for teacher compensation or, motivated or not, the teachers lacked the capacity to impact student achievement to the degree necessary for the schools to meet their student

achievement goals. School improvement requires a comprehensive approach that includes building the capacity of the individual teachers, the school as a team of individual teachers, and the school as a system. Building the capacity of the individual teachers, the team of individual teachers, and the school requires professional growth and development (Day *et al.*, 1995).

TBVP Pilot Project and Binder's Capstone Study (2003)

In consultation with the Iowa Department of Education, this researcher conducted a qualitative study to explore the importance of the principal as school leader in the TBVP Pilot Project schools. The researcher identified three critical themes, which contributed to shared leadership. These include:

- (1) Building the capacity of the school, including teachers as professionals and leaders;
- (2) Restructuring to build capacity, including instructional time (student learning), professional growth and development time (adult learning), and leadership; and
- (3) Creating a caring school culture committed to student and adult learning.

The four TBVP elementary schools included in this researcher's qualitative capstone study had teacher teams in place, and according to the principals, the teacher teams served as learning communities. The TBVP principals utilized the local knowledge, skills, and expertise to build community and capacity. The teacher teams provided the setting. Local experts learned more by sharing with teacher teams what they were learning. In doing so, all the teachers on the teacher teams became experts. Sharing knowledge, skills, and expertise requires a team structure and the principals were in the process of building the

structure and creating the teacher teams with teachers as professionals and leaders on every team (Binder, 2003).

The principals listed team structure as the key to the success of TBVP schools and highlighted the importance of the teacher teams in providing a vehicle for the principals and teachers to build the capacity of the schools and meet the present and future needs of all students and staff members. According to one principal, the principal served as the conductor; the teacher teams served as the train to improve student learning and teacher learning (Binder, 2003).

The principals attributed meeting the student achievement goals to the teacher teams. According to all four principals, the teacher teams impacted student achievement (student learning) and professional growth and development (teacher learning), which led the researcher to ask how important is the “team” in TBVP Pilot Project schools. The researcher wanted to determine what teams exist in TBVP Pilot Project schools and the roles they play in their respective schools. The researcher also wanted to explore how the teacher teams impact student achievement (student learning) and professional growth and development (teacher learning). In addition, the researcher wanted to explore the strategies the teacher teams and principals use to impact student achievement (student learning) and professional growth and development (teacher learning).

Related Research on School-Based Performance Pay Plans and Student Achievement

Successful school-based performance pay programs are characterized by a set of “enabling” conditions, including, but not limited to, a set of student achievement goals, the ability to assess student achievement data to make instructional decisions and meet student

achievement goals, and professional growth and development aligned with student and teacher needs (Johnson *et al.*, 1999; Kelley & Protsik, 1997; Odden, 2000). The set of student achievement goals determines the purpose. The ability to assess student achievement data to make instructional decisions and the teacher teams in which to collectively assess student achievement data help teachers better understand their individual roles, as well as the role of teachers as members of a teacher team and a school-wide team (Abelmann & Elmore, 1999; Hall & Caffarella, 1998; Kelley, 1999). A focused professional growth and development plan increases both individual teacher and teacher team knowledge and skills and gives teachers and teacher teams the tools to assess, understand, and use student achievement data to make instructional decisions. Teachers better understand the link between their teaching practices and student achievement (Kelley & Protsik, 1997; Odden & Kelley, 1997, 2000). Iowa's TBVP Pilot Project, with its student achievement goals, its teacher teams to assess student achievement data to make instructional decisions, and its professional growth and development seemed like the ideal school-based performance award program.

Research on performance pay plans has focused on the role of the student achievement goals. When teachers believe they can meet a goal, they are motivated. When they do not believe they can meet a goal, they are not motivated (Kelley *et al.*, 2000a). The goal is critical; it sets the purpose and provides the collective focus (Clotfelter & Ladd, 1996; Kelley *et al.*, 2000; Willis *et al.*, 1999). The financial incentive does not provide the motivation; it sharpens the focus on student achievement goals (Willis *et al.*, 1999). Teacher teams provide the forum in which to focus on the shared goals and assess student

achievement data to make instructional decisions. Yet, research on performance pay plans has not focused on the role of teacher teams.

School-wide performance pay plans are designed to improve student achievement and recognize schools when the student achievement goals are met. Many states and districts have school-wide performance pay plans (Adsit *et al.*, 1998; Georgia Department of Education, 2000; Hall & Caffarella, 1998; Hoff, 2001; Jacobson, 1999; Kelley & Protsik, 1997; North Carolina Department of Public Instruction, 2000; Odden & Kelley, 2000; Rosenholtz, 1989; Schwedel *et al.*, 2000). Research on the school-wide performance pay plans has not focused on the role of the teacher teams.

Iowa's TBVP Pilot Project was designed to improve student achievement and rewards the team when the student achievement goals are met (Chadwick, 2002). Literature on teacher teams makes no mention of reward systems designed to recognize effective teams (Pounder, 1998c). The TBVP Pilot Project is one exception; it requires schools identify the team(s) and provides a performance monitoring and a reward system that is dependent on the attainment of the team's objectives.

It appears teacher teams have the potential to impact and increase collective and individual responsibility, although that has not been specifically assessed. Teacher teams provide a vehicle to transfer knowledge and skills from select individuals to all individuals, increasing collective and individual responsibility and contributing to accountability (Abelmann & Elmore, 1999; Hall & Caffarella, 1998; Kelley, 1999). In Binder's (2003) study, the TBVP principals described a sense of collective commitment, including a sense of responsibility for across-the-board student achievement, and a set of cultural norms regarding student achievement and professional growth and development (Binder, 2003).

Some of the TBVP schools have institutionalized the school improvement process and the principals attributed the institutionalization to its teacher teams (Binder, 2003; Day *et al.*, 1995; Deal & Peterson, 1999; Fullan, 2001a; Senge, 1990; Stolp, 1994; Voices from the Field, 1996). The researcher wanted to explore the teacher teams in all TBVP schools to see if the teacher teams were unique to some of the schools or if they existed in all of the schools in the TBVP Pilot Project.

Professional Growth and Development

Collaboration and Professional Growth and Development

According to Firestone and Pennell (1993), there are key workplace conditions that contribute to successful schools. They include, but are not limited to, collaboration and professional growth and development (Firestone & Pennell, 1993). Ideally, teacher teams provide opportunities for collaboration (Firestone & Pennell, 1993; Hoerr, 1998).

Collaboration contributes to a shared identity and decreases individual teacher isolation (Corkrum, 1995; Haycock, 1998; Hill, 2000; Solmon & Podgursky, 2000). Goodlad (1984) described traditional classrooms as cells in which teachers spent time with students, isolated from other teachers. In collaborative schools, classrooms are part of the school system and teachers spend much of their time collaborating with other professionals. In collaborative schools, the classroom is symbolic of the spokes of the wheel where teachers learn from one another and from sources of ideas beyond their own teaching experience and expertise. The spokes of the wheel are united by the commitment to student achievement goals and the professional growth and development to meet student achievement goals. Teacher teams and principals in collaborative schools are actively

involved in professional growth and development, establishing student achievement goals, assessing student achievement data to make instructional decisions (Goldhaber & Brewer, 1997; Rivkin *et al.*, 2001; Wright *et al.*, 1997).

High levels of individual autonomy can pull a school in many different directions and produce pockets of student achievement gains. A shared identity can pull a school in a collective direction and impact student achievement (Haycock, 1998; Hill, 2000; Solmon & Podgursky, 2000). A shared identity can create a focused school with a school-wide vision contributing to overall school effectiveness, while an unfocused school is not effective (Building Bridges, 2001; Education Commission of the States, 2001; Lashway, 2001b; Odden & Kelley, 1997).

Collaboration among teachers develops school-based expertise, which in turn impacts student achievement (Firestone & Pennell, 1993; Schalock, 1998). Communication is one component of teacher-to-teacher collaboration. An effective teacher team provides ongoing face-to-face opportunities for communication and collaboration (Corkrum, 1995; Hall, 1995; Haycock, 1998; Hill, 2000; Rivkin *et al.*, 2001). Restructuring the school to create teacher teams and provide ongoing opportunities for collaboration is powerful, but the power of this resource has not been mined, nor has it been measured (Hall & Caffarella, 1998; Kelley, 2000).

Capacity Building and Professional Growth and Development

Developing Teachers as Professionals

Capacity is the ability of the education system to help all students succeed. A school's capacity can be increased by providing meaningful professional growth and

development, restructuring the student day to provide individualized and differentiated instruction, and restructuring the teacher day to provide opportunities for collaboration, all of which can impact student achievement (Darling-Hammond, 1997; Day *et al.*, 1995; Fullan, 2001a; Sweeney, 2003). Professional growth and development can increase the capacity of the individual teachers within the school; it can also impact the school's capacity to meet challenging student achievement goals.

Milanowski (1999) studied which aspects of a school's capacity can be changed from year to year and found teacher ability is likely to change slowly because it requires professional growth and development. School improvement requires a comprehensive approach, which includes professional growth and development for the team of teachers and the school as a system (Day *et al.*, 1995).

Professional growth and development must develop both the individual teacher's knowledge and skills and the school's collective knowledge and skills by creating a structure for teachers to share their expertise. It must make use of the school's best resource, its teachers, and provide the time for meaningful collaboration (Elmore, 2000). According to Day and associates (1995), there are critical components to professional growth and development, including knowledge and access to new knowledge, the organizational structure to support the professional growth and development of individuals and the school as a team, and the necessary resources. Other researchers concur (Fullan, 2001a; Sweeney, 2003; Voices from the Field, 1996c; Von Krogh *et al.*, 2000). Teacher teams can provide the structure to support the professional growth and development of individuals and the school as a learning community.

Learning communities can increase the capacity of the school, but in and of themselves, they are not the answer (Corcoran, 1995; Day *et al.*, 1995). They must provide ongoing opportunities for professionals to discuss and debate existing knowledge and ideas with their peers and continually challenge the known with the unknown. With ongoing opportunities for dialog, known information can be shared and new information can become known (McLaughlin, 1993). Teacher teams can serve as learning communities and principals and teachers as leaders can serve as the conduit for the new ideas (Day *et al.*, 1995; Fullan, 2001a; Sweeney, 2003).

The greatest challenge to developing capacity of the school is to extend new knowledge from individual teachers to all teachers. In order for teachers to serve as an effective conduit for new ideas and be leaders, there must be avenues for sharing these new ideas. According to Brown and Duguid (2000), information is the machine and knowledge is the people. Information becomes knowledge when it takes on a social life and it is shared. Individual teachers must have a social context in which to share new ideas and teacher teams provide the social context in which to transform information to knowledge (Brown & Duguid, 2000).

Placing changed individuals in unchanged environments does not change the environment. Traditional professional growth and development relies on individual teachers to use new information and skills in order to change the school. A social context to share new information does not exist in the traditional professional growth and development model. In order for individuals to change a school, the principal must change the school context and create new settings conducive to learning and sharing that learning (Brown & Duguid, 2000; Day *et al.*, 1995; Nonaka & Takeuchi, 1995; Von Krogh *et al.*,

2000). Teacher teams create ongoing opportunities for teachers to share new information and begin the process of transforming new information to new knowledge.

Beginning and career teachers require a wealth of knowledge and skills as individual teachers in their classrooms and as members of the school team. The requirements are complex and ever changing (Darling-Hammond, 1997). In order to fulfill these requirements, teachers must participate in ongoing professional growth and development and be continually learning (Bransford *et al.*, 1999; Elmore & Burney, 1999; Guskey, 2000). Teacher teams can provide the forum for professional growth and development (Joyce & Calhoun, 1996; Joyce & Showers, 1983, 1988, 2002; Kennedy, 1999; Pierce & Stapleton, 2003).

Effective professional growth and development provides opportunities for teachers to share what they have learned with their peers and apply what they have learned (Guskey & Huberman, 1995; Little, 1997; National Staff Development Council, 2001; Newmann & Wehlage, 1995; Sweeney, 2003; Williams, 2003). Opportunities to share, such as those that teacher teams offer, create conditions that enable teachers to meld new knowledge and skills with known knowledge and skills (Duffy, 2003; McLaughlin, 1990; Rosenholtz, 1989; Showers, 1984, 1985; Showers & Joyce, 1996; Showers *et al.*, 1987).

Teachers need key dispositions to change instructional practices (Duffy, 2003; Katz & Raths, 1986). The key dispositions include the teacher's commitment to student learning and the teacher's attitude toward teacher learning. These dispositions affect the teacher's perception of the student's ability to learn and teacher's ability to change instructional practices (Day *et al.*, 1995; Duffy, 2003). Opportunities to share with teachers, in teacher teams, can create a school culture that positively affects teachers' commitment to student

learning and the teachers' ability to change (Calhoun, 1995, 2001; Elmore, 2002; Supovitz, 2002; Supovitz & Christman, 2002).

The capacity of individual teachers to change instructional practices is connected to teachers' views of themselves as learners (Day *et al.*, 1995; Duffy, 2003; Sweeney, 2003). Teachers see themselves as learners when the school is committed to student and adult learning, teachers have professional growth and development related to student learning, and teachers have ongoing opportunities to interact with other teachers as professionals (Calhoun, 2001; Elmore & Burney, 1999; Finn, 2003; Katz & Rath, 1986). Teacher teams offer such interaction.

A teacher's practice is shaped in part by the teacher's relationships with peers inside the school and with professionals outside the school. Teacher teams can provide a context for sharing both teaching and learning as teachers (Day *et al.*, 1995). The ability of individual teachers to access and use new knowledge and skills is affected by the school context (Day *et al.*, 1995). Teacher teams can provide support for a teacher trying to weld new knowledge and skills. Together, teacher teams and professional growth and development can contribute to teachers flourishing. Teacher teams without professional growth and development or professional growth and development without teacher teams can contribute to teachers floundering. Teachers, like their students, flourish in a school culture committed to student and teacher learning (Clowes, 2003a; Corcoran, 1995; Odden & Kelley, 1997; Sanders, 2001; Solmon & Podgursky, 2000).

Teacher teams must provide opportunities for teachers to share experience and expertise and new knowledge and skills. As individual teachers gain new knowledge and skills, they can be shared with the teacher team in order for the school as a learning

community to benefit (Fullan, 2001a; Pascale *et al.*, 2000; Sweeney, 2003; Von Krogh *et al.*, 2000). Teachers can construct new knowledge from local knowledge and share that new knowledge across the learning community (Elmore & Burney, 1999; Kouzes & Posner, 1998; Nonaka & Takeuchi, 1995).

The traditional professional growth and development model developed islands of expertise with effective individual teachers, but it did not create schools of expertise or effective schools. A school is as effective as its least effective teacher. When expert teachers share, their experience and expertise become the norm—the experience and expertise of all the teachers (Bishop, 2000; Goffee & Jones, 2000; Lewin & Regine, 2000). In Binder's qualitative study, the TBVP principals provided the team structure for creating local expertise and experience and created teacher teams within the school team structure to share the local knowledge and import needed knowledge. Collaboratively, in teacher teams, the teachers translated the new knowledge to explicit knowledge and tacit knowledge (Binder, 2003; Brown & Duguid, 2000).

The TBVP principals created opportunities for learning by designing teacher teams and cultivated a climate of leadership at all levels by allowing teachers and teams to lead (Binder, 2003; Fink & Resnick, 1999a; Garvin, 2000). The principals agreed that schools can access and leverage hidden knowledge and skills by providing opportunities for professional growth and development and teacher teams for teachers to extend the professional growth and development from the teachers' classroom (teacher learning) into the students' classrooms (student learning) (Nonaka & Takeuchi, 1995; Sweeney, 2003). The TBVP principals testified that finding time for teachers to share the knowledge they have acquired as individuals with teacher teams has created shared knowledge and

contributed to a school community committed to student and teacher learning. They added they have only begun to find the time and tap the knowledge that can become shared knowledge (Binder, 2003).

The traditional professional growth and development model creates conditions that can hinder the welding of new knowledge to new skills (Corcoran, 1995; Haycock, 1998; Solmon & Podgursky, 2000). As individual teachers participate in individualized professional growth and development, they try to weld new knowledge and new skills in isolation, without the support of their peers. Each teacher is functioning as an individual, in isolation. The individual parts do not equal the whole (Fullan & Hargreaves, 1991; McLaughlin, 1993).

Professional growth and development includes team work and work enrichment. Team work refers to shared responsibility for school-related tasks that require collaboration and cooperation and create interdependence among teachers (Corcoran, 1995). Team work also provides on-the-job learning and opportunities for the exchange of ideas among teachers and for reflection. Teacher teams provide opportunities for collaboration and on-the-job learning. Work enrichment refers to the expansion of teachers' work in ways that require new skills (Corcoran, 1995). Teacher teams also provide opportunities to expand teachers' work.

Teacher teams capitalize on shared work because teachers share responsibility for the students. Collaboration is embedded in the day-to-day work of the teachers. Teacher teams also contribute to work enrichment. Every decision the teachers make and implement is visible as teachers team teach and have the opportunity to reflect and respond (Corcoran, 1995).

Developing Teachers as Leaders

Quality professional growth and development develops teachers as professionals and as leaders (Corcoran, 1995; Fullan, 2001a; Gleick, 1999). The goal is to develop shared leadership by developing leaders at all levels. Shared leadership requires new skills for teachers and leaders and a school culture of inquiry (Bridges, 1980; Johnson, 1998; Keene & Zimmermann, 1997; Pascale *et al.*, 2000; Supovitz, 2000). Teacher teams contribute to developing teachers as leaders.

Iowa Professional Development Model and School Improvement

In addition to the TBVP Pilot Project, the Teacher Quality legislation included a component for professional growth and development, the Iowa Professional Development Model (IPDM). The IDPM combines recent research on school improvement and professional growth and development and underscores the collective force schools can exert on student and adult learning. One key component is the need for teacher in teams to study what is effective and work collaboratively to learn and implement new knowledge (Elmore, 2002; Iowa Professional Development Model, 2002; Joyce & Showers, 2002; Schmoker, 1996; Slavin *et al.*, 1996).

TBVP and the Iowa Professional Development Model and School Improvement

Ideally, the TBVP pilot project schools have the IPDM embedded within the comprehensive school improvement plan and process. The schools focus on learning—not just improved learning for students, but also improved learning for teachers and the school as an organization. If teachers are not learners and the schools as learning communities do not continually reflect on and learn from past practices, then student learning will not be

dramatically improved (Corcoran, 1995; Day *et al.*, 1995). The TBVP pilot project was voluntary and teacher teams who were committed to ongoing efforts to improve the effectiveness of their schools chose to participate. The state provided top-down support for bottom-up school improvement. This shift is critical to successful school reform (Day *et al.*, 1995).

During the first year of the TBVP pilot project (2001-02), schools were given the opportunity to identify and limit the number of core problems (Chadwick, 2002). During the Year II of the pilot project (2003-04), the legislative requirements changed to encompass the No Child Left Behind federal requirements and districts were required to address new state and federal mandates. Losing focus amid the flood of federal, state and district mandates will lead to a loss of school improvement momentum (Argyris, 2000; Bryk *et al.*, 1998; Goleman, 2000; Hamel & Merz, 2005; Kotter, 1996; Beer *et al.*, 1990; McCollum, 2001; Mintzberg *et al.*, 1998). When school reform efforts are focused, teachers are committed. When school reform efforts become unfocused, teachers become overwhelmed and overworked (Fullan, 1993a; Fullan & Hargreaves, 1991).

In Binder's (2003) qualitative study, the TBVP principals balanced innovations and innovativeness by being proactive in order to overcome the fragmentation possible with required federal, state and district mandates. Professional growth and development provided opportunities for sharing experience and expertise. Principals of the TBVP pilot schools recognized teacher teams were critical. They provided opportunities to extend professional growth and development from theory to application. The principals recognized the importance of quality use of teachers' instructional time as teachers and their professional growth and development time as learners. The principals used teacher

teams to “buy time” and extend professional growth and development opportunities. The importance the principals attributed to the teacher teams as the vehicle of professional growth and development prompted this research on the types of teams that are in place in TBVP Pilot Project schools, the role they play, and the importance of those teams to the success of the TBVP schools.

Research on Teams

Teams in the Business World

Much has been written about teams in the business world, including types of teams, characteristics of effective teams, and strategies leaders use to make the most of teams (French & Bell, 1995; Harvey & Drolet, 1994; Kinlaw, 1991; Varney, 1991). In the business world of profit gains and losses, restructuring organizations using teams is considered by many to be essential to meet the needs of the twenty-first century. Corporate America and organized labor agree that teamwork is not a management fad, but an effective management strategy (Snyder & Edwards, 1993). Varney (1991) claims the use of teams increases performance, improves quality, and produces higher levels of job satisfaction. The use of teams combines the creative forces of the individuals within the teams and produces a greater creative force within the organization (Varney, 1991). The use of teams to improve performance has been documented in business, industry, and government. Teams have performed well because they pool the expertise and experiences of the individual team members. Teams support ongoing, open-ended communication, which in turn supports goal setting and problem solving. Teams contribute a social dimension to the work setting that is absent when individuals work independently (Katzenbach & Smith,

1993). Good management alone will not suffice; leaders need to know how to develop effective teams and use them. According to Katzenbach and Smith (1993), real teams, “not just groups the management calls teams,” should form the basic organizational unit to maximize the performance of individuals within the teams and the teams within the organization (Katzenbach & Smith, 1993, p. 15).

Teacher Teams in Education

In the world of education, schools, like businesses, have gains and losses—the gains represent high performing schools with students meeting high expectations for student achievement and the losses represent underperforming schools with students not meeting high expectations for student achievement. Schools are under much pressure from federal, state and local legislation to improve. The scrutiny has pressured school districts and leaders and many have responded by restructuring schools.

Erb and Doda (1989) noted that restructuring, when it comes to teachers working as teams, not as individuals, has significant value. Teacher teams facilitate communication and collaboration and foster collegiality and cooperation. Teaming changes the school climate from one of peers working in individual classrooms to professionals working together in an effective school (Erb & Doda, 1989). Barth (1988) and Elmore (1990) note that effectiveness of restructuring depends on the degree of collaboration and communication created with the restructuring. If the restructuring creates more opportunities for teachers to plan, implement and evaluate together, the restructuring leads to improved student performance. If the restructuring limits the opportunities for collaborative work, teachers are not empowered. More time for individual teachers to plan,

implement, and evaluate will not lead to improved student performance (Fullan & Hargreaves, 1991). According to Fullan and Hargreaves (1991), the most effective method to improve schools and student achievement is to create opportunities for teachers to work collectively.

In the private sector, the types of teams, the characteristics of effective teams, and the strategies managers use to promote team performance, and hence organizational performance, have been documented. In the education sector, there has been less documentation of the types of teacher teams, the characteristics of effective teacher teams, and the strategies educational leaders use to promote teacher team performance, and hence organizational performance, particularly at the K-12 level.

Types of Teacher Teams in Education

In the educational setting, there has been research on the effective use of teams as learning communities at the post secondary level, through both formal structures, such as cohorts, and informal structures. The research has noted a difference between learning teams and true learning teams, with learning teams meeting the structural needs of institutions and true learning teams meeting the needs of students as learners. The research also has noted the importance of future school leaders developing an understanding of the importance of learning teams and experiencing the learning that takes place in true learning teams in order to more effectively create teacher teams in their schools as both a leader and a learner (Baitland, 1992; Barnett *et al.*, 2000; Lebsack, 1993; Norris *et al.*, 1996a; Norris, *et al.*, 1996b; Norris *et al.*, 1996c; Weise, 1992).

There has been less written about the effective use of teams in schools at the K-12 level. Initially, three primary types of teams were identified: multidisciplinary teams used primarily in special education, interdisciplinary teams found primarily in middle schools, and “school-based management teams” used primarily to govern local schools in large decentralized districts (Barth, 1990; Drolet, 1993; George & Oldaker, 1985; Hall, 1995; Katzenbach & Smith, 1993; Lipsitz, 1984; Odden & Wohlstetter, 1995; Pounder, 1997, 1998c; Wohlstetter & Briggs, 1994). There has been less research on teacher teams committed to student and teacher learning and teaching and teacher teams in the elementary schools.

Multidisciplinary Teams

Multidisciplinary teams, also referred to as problem solving teams (Kaiser & Woodman, 1985), typically consist of the school’s special education staff and, the teacher who is referring the student, the student, the parents, and the principal. The purpose of the team is to evaluate the individual student’s needs. The multidisciplinary team is a decision making team related to the educational placement of the individual student (Aronian, 1991).

Interdisciplinary Teams

Interdisciplinary teams tend to consist of the language, social studies, math, and science teachers who share responsibility for the instruction of a shared group of students. Interdisciplinary teams typically are utilized at the middle school level. They share the same students and the same planning time (Gibson, 1992; Maeroff, 1993b). The teacher teams typically meet every day or every other day to plan instructional activities and

discuss students who are at risk of failing. The purpose of the planning time is to develop interdisciplinary themes, which the teachers then implement (Erb & Doda, 1989).

Some interdisciplinary team's responsibilities include: a) develop and implement interdisciplinary curriculum and teaching strategies based on the developmental needs of the students; b) develop interventions to address student learning; and c) provide coordinated communication with students, parents, and teachers. These responsibilities unite the learners' needs with the teaching-learning process (Rowan, 1990a).

Interdisciplinary teams are common in middle schools and improve student achievement and decreased student isolation (Clark & Clark, 1994). Interdisciplinary teams create opportunities for students to see instructional connections. Teachers identify which students needed additional instructional support. Teams create opportunities for teachers to collaborate, see instructional connections, and participate actively in professional growth and development. Teams decrease teacher isolation (Doda, 1983; Lipsitz, 1984; Johnson & Ramos de Perez, 1985; Maeroff, 1993). Commonly, the principal determines the team's composition, schedules the shared students and shared planning time for teachers, and outlines the purpose of the teacher teams. Once the teams are formed, they are self-directed and forge a "teamness" (Erb & Doda, 1989; Gibson, 1992).

According to Pounder (1998c), interdisciplinary teams hold great promise for significant school reform because, unlike most teacher teams, they a) involve most school faculty, changing the nature of teacher work itself; b) directly affect the instruction of all students; and c) establish a close and direct link between the restructuring effort and student and school outcomes (Pounder, 1998c).

The elementary and high school teams comparable to middle school interdisciplinary teams include grade level teams at the elementary level and departments at the high schools. Grade level teams are interdisciplinary in that the teachers teach language, social studies, math, and science, but the teachers do not share responsibility for the instruction of a shared group of students (Gibson, 1992). Departments are disciplinary in that the teachers teach one content area; teachers do not share responsibility for the instruction of a shared group of students (Gibson, 1992).

Site-Based Management Teams

Site-based management teams, also referred to as school-based management teams, include administrators, teachers, parents, support staff, and community members who are selected or elected by their respective constituencies (Odden & Wohlstetter, 1995). The teams provide site-based management and address the needs of the school as a whole. The site-based management team is comparable to the School Improvement Advisory Committee that is required in Iowa as part of Comprehensive School Improvement. Iowa legislation refers to site-based management teams as leadership teams, including building leadership teams, district leadership teams, and school improvement advisory committees

In many cases, the local schools gain site-based management responsibilities when the central office has been decentralized (Drolet, 1993). The team's main responsibility is to make decisions regarding the individual school (Odden & Wohlstetter, 1995). The members are selected or elected by their respective constituencies and ideally the leadership of the team is a shared-leadership role (Wohlstetter & Briggs, 1994). According to Pounder (1998c) site-based management teams do not hold the promise of interdisciplinary teams.

They a) do not involve most school faculty; b) do not directly affect the instruction of students; and c) do not establish a close and direct link between the restructuring effort and student/school outcomes (Pounder, 1998c).

Additional Teacher Teams

i. Johnson and Johnson's (1989) Teacher Teams

Johnson and Johnson (1989) identified three additional types of teams: 1) collegial support teams, 2) task force teams, and 3) ad hoc decision-making teams. Collegial support groups provide professional support. They may be formal or informal (Johnson & Johnson, 1989). Task force groups solve problems, identifying a problem, defining it, researching it, collecting information, considering solutions, creating a plan-of-action, and making recommendations. According to Johnson and Johnson (1989), the task force is also responsible for implementing the plan-of-action. Ad hoc decision-making groups address individual issues and make decisions regarding those issues. Once a decision is made, they share the process and the decision with the school staff. These teams are not necessarily formed to address and do not necessarily contribute directly to student and teacher learning, although they may contribute indirectly to student and teacher learning (Johnson & Johnson, 1989).

ii. Maeroff's (1993b) Teacher Teams

Maeroff (1993b) further differentiated five types of teams in education:

1) governance teams, 2) subject matter teams, 3) grade-level teams, 4) pedagogy teams, and 5) multipurpose teams. According to Maeroff's (1993b) distinctions, governance teams have responsibility for making decisions related to the governance of the school. The

school leader communicates the vision of the school to the governance team so the team's decisions reflect the vision of the school. Decisions may address an array of issues—program decisions (what is structured), curriculum decisions (what is taught), student achievement decisions (what is assessed), or financial decisions (what resources are available) (Maeroff, 1993b). Like Johnson and Johnson's task force teams, governance teams are charged with making decisions regarding the school as a whole.

Subject matter teams are like departments—they share the same subject. At the high school level, teacher teams are organized by subjects. Subject matter teams may serve in a governing function with regards to decisions regarding curriculum, instruction, and assessment. Alternatively, subject matter teams may serve to share information and implement subject matter decisions (Maeroff, 1993b).

Grade level teams share information across classes within the grade level (Maeroff, 1993b). In large schools, grade level teams are within schools; in small schools, grade level teams may bridge multiple schools. According to Pounder (1998c), grade level teams, like interdisciplinary teams, hold great promise. In many ways, interdisciplinary teams and grade level teams are comparable, except grade level teams do not share responsibility for the instruction of a shared group of students.

Pedagogy teams discuss areas of special interest related to teaching and learning and may serve as learning teams. Teachers provide and develop expertise on matters of special interest (Maeroff, 1993b). Pedagogy teams may function as ad hoc decision-making teams depending on how the school functions and its level of site-based decision making.

Multipurpose teams include teachers from other teams who get together for a specific purpose. These teams are not necessarily formed to address and do not necessarily

contribute directly to student and teacher learning although they may contribute indirectly to student and teacher learning.

iii. Hall's (1995) Teacher Teams

At the elementary level, Hall (1995) identified six types of teacher teams: 1) grade level teams, 2) primary and intermediate teacher teams, 3) subject area teams, 4) buddy teams, 5) new teacher buddy teams, and 6) leadership teams. Primary and intermediate teams are cluster or cross-grade level teams. New teacher buddy and buddy teams are paired teacher teams, which may be created formally or informally. Hall's leadership teams may be similar to site-based school governance teams, which are formal leadership teams or Johnson and Johnson's task force teams and ad hoc decision-making teams.

Teacher Teams in TBVP Pilot Project Schools

There currently is a shift in decision making from the state level to the local level. Teachers are expected to play a number of roles within the school, including actively participating in the local decision-making process, and the roles are multiple and complex. These changing roles demand new skills and greater organizational knowledge, with individuals serving on a variety of teams to serve the organization (Corcoran, 1995).

In Iowa, the TBVP principals identified (Binder, 2003) a variety of teams, including 1) leadership teams, professional growth and development leadership teams, 2) subject or content area teams (departments), 3) interdisciplinary teams, 4) grade level teams, 5) primary and intermediate teams (cross grade teams or cluster grade teams), 6) teaching and learning communities, 7) learning teams, 8) study teams, 9) pedagogy teams, 10) focus groups (task force or ad hoc decision making teams), 11) mentors (buddy teams), and

12) problem solving teams (multidisciplinary teams). The principals felt the various teams within their schools provided opportunities for decision-making and increased interest in decision-making because the decisions directly impacted the teachers and their students. Teacher teams kept the decisions manageable and meaningful (Binder, 2003).

Grade level teams, primary and intermediate teams (cross grade teams or cluster grade teams), subject area teams (departments), and interdisciplinary teams are defined by the composition of team members. The composition and purpose are related. Mentors (buddy teams) are defined by the purpose of the team and provide local support for beginning teachers. Leadership teams (site-based school governance teams, task force teams, ad hoc decision-making teams, and education associations) are defined by their purpose, and the composition of the teams is heterogeneous. Problem solving teams (multidisciplinary teams) are defined by their purpose with composition dependent on the individual students.

Grade level teams, primary and intermediate teacher teams, subject area teams, and interdisciplinary teams represent teachers who may work next door or down the hall, whereas collegial support teams provide the professional community. Collegial support teams include some, but not all, of the teachers within the school and teachers from different buildings (Barth, 1990; Corkrum, 1995; Drolet, 1993; Gibson, 1992; Hall, 1995; Maeroff, 1993a; Odden & Wohlstetter, 1995; Wohlstetter & Briggs, 1994).

Organizations must frame active participation in the decision-making process as a responsibility and a requirement. An active participant is an individual who develops the skills and knowledge necessary to participate in local decision-making and understands it is the individual's responsibility to participate. TBVP principals utilized a variety of teams to

actively involve teachers in the ongoing decision-making schools require on a day-by-day basis (Day *et al.*, 1995; Fullan, 2001a; Sweeney, 2003; Von Krogh *et al.*, 2000).

Roles of Teacher Teams

Teacher teams require teachers serve in new roles, which require new skills. Crow and Pounder (2000), leading researchers on interdisciplinary teams use purpose, composition, structure and context, and interaction to describe, in detail, the roles teacher teams play. Purpose, composition, structure and context, and interaction contribute to the effectiveness of teacher teams (Crow & Pounder, 1997).

Purpose

The purpose of the teacher team is determined by the characteristics of the common task (Crow & Pounder, 2000; Pounder, 1998c). The work characteristics of the common task evolve as the teacher teams evolve. Crow and Pounder (2000) found “young” teacher teams are more likely to address individual student needs rather than interdisciplinary curriculum planning involving all students, which reflects the early developmental stages of teacher teams. As a team matures, the emphasis shifts from the day-to-day picture of management issues to the big picture, such as cooperative teaching and collaborative curriculum development (Erb, 1995; Erb & Doda, 1989; Stout, 1998). Curriculum development is the most challenging task to be addressed and “mature” teacher teams are likely to collaborate on curriculum development (Arhar *et al.*, 1989; Beane, 1993; Lipsitz, 1984).

The common task must be student learning. It is the focus on instruction and making instructional decisions that holds the promise for significant and substantive

changes in schools and for student and teacher learning. Schools must be organized in ways that involve teachers in decisions that are tied to the needs of student and teacher learning. Teacher teams with an instructional focus hold significant potential for schools (Maeroff, 1993a; Odden & Odden, 1994; Rowan, 1990a; Wohlstetter *et al.*, 1994).

Composition

Teacher team assignment is critical to the success of teacher teams. Educational philosophy, stage of career, commitment to teaming must be considered (Pounder, 1998c). Seamon (1981) citing Lifton (1972) concluded the best composition seems to be that of individuals who are somewhat different in attitudes, backgrounds, and experiences, but not radically different (p. 45). Within a team, there must be a range of teaching experience, philosophical and professional perspectives, interpersonal and leadership skills. Teams that are too heterogeneous may contribute to uneven participation, and create unhealthy conflict or team inertia. On the other hand, teams that are too homogeneous may contribute to lackluster participation, no conflict, which is unhealthy, and team inertia (Pounder, 1999).

Structure and Context

Teacher team time is one key factor in the structure of teacher teams. Time constraints not only hinder the effectiveness of the teacher teams, they negatively affect the purpose, composition, and interaction processes. Formal and informal structure can contribute to productive use of teacher team time. If teams do not establish strong norms of independence and interdependence in their early stage of development, and continue to be dependent on the leadership of the principal, they are less effective (Pounder, 1999). Teams with designated team leaders, whether informally or formally, function better than

leaderless teams (MacIver, 1990; Pounder, 1998c). Teaming teachers tend to exercise greater influence in school-wide decisions than non-teaming teachers (Erb, 1987, 1995), though they need a clear understanding of the team's decision-making authority within the team and the school (Pounder, 1998c). Fully functioning teams may take three or more years to develop the interpersonal communication skills, team process skills, team decision-making skills, and goal setting, in order to address the task of student learning (Erb & Doda, 1989).

Interaction

Interaction includes three components that contribute to effective teacher teams:

a) efficient coordination and communication; b) appropriate sharing of knowledge, weighting of relevant knowledge, and balanced inputs from team members; and c) invention and implementation of performance strategies. Healthy interaction increases "process gains" and decreases "process losses," which contribute to efficiency and effectiveness (Hackman & Oldham, 1980, p. 200). Block scheduling, regularly scheduled team time, and shared instructional planning time, as well as electronic communication, are structural elements that enhance coordination and communication among team members (Clark & Clark, 1994; Pounder, 1998c).

Active participation, balance of member inputs, coordination and communication, and team commitment are challenging for teacher teams. Teachers who have worked in isolation need to develop the interaction skills to work in teams. Factors that seemed to influence the degree of active participation are: a) whether team members taught a core subject or an elective subject, b) whether the content of a teacher's subject area integrated

naturally with other subject areas involved in curricular coordination, and c) the degree of commitment to teaming (Pounder, 1999). Hackman (1990) noted team structure supports healthy interactions.

Balancing member inputs is an important interaction skill. Hackman (1990) argues that teams failing to achieve a balance of team inputs may suffer from the loss of appropriate member expertise and effort, resulting in a self-fueling downward spiral. The team may burn itself out (Hackman, 1990) if the workload is not evenly distributed. Little research exists on balancing member inputs and inventing and implementing new work strategies to meet teams' work objectives.

Team commitment plays an important role in the success of teaming and teacher teams. Teacher teams represent a microcosm of the schools and reduce the size and complexity of the school for students and teachers, which can contribute to team commitment (Erb, 1995). Effective teacher teams spend time establishing a team identity and building commitment, which contribute to team effectiveness (Erb, 1995).

The researcher wanted to determine what teams exist in TBVP Pilot Project schools and use Crow and Pounder's (2000) constructs to explore in-depth the roles the teacher teams play in their respective schools.

Characteristics of Teamness

Hall (1995) used the five characteristics of "teamness" identified by Corkrum (1995) to assess the "teamness," or the effectiveness, of teacher teams. Effective teacher teams exhibit the following characteristics of "teamness:" common tasks; mutual trust; open, direct conflict; risk taking; and an awareness and acceptance of group. In addition to

the five characteristics of “teamness,” Hall found common identity and tenets to be embedded in common tasks. The teacher teams promoted student achievement even though teacher teams were not aware of the power inherent in their teacher teams. According to Hall (1995), teachers just “did it.” They formed teacher teams and teamed. The principals in Halls’ study (1995) did not seem to be aware of the strategies they used to develop “teamness” or to promote teacher teams. Again, according to Hall (1995), the principals just did it. The teachers were unaware of the power inherent in their teacher teams relative to student achievement; the teams were not formed to address student and teacher learning. The teams were formed to provide opportunities for collaboration and communication. Hall (1995) concluded the teams contributed to student and teacher learning, directly or indirectly, because the schools were high performing schools. The teacher teams may not have been the only factor, but appeared to be one factor contributing to high levels of student achievement. There were comparable schools, with comparable levels of socioeconomic status, but they were poor performing schools, and did not have teacher teams (Hall, 1995). Hall (1995) concluded further research is needed to document how teacher teams impact student achievement and how principals create and support teacher teams that impact student achievement.

Despite the variety of teacher teams that have been identified in education, there have been a limited number of studies at the elementary level (Barth, 1990). The collaborative teaching model has not been the traditional model at the elementary level (Barth, 1990). Teachers have been teaching in isolation since the days of the one-room schoolhouse. Today, many schools function as many one room schoolhouses physically

connected, but not interconnected. Collaboration occurs when it is valued and when it is scheduled.

Teacher teams specifically and primarily committed to student and teacher learning and teaching and teacher teams in the elementary schools have not been thoroughly researched. The TBVP Pilot Project provides the ideal opportunity to research the importance of teacher teams since teams are one requirement of participation in the pilot project.

Common Tasks

The first characteristic, common tasks, includes a shared vision, purpose and shared results (Corkrum, 1995). The shared vision unites individuals and forges multiple perspectives into a single vision. It provides the initial focus (Carr, 1992; Deal & Peterson, 1999; Fisher, 1993; Furtwengler, 1985; Garten, 2001; Harvey & Drolet, 1994; Senge, 1990; Sober & Wilson, 1998; Stolp, 1994).

A shared purpose is the vehicle to making a shared vision a reality. A shared purpose provides the tools for a team to work together; it takes the team a step beyond a shared vision. Shared purpose gets the team moving. Well-articulated student achievement goals provide a focus; student achievement goals that are measurable, with benchmarks, provide the signposts for the team as it strives to create the ideal school. The benchmarks allow the team to focus and refocus along the way (Carr, 1992; Kelley & Protsik, 1997; Mohrman *et al.*, 1995; Odden & Kelley, 2000; Rees, 1991; Varney, 1991). This component of common tasks is related to Pounder's construct of purpose used to determine the role of teacher teams.

Shared results document the team's efforts and lead to reflection and reexamination. If shared results demonstrate that a team has met established goals, the team can create new goals with higher expectations. If shared results demonstrate that a team has not met established goals, the team continues to work toward those goals utilizing new strategies with renewed energy. The results provide the team with an opportunity to reexamine both the vision (the big picture) and the purpose (the immediate picture), and provide the opportunity for the team to focus and refocus. Shared vision provides the initial focus; shared purpose provides for continual refocusing; and shared results provide an opportunity for reflection and either refocus or new focus (Argyris, 2000; Carr, 1992; Hackman, 1990; Heifetz, 1994; Homer, 2000; Kinlaw, 1991; Larson & LaFasto, 1989; Lashway, 2001b). Hall found common identity and tenets to be embedded in common tasks. The shared vision, purpose and results contributed to a common identity and tenets (Hall, 1995).

Mutual Trust

The second characteristic, mutual trust, must be established for the team to work together effectively. Without mutual trust, any forward steps produce steps in many conflicting directions as team members question one another (Corkrum, 1995). Mutual trust must be created, cultivated, and cared for (Bishop, 2000; Elmore & Burney, 1999; Goffee & Jones, 2000; Harvey & Drolet, 1994; Lewin & Regine, 2000; Nonaka & Takeuchi, 1995; Rees, 1991; Schrage, 1989).

Open Direct Conflict

The third characteristic, open direct conflict, must be practiced for the team to work together effectively. Without open, direct conflict, any forward steps are pulled in many

conflicting directions as team members question one another but do so in a secretive manner (Corkrum, 1995). There is no such thing as a team without conflict. Educated individuals working together will bring multiple perspectives together. Open direct conflict allows the team to deal directly with the conflict and use the conflict to question beliefs and create shared knowledge that will be more informed and scrutinized and, therefore, more intelligent. Open direct conflict allows the team to develop explicit knowledge and tactic knowledge (Bishop, 2000; Elmore & Burney, 1999; Goffee & Jones, 2000; Kouzes & Posner, 1998; Merenbloom, 1986; Varney, 1991; Von Krogh *et al.*, 2000).

Risk Taking

The fourth characteristic, risk taking, must be encouraged, modeled, and valued (Corkrum, 1995). New information becomes new knowledge when it is applied. Application transitions new knowledge from knowledge to practice. Risk taking becomes common practice when team members collaborate and one team member encourages another to try a new practice, and then provides support to help the team member critique it and become comfortable and skilled with the new practice. Risk taking becomes the norm when team members communicate and challenge one another to try new practices (Carr, 1992; Day *et al.*, 1995; Fisher, 1993; Heifetz, 1994; Homer, 2000; Mohrman *et al.*, 1995; Murphy, 1994; Sweeney, 2003).

Awareness and Acceptance of Group Structure

The fifth characteristic, awareness and acceptance of group structure, helps team members define their roles as members and leaders, developing and sharing expertise (Corkrum, 1995). The team includes members with varying degrees of expertise and

experiences, and teaming develops a shared level of expertise and different experiences that benefit the team and improve the results (Buchholz & Roth, 1987; Carr, 1992; Larson & LaFasto, 1989; Merenbloom, 1986; Varney, 1991). Sometimes an individual will serve as a team member developing expertise and experience and at other times serve as a leader sharing expertise and experience (Bishop, 2000; Elmore and Burney, 1999; Goffee & Jones, 2000; Kinlaw, 1991; Kouzes & Posner, 1998; Pascale *et al.*, 2000; Sweeney, 2003). Awareness and acceptance of group structure is related to Pounder's construct of structure used to determine the role of teacher teams.

The researcher wanted to determine which of Hall's (1995) characteristics of teamness existed in the teacher teams in the TBVP Pilot Project schools. The researcher wanted to explore the strategies the teacher teams and the principals used to develop the characteristics of teamness. The researcher also wanted to explore how the characteristics of teamness impact professional growth and development (teacher learning) and student achievement (student learning). In addition to Hall's (1995) characteristics of teamness, the researcher included developing teachers as professionals and developing teacher as leaders to explore how the characteristics of teamness are related to developing teachers and how together they impact professional growth and development (teacher learning) and student achievement (student learning).

Role of the Principal on Teacher Teams

Principals, as instructional leaders, have a class of students, those students being the teachers. Principals influence the learning of their teachers just like teachers influence the learning of their students (Clowes, 2003a; Goldhaber & Brewer, 1997; Haycock, 1998;

Rivkin *et al.*, 2001; Schalock, 1998; Solmon & Podgursky, 2000; Wright *et al.*, 1997).

Principals have the ability to structure the school to create teacher teams and learning communities with opportunities for collaboration. Principals can overcome the structural constraints of scheduling and time, the physical constraints of individual classrooms side by side, and the professional norm of individual teachers teaching side by side. Principals can restructure the student day and the teacher day to create time for teachers to team.

Collaboration creates a culture of learning for students and teachers and provides opportunities for professional growth and development. Schools with teacher teams and learning communities have a vision of learning and teaching and structure that supports the needs of students as well as teachers as learners (Building Bridges, 2001; Education Commission of the States, 2001; Firestone & Pennell, 1993; Hoerr, 1998; Lashway, 2001a; Menro, 1998).

The principal as manager has been supplanted by the principal as instructional leader. This new role demands that principals know how to build the capacity of individual teachers, the school as a team of teachers, and the school as a system. Understanding what instruction is needed, building strong teacher teams, overseeing instruction, and developing leaders at all levels are all aspects of instructional leadership, and principals must serve as instructional leaders (Elmore, 2002; Hodgkinson, 2003; Murphy *et al.*, 2003; Noam, 2003; Pierce & Stapleton, 2003; Reeves, 2003a, 2003b; Rothstein, 2003; Williams, 2003).

Leaders can transform organizations by building the capacity of the individuals within the organization and the capacity of the organization. Transformational leaders utilize teachers as leaders and teacher teams to cultivate the capacity of the individuals within the organization and the capacity of the organization. Transformational leaders

nurture teachers as leaders and cultivate shared leadership (Bass & Avolio, 1994; Bass & Stogdill, 1990; Stogdill, 1981; Voices from the Field, 1996). Transformational leaders create shared knowledge among teachers, utilizing teachers as leaders and teacher teams. Utilizing teachers as leaders and teacher teams leads to shared risk taking by providing opportunities for individuals to share and develop their expertise and experience. The shared expertise and experience of the individuals becomes the organization's expertise and experience (Bass & Avolio, 1994; Bass & Stogdill, 1990; Stogdill, 1981; Voices from the Field, 1996).

The researcher wanted to determine how principals in the TBVP Pilot Project promote professional growth and development (teacher learning) and student achievement (student learning).

Disadvantages of Teacher Teams in Schools

Just as there are advantages, there can be disadvantages to teams, and leaders must be aware of the possibilities and the potential hazards in order to avoid the pitfalls. Teams, like individuals, can become isolated or they can experience teamthink. If team members do not know how to work as a team, membership may silence professional dialogue and discourse rather than contribute to it. Team members may focus on the collegial aspect of teams, not the collaborative aspect (Bensimon & Neumann, 1993). Teams may rely solely on individual team members for new information, and the new information, which will become shared information, may be flawed and not reflect best practice. The team may build on its weakness, rather than its strengths, and become isolated from other teams in the organization. Sometimes a team optimizes its own goals, losing sight of the organizational

goals to which they are supposed to be contributing. Management theorists refer to this phenomenon as “suboptimization” (Bensimon & Neumann, 1993).

Teams may rely on teamthink, which results when the team or the dominant members assume the team has reached a consensus when, in fact, the team has silenced team members. Teamthink may result from dominant members expressing one point of view and silencing others or it may result from team members not having the skills to participate in dialogue and discourse with colleagues when the individuals share different points of view. Disagreeing agreeably is a skill and team members may choose not to disagree because they do not have the skills to disagree agreeably, instead choosing to appear to agree. When different points of view are withheld, teachers do not express their doubts, make critical observations, or raise important questions (Barott & Raybould, 1998; Bensimon & Neumann, 1993; Evans-Stout, 1998; Hart, 1998; Johnson, 1998, Matthews, 1998; Pounder, 1998a, 1998b). When different points of view are silenced and not shared, team members do not benefit from team discussions and decisions. Cooperation becomes superficial, which contributes not to collaboration but to conspiracy (Bensimon & Neumann, 1993). When different points of view are silenced, the team can become split. Team members who desire professional dialogue and discourse will view the team time as a waste of time and team members who desire collegiality will view the team time as beneficial and spend time socializing or participating in dialogue and discourse with a reactive, not a proactive stance. Dialoguing and discussing challenges with a proactive stance is a skill. Some team members may choose not to participate because they see the team wasting time. Others may choose to participate but, because they do not have the skill of dialoguing and discussing challenges with a proactive stance, utilize the time to rant

about the challenges (Barott & Raybould, 1998; Bensimon & Neumann, 1993; Evans-Stout, 1998; Hart, 1998; Johnson, 1998, Matthews, 1998; Pounder, 1998a, 1998b).

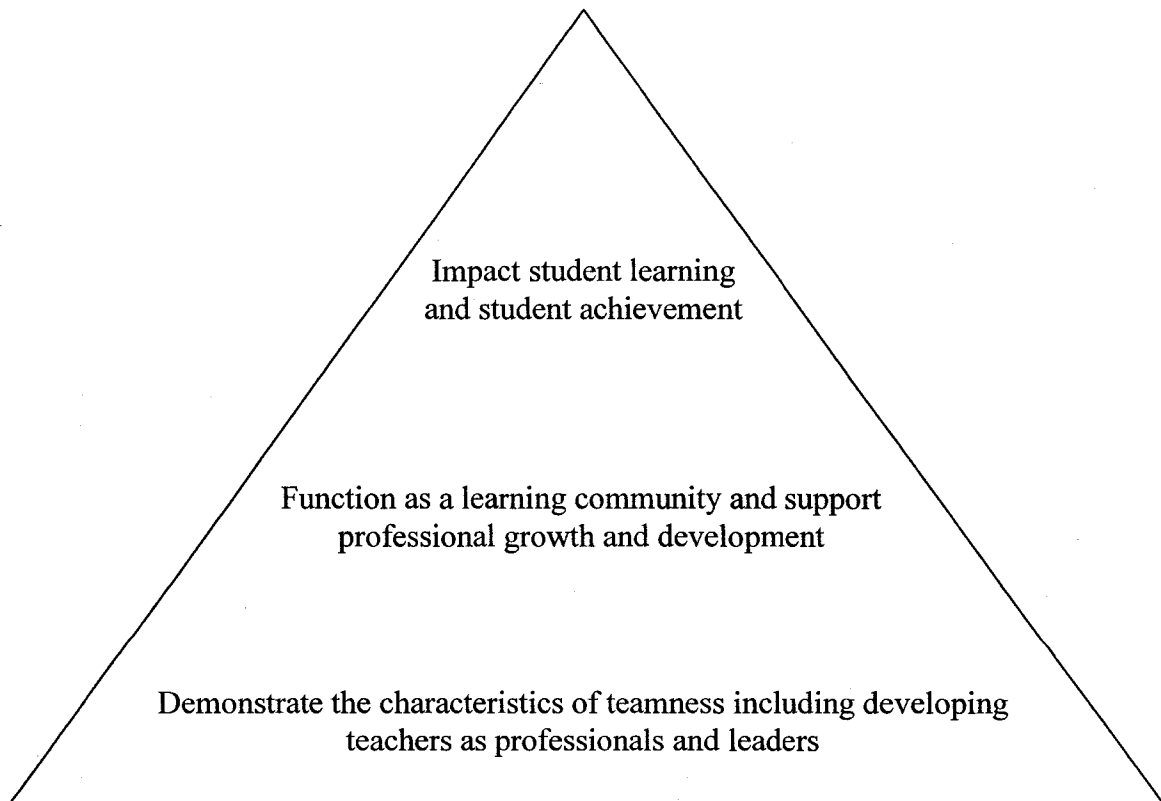
The researcher wanted to explore how the principals and teacher teams avoid the potential hazards and pitfalls. The researcher wanted to explore how the constructs of purpose, composition, structure and context helped principals and teacher teams avoid the potential hazards and pitfalls. The researcher also wanted to explore how the characteristics of teamness helped principals and teacher teams avoid the potential hazards and pitfalls.

Iowa's Team-Based Variable Pay Pilot Project not only recognizes teacher teams by including "team" in its definition, Chadwick (2002) and Binder (2003) found teachers and principals alike recognized teacher teams. This recognition led the researcher to ask how important is the "team" in TBVP Pilot Project schools? The researcher wanted to determine what teams exist in TBVP Pilot Project schools and the roles they play in their respective schools. The researcher also wanted to explore how the teacher teams impact student achievement (student learning) and professional growth and development (teacher learning). In addition, the researcher wanted to explore the strategies the teacher teams and principals use to impact student achievement (student learning) and professional growth and development (teacher learning). Hall (1995) identified five characteristics of teamness, which include common tasks, common identity and tenets; mutual trust; open, direct conflict; risk taking; and an awareness and acceptance of group. The researcher wanted to determine which characteristics of teamness the teacher teams exhibit and explore the strategies the teacher teams and principals use to develop the characteristics of teamness. In addition, the researcher included developing teachers and professionals and teachers as leaders to explore how the characteristics of teamness are related to developing teachers

and how together they impact professional growth and development (teacher learning) and student achievement (student learning).

The research questions were derived from the literature and formed a triangle:
Teacher teams, which demonstrate the characteristics of teamness, including developing teachers as professional and leaders, will function as a learning community and support professional growth and development (teacher learning). Teacher teams, which function as a learning community and support professional growth and development (teacher learning), will impact student learning and student achievement. Model 2A demonstrates the triangle of teacher teams.

Model 2A: The triangle of teacher teams



CHAPTER III. METHODOLOGY

Research Methodology

The purpose of this study was to explore the teacher teams and to determine the importance of the “team” in Team-Based Variable Pay Pilot Project schools. The research methodology involved a qualitative study with two phases. The first phase included a survey of the ten schools in the Team-Based Variable Pay (TBVP) Pilot Project. The questions, for all ten TBVP Pilot Project schools, were:

1. What teacher teams exist in the schools?
2. What roles do the teacher teams play?

In the first phase, the researcher surveyed all ten schools. The schools were representative of the range of schools in Iowa, including an urban, suburban, and small rural community schools. The survey results provided a sketch of the teacher teams in the TBVP Pilot Project schools and the roles they play. The survey also included a description of the individual schools, student achievement (student learning) as measured by the Iowa Test of Basic Skills (ITBS) and the Adequate Yearly Progress goals (AYP goals), and professional growth and development for teachers (teacher learning). The first phase determined the types of teacher teams that exist in TBVP Pilot Project schools and the roles they played in their respective schools.

In the second phase of the study, the researcher conducted case studies in three of the ten schools, observing and interviewing teacher teams, teachers, and principals, to explore the results of the survey in greater depth. The on-site interviews and observations allowed the researcher to probe the degree to which teacher teams impact student

achievement (student learning) and professional growth and development (teacher learning) and the strategies used to promote student and teacher learning. Examining the characteristics of teamness allowed the research to probe the importance of the “team” in TBVP Pilot Project schools and identify the strategies used by the principals to promote teamness in teacher teams. The three elementary schools were representative of the range of elementary schools in Iowa, including an urban, a suburban, and a small rural community school. The questions for the case study schools explored the importance of the “team” in the three schools.

3. How important is the “team” in TBVP Pilot Project Schools? Sub-questions related to that larger question include:
 - a. How do teacher teams impact student learning and student achievement?
What strategies do teacher teams and principals use to promote student achievement (student learning)?
 - b. How do teacher teams function as a learning community and support teacher learning? What strategies do the teacher teams and the principals use to impact professional growth and development (teacher learning)?
 - c. What characteristics of teamness do the team teachers exhibit? What strategies do the principals use to promote teamness in teacher teams?

The researcher used the survey to collect initial information on the teacher teams present in all ten schools in the TBVP Pilot Project. During the survey of all ten schools, the researcher used purposeful sampling and selected three elementary schools for the case study. In purposeful sampling, the researcher purposefully selected the teacher teams that would best help the researcher understand the phenomena of teacher teams. The researcher

considered the school level (elementary, middle, and high school level), the type of teacher team, the timeframe, and the possibilities for comparing and contrasting the teacher team with the other exemplary teacher teams (Miles & Huberman, 1994). The case study allowed the researcher to collect in-depth information on a limited number of teacher teams, teachers, and principals in schools in the TBVP Pilot Project, an in-depth description of their role including purpose, composition, interaction, structure, and context.

Research Methodology for Phase I: The Survey

The study utilized surveys to collect initial information on the teacher teams present in all ten schools in the TBVP Pilot Project. The questions to define and describe the teacher teams present in schools were both closed and open-ended. The researcher contacted the principals by mail and by telephone to invite them to participate in the survey. The researcher scheduled a time to discuss the questions with the principal and mailed a copy of the questions in advance. During the telephone survey, the principals were asked to identify lead teachers to confirm the principals' initial responses and provide additional information in the purposeful sampling of a limited number of teacher teams. The interview protocol is included in Appendix C. The intent of the survey was not to generalize from the schools in the TBVP Pilot Project to all schools in Iowa (Babbie, 1990), but to provide useful information in the purposeful sampling of a limited number of teacher teams for the case study (Creswell, 2003; Merriam, 1998; Yin, 2003b). The survey provided an overview of the teacher teams present in the ten schools in the Team-Based Variable Pay Pilot Project, and the information provided by the principals and lead teachers was used to determine which teacher teams to invite to participate in the case study. The case study

provided a detailed picture of the teacher teams in three schools in the TBVP Pilot Project. The survey data from all ten schools and the qualitative data from the case study teacher teams, in addition to the student achievement data, provided triangulation (Merriam, 1998; Yin, 2003b).

Population and Sample of Schools in the Survey Study

Purposeful sampling existed in the first phase of the study in that all ten schools in TBVP Pilot Project self-selected when deciding to apply for participation in the TBVP Pilot Project; the Department of Education screened and selected applicants for the TBVP Pilot Project that met the state requirements. The researcher wanted to discover, understand, and gain insight from a unique population, schools in the TBVP Pilot Project, and, therefore, surveyed the schools to develop an overview of the population (Merriam, 1998).

The teacher teams within the schools in the TBVP Pilot Project were of particular interest given the study's purpose (Patton, 1990). Selection criteria in the TBVP Pilot Project were determined by the Teacher Quality legislation. The Department of Education administered the selection process. Stated selection criteria were as follows:

1. To qualify as a TBVP Pilot Project school, the school had to meet the TBVP Pilot Project guidelines.
2. To qualify for the alternative teacher compensation in the TBVP Pilot Project, the schools had to have annual performance goals and meet their annual performance goals (Teacher Quality). The annual performance goals had to meet state guidelines and the schools also had to meet their Annual Yearly

Progress (AYP) goals based on Iowa Test of Basic Skills (No Child Left Behind).

3. To qualify as a TBVP Pilot Project school, the schools had to identify at least one teacher team.
4. The principal had to have been the principal for a minimum of three years—during 2001-2002, the first year of the pilot project, and 2003-2004, the second year of the pilot project. (Note the gap during 2002-2003.)

During the telephone survey, the principals had an opportunity to describe their teacher teams. Their responses highlighted the unique qualities of the individual teacher teams and the schools. Their responses also highlighted commonalities among the teacher teams and schools, which provided triangulation for the case study.

The survey questions were developed in consultation with Dianne Chadwick, the Department of Education TBVP consultant, and the researcher's Program of Study committee. The design was descriptive, to allow the principals and lead teachers to describe the teams present in their schools. Using snowball, chain, or network sampling, the principals were asked to identify lead teachers. Lead teachers were asked to describe the teams present in their schools from their perspective as lead teachers. The information provided by the principals and lead teachers was used to select teacher teams for the case study (Merriam, 1998; Yin, 2003b).

In addition to the survey and the case study, student achievement from the Comprehensive School Improvement Plan (CSIP), the Annual Progress Report (APR), the TBVP application, the end-of-year-one report, and other documentation provided by the

principals, schools, and Iowa Department of Education was examined to provide additional information related to the schools' success. Data collected by the Department of Education during 2001-2002, the first year of the pilot project, including each school's Iowa Tests of Basic Skills results was included in the review.

The Participants in the Survey Study

Principals in the TBVP Pilot Project schools were the initial participants in the survey phase of this research project. The lead teachers were contacted to confirm the responses of the principals and provide additional information. The intent of the survey was to provide useful information in the purposeful sampling of a limited number of teacher teams for the case study (Babbie, 1990; Creswell, 2003).

Table 1 indicates the range of schools from urban to suburban and small rural community schools, the level of schools, and the size of schools. One district, including elementary, middle and high school level, participated.

Instrumentation for the Survey Study

Surveys are useful when the researcher cannot observe firsthand all of the schools, teacher teams and principals (Creswell, 2003). The survey provided a sketch of the teacher teams, which allowed the researcher to select a limited number of teacher teams both to observe firsthand and to probe the teachers' and principals' perceptions (Creswell, 2003; Merriam, 1998). The design was descriptive, to allow the principals and lead teachers to describe the teacher teams present in their schools.

Table 1. Ten Team-Based Variable Pay Pilot Schools and Principals

Location of school	Size of School	Level of School	Gender of Principal	Number of Years as Principal
Small Rural Community	480	Elementary	F	9
Small Rural Community	380	Middle	M	3
Urban	410	Elementary	M	9
Suburban	450	Elementary	F	6
Suburban	1050	Middle	M	30+
Suburban	1300	High	M	5
Rural	120	Elementary	F	11
Small Rural Community	280	Elementary	F	5
Small Rural Community	385	Middle	M	7
Rural	310	K-12	M	10

Data Collection Procedures in the Survey Study

Data was collected in February 2004. The researcher mailed introduction and invitation letters, contacted each of the sites, mailed the surveys, collected the data, and summarized the results to create a sketch of the teacher teams in the TBVP Pilot Project schools. The researcher:

1. Contacted each school site's principal in order to determine
 - a. If he or she had been principal at the site for at least three years
 - b. If he or she would be willing to be a participant in the study
 - c. When would be a good time to conduct the telephone survey

2. Mailed a follow-up letter with a copy of the survey questions in order to:
 - a. Reintroduce the researcher
 - b. Restate the purpose of the study
 - c. Confirm the school's participation
3. Scheduled telephone surveys
4. Conducted telephone surveys
5. Recorded the survey data using the descriptive survey protocol
6. Contacted lead teachers identified by principals to confirm principals' responses
7. Mailed a follow-up thank you letter
8. Made telephone calls and sent e-mails to clarify information as needed
9. Used purposeful snowball (network) sampling, selected schools and teacher teams to be included in the case study

Data Analysis for the Survey Study

A case study database was developed to organize the data on each of the schools and their teacher teams. After the telephone surveys were completed, the responses were entered in the database to allow ongoing analysis of the data. The database facilitated the iterative process and documented the chain of events (Yin, 2003b).

The descriptive data were summarized to present an overview of the schools in the Team-Based Variable Pay Pilot Project and the teacher teams present. A summary of all the schools was included in Chapter IV.

The school level contributed to the types of teacher teams. Table 2 indicates there were six elementary schools—one urban, one suburban, and four small rural community elementary schools, including the elementary school that participated as a district.

Table 3 indicates there were four middle schools—one suburban and three small rural community middle schools, including the middle school that participated as a district.

There were two pairs of schools from the same district, a small rural elementary and middle school. One pair from southeastern Iowa and another pair from western Iowa.

Table 4 shows there were two high schools—one suburban and one small rural community high school, the high school that participated as a district. The suburban elementary, middle, and high schools were from the same district.

The researcher established a timeline for telephone interviews with principals and lead teachers, purposeful sampling of teacher teams for case study, observations, and interviews of teacher teachers and principals in case study. Table 5 details the timeline.

Research Methodology for Phase II: The Case Study

The case study was used to explore first hand the phenomenon of the teacher teams and the processes used by the teacher teams for an extended period of time. Using observations and interviews, the researcher explored in depth the teacher team process and collected detailed information using a variety of data collection procedures over time. The purpose of the case study is to observe first hand everything there is to know about the teacher team, the unit of interest (Creswell, 2003; Isaac & Michael, 1990; Merriam, 1988, 1998; Patton, 1990; Rossman & Rallis, 1998; Stake, 1995; Tashakkori & Teddlie, 1998; Yin, 2003b).

Table 2. Types of Teacher Teams in Elementary Schools in Team-Based Variable Pay Pilot

School	Students	Teachers	Team Structure
Urban Elementary	410	40	Teaching and Learning Communities, Literacy and Math Teams, Building Leadership Team
Suburban Elementary	450	40	Grade Level Teams, Building Improvement Team, School Improvement Facilitators (SIF), Tech Cadre, STAT (Student-Teacher Assistant Team), Leadership Teams, including reading, math, and Pillar Pride learning teams (study teams), Lawson Station Team (school climate/culture team), representation on District Teams
Rural Elementary	280	20 (14 core teachers, including special education teachers, and 6 shared teachers, including related arts teachers)	Grade Level Teams, Building Leadership Team, Focus Group(s), Building Assistance Teams (BAT), IEP teams, learning teams (study teams), and a technology team
Rural Elementary	120	14 (9 core teachers including special education teachers, and 5 shared teachers including related arts teachers)	Grade Level Cluster teams, Learning Teams (study teams), Professional Growth and Development Team, Building Leadership Team, Round Table Team (Problem Solving Team), Site-Based Leadership Teams
Rural Elementary	480	40	Grade Level Teams including learning teams (study teams), Building Improvement (Leadership) Team, and Building Assistance Teams (BAT)
Rural District	310	27	Grade Level Cluster Teams including learning teams (study teams), Professional Development (Leadership) Team, Building Assistance Teams (BAT)

Table 3. Types of Teacher Teams in Middle Schools in Team-Based Variable Pay Pilot

School	Students	Teachers	Team structure
Suburban Middle	1150	89	Teaching Teams (consisting of two core teachers and one related arts teacher), Interdisciplinary Teams (grade level teams), Building Improvement Team (BIT), School Improvement Facilitators (SIF), Tech Cadre, Pride, and representation on District Teams
Rural Middle	385	30 (24 core teachers, including special education teachers, and 6 shared teachers, including related arts teachers)	Interdisciplinary Teams (grade level teams which include core teachers), Related Arts Team, Steering Team (Building Leadership Team), and Learning Teams (mixed grade level teams which include all teachers)
Rural Middle	380	24	Interdisciplinary Teams including learning teams (study teams), Building Improvement (Leadership) Team, and Building Assistance Teams (BAT)
Rural District	310	27	Grade Level Cluster Teams including learning teams (study teams), Professional Development (Leadership) Team, and Building Assistance Teams (BAT)

Table 4. Types of Teacher Teams in High Schools in Team-Based Variable Pay Pilot

School	Students	Teachers	Team Structure
Suburban High	1300	75	Departments (content area teams with representatives on each Leadership Team), Leadership Teams (one team per student focus area), School Improvement Team with representatives from Leadership Teams, Building Improvement Team, School Improvement Facilitators (SIF), and representation on District Teams.
Rural District	310	27	Grade Level Cluster Teams including learning teams (study teams), Professional Development (Leadership) Team, and Building Assistance Teams (BAT)

Case study research was appropriate in studying teacher teams in TBVP Pilot Project schools because: (a) the team was the basis of Team-Based Variable Pay, (b) relatively little research had been conducted on teams in schools, (c) no research has been conducted on the importance of the team in the TBVP Pilot Project schools, and (d) intense study of teacher teams would shed light on important characteristics of teams, team processes, and team interactions and how those relate to improved student and teacher learning.

Case study was used as “an empirical inquiry” to “investigate a contemporary phenomenon within real-life context” (Yin, 1989, p. 23). The three case studies were conducted to provide multiple sources of evidence because evidence from multiple cases is “considered more compelling, and the overall study is, therefore, regarded as being more robust” (Yin, 1989, p. 52).

Table 5. Schedule of Contacts and Telephone Surveys, Observations, Interviews

School	Contact	Telephone Survey with Principal	Exemplary Teacher Team	Telephone Survey with Lead Teacher	Case Study
Urban Elementary	February 2004	February	Teaching and Learning Community	February	X
Suburban Elementary	February 2004	February	Building Leadership Team, Tech Cadre	February	X
Suburban Middle	February 2004	February	Teaching/Learning Team	March	
Suburban High	February 2004	February	Leadership teams	March	
Rural Elementary	February 2004	February	Focus Group	March	X
Rural Middle	February 2004	February	Learning Team	February	
Rural Elementary	February 2004*	June	Principal asked researcher to delay interview*	June	
Rural Middle	February 2004*	June	Principal asked researcher to delay interview*	June	
Rural Elementary	February 2004	February	Grade Level Cluster Study Team	February	
District	February 2004	February	Professional Development Team	February	

*Principal asked researcher to delay interview due to school and community tragedy.

The multiple case studies were descriptive to create “rich, thick description of the phenomenon under study” (Merriam, 1998, p. 38). Descriptive case study was used to collect and analyze detailed information describing existing teacher team phenomena in order to share with others involved in developing and utilizing teacher teams to improve student achievement.

Population and Sample of Schools in the Case Study

Purposeful sampling was used to determine which teacher teams would yield the most insight. The researcher selected a sample of teacher teams from which to learn the most. Patton (1990) stated, “Cases are selected for study because they are of particular interest given the study’s purpose” (1990, p. 53). The selection of the cases in this study was based on the following criteria:

1. The principal identified the teacher team as a team worthy of an in-depth case study.
2. The results of the telephone survey with the lead teacher confirmed what the principal had noted about the teacher team.
3. The principal and the teacher team were willing to be included in the case study.

Responses of the lead teachers corroborated that the teacher teams identified by the principals were worthy of study. The lead teachers highlighted the strengths the teacher teams, providing triangulation with the survey data and the telephone interviews with the principals. After conducting the telephone interviews and sharing the information with Dianne Chadwick, the researcher determined that teacher teams in three elementary schools would yield the most insight. Although the three schools were not representative of a cross-

section of all the school levels in the TBVP Pilot Project, which included one high school, three middle schools, one district (K-12), and five elementary schools, they were representative of the type of schools in the TBVP Pilot Project with one urban, suburban, and small rural community. The selected teams were representative of the types of teams: grade level teams, focus group (a learning team), and building leadership teams.

Table 6 contrasts the comments the principals and the comments the lead teachers made regarding the exemplary teams. In each case, the lead teacher corroborated what the principals said about the teacher teams.

Using on-site visits, observations, in-depth interviews, telephone calls, and e-mail to communicate, the teacher teams had opportunities to detail and describe their teacher teams. The interview protocol is included in Appendix C. The responses of the schools highlighted the unique qualities of the individual teacher teams and the schools and the commonalities among the teacher teams and the schools, which led to the emerging themes and provided triangulation for the survey data (Yin, 2003b).

The Case Study: On-Site Observations and Interviews

The teams were observed functioning as teacher teams. Teacher talk as the teacher teams work is a form of social action worthy of study and must be taken seriously to understand the social world (Chase, 1995). Blum and McHugh (1984) state that what people know of the world is possible because they can speak meaningfully of the world. Hans-Georg Gadamer states, "Language is not just one of man's possessions in the world, but on it depends that fact that man has a world" (1975, p. 401). The observations were grounded in social theory (Chase, 1995).

Table 6. Teacher Teams Selected for Case Study from TBVP Pilot Schools

Teacher Team	Principal	Lead Teacher
Teaching and Learning Community (TLC)	TLC impacts student achievement; TLC provides vehicle for professional growth and development; teachers take active leadership role on teacher team and provide instructional leadership on the team, within the TLC, and within the school.	TLC impacts student achievement; TLC provides vehicle for professional growth and development; teachers take active leadership role on teacher team and provide instructional leadership on the team, within the TLC, and within the school.
Building Leadership Team (BIT)	BIT impacts student achievement; BIT provides the leadership for professional growth and development; teachers take active leadership role on teacher team; the teachers on BIT take an active leadership role in the school and provide instructional leadership.	BIT impacts student achievement; BIT provides vehicle for communication and vertical and horizontal articulation; BIT plans, implements and evaluates the school-wide professional growth and development; teachers take active leadership role on BIT, on grade level teams, and within the school and provide instructional leadership.
Focus Group	Grade Level and Learning Teams are not functioning as learning communities; Focus Group initiated to create vehicle to impact student achievement and provide professional growth and development; teachers take active leadership role on teacher team.	Focus Group impacts student achievement and provides professional growth and development for teachers on the team; teachers take active leadership role on teacher team.

The design was emergent and the interview format was semi-structured, to allow the researcher to probe the perceptions of the teachers and the principals, ask additional questions as the interviews progressed, and explore the emerging issues in greater depth. The interview questions were developed in consultation with the researcher's Program of Study committee and Dianne Chadwick, the Department of Education TBVP consultant.

The interviews were grounded in social theory (Chase, 1995). The talk and the telling constituted the data. The telling, itself, is one kind of social action, a process of constructing and communicating self-understanding, of making experience intelligible and meaningful. The events and experiences described were understood for what they were insofar as they were constructed by the telling in the first place. Geertz (1986) concluded, "Experiences, like tales, fetes, rites, dramas, images, and memoirs are made; and it is such made things that make them" (p. 374).

The interviews were recorded in order to accurately capture both what the teachers and the principals had to say and how they said it. The school culture manifests itself in the day-to-day life of the school and the stories, as told by the teachers and the principals.

The qualitative stories, as told by the teachers and the principals, were triangulated with the survey data. The stories described the teacher teams that exist in TBVP Pilot Project schools and their experiences. The researcher used the descriptions to define what kinds of teacher teams exist in TBVP Pilot Project schools, as well as their purpose, composition, interaction, structure, and context. The qualitative data explored the roles the teacher members and the principal play and explored what the teacher teams do to promote student achievement, differentiating between what the teachers do and what the principal does. It explored how teacher teams evolved, if at all, with participation in TBVP, and the

degree to which the teacher teams exhibited the characteristics of “teamness” (learning communities) relative to common tasks, mutual trust, open, direct conflict, risk taking, awareness and acceptance of group structure. The teachers and principals were asked to both describe and to consider how effective they thought they were in promoting student achievement. The teachers and the principals were asked to describe how the teacher teams contributed to professional growth and development and how effective the teacher teams were in doing so. The teachers and the principals were also asked to consider how the principal provided instructional leadership, what strategies the principals used to promote “teamness” (learning communities) in teacher teams, and how effective the principals were in doing so.

The qualitative stories were triangulated with the student achievement data provided by the principals and the Department of Education. Quantitative data included the Comprehensive School Improvement Plan (CSIP), the Annual Progress Report (APR), and other documentation provided by the principals. It also included data collected by the Department of Education during the first year of the pilot project, including each school’s Iowa Tests of Basic Skills results. The qualitative and quantitative data were compiled and compared. The teacher teams and principals claimed the teacher teams impacted student achievement and the student achievement data demonstrated growth.

Instrumentation for the Case Study

In case study research, much of the data are collected through observations. The observation structure, which included teacher team purpose, composition, structure and context, and interaction, was based on Crow and Pounder’s (2000) extensive work on

interdisciplinary teacher teams. The researcher used the constructs, purpose, composition, structure and context, and interaction, to further detail the roles of the teacher teams in the case study. Purpose includes work characteristics of the common task; composition includes teacher team norms about team performance. Structure includes time for teacher teams to meet and structure teacher team utilizes, ranging from formal to informal. Context includes clarity of task requirements and constraints. Structure and context also include reward and recognition for team performance. Interaction includes efficient coordination and communication efforts, appropriate sharing of knowledge and weighting of relevant knowledge and inputs from group members, implementation and invention of performance strategies, and enhanced group commitment. Fully developed teacher teams use purpose, composition, structure and context, and interaction effectively; new teacher teams need professional growth and development in purpose, composition, structure and context, and interaction (Crow & Pounder, 2000). The observation structure also included Hall's (1995) characteristics of teamness: common identity and tenets, common tasks, mutual trust, open, direct communication and conflict, risk taking, awareness and acceptance of group structure (Hall, 1995). Binder (2005) included developing teachers as professionals and developing teachers as leaders as constructs.

In case study research, much of the data are collected through interviews.

Interviewing is necessary when the researcher cannot "observe behavior, feeling, or how people interpret the world around them" (Merriam, 1998, p. 72). The interview structure was based on Hall's (1995) study, which focused on teamness, and the interview questions were designed to explore: a) the characteristics of effective teams, b) the strategies to promote teamness, and c) the team's role in promoting high student achievement (Hall,

1995). The teacher team members and the principals were provided a list of the characteristics of teamness and asked to identify which characteristics were most important to their team. The list included common identity, shared tenets, common tasks, mutual trust, open, direct communication and conflict, risk taking, awareness and acceptance of group structure (Hall, 1995). The list also included developing teachers as professional and teachers as leaders.

The researcher combined Hall's (1995) interview structure with additional items to assess the perceptions of the teachers and the principals related to the teacher team's role in relation to professional growth and development of teachers, the principal's role, and the principal's purposeful use of teacher teams to develop teachers as professional and leaders. Open-ended questions were selected in order to allow the interviewees an opportunity to provide as much information as possible.

Table 7 contrasts Hall's characteristics of teamness and Crow and Pounder's constructs of teacher teams. The constructs of teacher teams contribute to teamness when given consideration. When the constructs are not considered, the teacher teams may struggle.

Table 8 demonstrates the observation structure the researcher used during observations of teacher teams. It included Hall's (1995) characteristics of teamness, Crow and Pounder's (2000) constructs of teacher team, and Binder's (2005) research questions related to the impact professional growth and development has on teachers as professionals (teacher learning) and teachers as leaders.

Table 7. Comparison of Halls' (1995) Characteristics of Teamness and Crow and Pounder's (2000) Characteristics of Teacher Teams

Hall's (1995) Characteristics of Teamness	Crow and Pounder's (2000) Constructs of Teacher Teams
Common identity and tenets	Composition, interaction, , structure, and context
Common tasks	Purpose, interaction, structure, and context
Mutual trust	Interaction, structure, and context
Open, direct communication and conflict	Interaction, structure, and context
Risk taking	Interaction, structure, and context
Awareness and acceptance of group structure	Structure and Context

Table 8. Halls' (1995) Characteristics of Teamness, Crow and Pounder's (2000) Constructs of Teacher Teams, and Binder's (2005) Developing Teachers as Professionals and Leaders

Developing Teachers as Professionals and Leaders	Developing Teachers as Professionals and Leaders
Common identity and tenets	Purpose
Common tasks	Purpose
Mutual trust	Interaction
Open, direct communication and conflict	Composition and Interaction
Risk taking	Interaction
Awareness and acceptance of group structure	Composition, Structure and Context

The researcher visited each school, observed teacher teams in action, and recorded observations. On the second visit, the researcher not only observed teams, but also interviewed teacher teams and principals. Interviews ranged from 30 to 60 minutes. The researcher asked questions and asked team members and principals to respond to the list of characteristics of teamness. The researcher taped the responses. The researcher also asked the team members and principals to respond to the typed transcripts. They responded orally and in writing. The researcher asked clarifying questions to probe for more information and restated responses, as needed, to check for understanding. On the third visit, the researcher observed teams and interviewed teacher teams and principals. Again, the interviews ranged from 30 to 60 minutes.

Instrument Validation for the Case Study

The nature of case study inquiry makes it imperative that “researchers and readers be able to trust the results of the research—to feel confident that the study is valid and reliable” (Merriam, 1998, p. 164). Validity considers how one’s findings compare with what exists. The researcher used the following strategies to ensure internal validity:

- a) Triangulation—using multiple sources of data and multiple methods to confirm the emerging findings;
- b) Member checks—sharing the data and the interpretations with the teacher teams and asking them if the results are plausible;
- c) Peer examination—asking colleagues to comment on the findings as they emerge;
- d) Participatory modes of research—involving participants in all phases of the research; and
- e) Researcher’s biases—clarifying the researcher’s assumptions, worldview, and theoretical orientation at the outset of the study (Merriam, 1998, pp. 196-197).

The researcher utilized triangulation by contrasting and comparing the qualitative data and the quantitative data provided by the principals and the Department of Education. The researcher utilized member checks by sharing transcripts of each interview and observation with the teacher teams and the principals. The researcher utilized peer examination by asking Diane Chadwick, the Department of Education consultant, to read and respond to the work. The researcher also asked an educator not involved in TBVP and a non-educator to read and respond to the work. The researcher utilized participatory modes of research by including the teacher team members and the principals in the emerging process. And the researcher identified the researcher's biases (Merriam, 1998, pp. 196-197) to ensure internal validity.

Data Collection Procedures for the Case Study

The researcher:

1. Contacted each school site's principal in order to determine
 - a. If he or she would be willing to be a participant in the case study
2. Mailed a follow-up letter in order to:
 - a. Reintroduce the researcher
 - b. Restate the purpose of the study
 - c. Confirmed the school's participation
3. Scheduled dates for observation, interview, and member check
4. Conducted the interviews using the semi-structured interview schedule
5. Recorded the interviews and noted observations during the interviews and the teacher team meetings

6. Mailed a follow-up thank you letter
7. Made telephone calls and sent e-mails to clarify information as needed

The researcher established a timeline for observations and interviews that followed the teacher team schedules. Table 9 outlines the timeline.

The researcher collected multiple forms of data and visited and revisited the school settings multiple times collecting information. The first visit included observations of the teacher teams in action. The researcher took field notes and recorded the actions of individual teachers and the principal during the teacher team meeting. The teacher teams included all the members on the teacher teams, including the principal if the principal served as an active member on the teacher team. The role of the researcher was known. The researcher assumed the natural role of a participant observer, neither a complete participant nor a complete non-participant. The observations of the teacher team meetings were audio taped and transcribed. The field notes were used to capture the sights and

Table 9. Schedule of Observations of and Interviews with Teacher Teams in Case Study

School	Observation I of Teacher Team	Observation II of Teacher Team	Interview of Teacher Team and Principal	Observation III of Teacher Team	Interview of Teacher team and Principal
Urban Elementary	March 2004	April 2004	April 2004	April 2004	April 2004
Suburban Elementary	March 2004	April 2004	May 2004	May 2004	May 2004
Rural Elementary	April 2004	April 2004	May 2004	May 2004	May 2004
District	March 2004	April 2004	April 2004	April 2004	April 2004

sounds. The advantage of the use of observations was the researcher had first-hand experience with the teacher team. The researcher recorded not only teacher comments, but also teacher actions, including body language used during the teacher team meeting. The observations were used to plan the semi-structured interviews. The disadvantage of the use of observations was that the researcher introduced an additional factor.

The second visit included additional observations of the teacher teams in action and interviews. The researcher used the semi-structured interview questions to probe the role of the teacher team and the roles of the individual teachers and principals. The interviews were audio taped and transcribed. The field notes were used to capture the sights and sounds. An advantage of the use of interviews was that the researcher was able to probe facets that would not be observable, such as the teacher and principal description of the evolution of the teacher team. The researcher weighed the responses of the teachers and principals in the teacher team setting with the responses of the principal in the one-on-one setting. The second visit also included a member check and teacher teams were asked assess the accuracy of the transcript.

The third visit included additional observations of the teacher teams in action, a more detailed member check to assess the accuracy of the descriptive data, the qualitative and quantitative data, and the analysis and interpretation of the combined data, and a final interview.

The researcher used the Comprehensive School Improvement Plan, the Annual Progress Report, and other documents provided by the teacher teams and the principals to triangulate the data from the observations and interviews. The documents supported the

assertions the teachers on the teacher teams and the principals made that teacher teams impacted student achievement.

Data Analysis and Interpretation for the Case Study

Data analysis included organizing the data within teacher teams and across teacher teams and making sense of all the teacher talk. The data analysis process was ongoing during phase one and phase two. The process was iterative, with the focus moving from data collection to data analysis. Inductive and deductive processes were intertwined. The analysis of the survey data impacted the observations and the results of the observations impacted the interviews. The results from the survey were catalogued and coded to create a sketch of the teacher teams. The data collection, transcription, and interpretation were ongoing as the researcher visited and revisited school sites. The detailed descriptions of the teacher team settings and meetings were catalogued and coded, followed by an analysis of the commonalities of the teacher teams and the emerging themes. The emerging themes provided a focus and a refocusing during the study. A grounded theory emerged from the sketch and the detailed picture of teacher teams.

The steps included:

- a) Organizing the data for analysis including transcribing the observations, interviews, and field notes, writing the narratives and creating the charts;
- b) Creating a sketch of the teacher teams;
- c) Rereading the narratives and reviewing the charts to identify shared attributes and unique attributes;

- d) Coding the data according to attributes, including characteristics of teamness and constructs of teacher teams;
- e) Rewriting the narratives using the attributes and creating a combined narrative;
- f) Drafting a preliminary analysis from the combined narrative;
- g) Rereading and recoding the raw data as many times as necessary; and
- h) Rereading and rewriting the analysis as many times as necessary.
- i) Using the attributes to identify a limited number of themes within teacher teams and across teacher teams to narrow the breadth of the study, but not the depth (Bogdan & Biklen, 1982). Themes included ones the researcher expected to corroborate and “new” themes (Creswell, 2003). The researcher used context, design, interpersonal relationships, and participants’ perspectives and ways of thinking about students and their learning as themes (Bogdan & Biklen, 1982; Creswell, 2003);
- j) Using narratives and tables to represent and report the findings;
- k) Interpreting and making meaning of the connections and interconnections, including using existing literature to corroborate the findings, using existing theories to validate the findings, raising new questions, and suggesting further research (Creswell, 2003; Lincoln & Guba, 1985).

A database was created to organize data on each of the areas of the interview schedule. Observations were recorded during each interview. After the interviews, the interviews were transcribed. Responses were entered in the database to ensure complete coverage of each item and to allow ongoing analysis of the data in accordance with Merriam (1998) and Yin (2003b).

The information from each school was presented within schools and across schools in Chapter IV.

Validating Accuracy of the Findings

The following strategies were used to assess the trustworthiness, authenticity, and credibility of the findings. The researcher used member checks to determine if the findings made sense from the viewpoint of the teachers, the principals, and the readers, including Dianne Chadwick, Department of Education consultant, one educator not involved in TBVP, and one non-educator. The participants and the readers were asked to assess the accuracy of the survey data, the qualitative data, the student achievement data, and the analysis and interpretation of the case study. The responses varied. In general, the teachers responded orally to transcripts of observations and interviews; the principals responded in writing by verifying the accuracy of survey data, qualitative data, and the student achievement data. The readers responded to the analysis and interpretation of the case study.

The researcher used the survey data from all the schools and found the principals and the teachers corroborated each other. The Comprehensive School Improvement Plan (CSIP), the Annual Progress Report (APR), and other documentation, provided by the principals, and Department of Education report, including each school's Iowa Tests of Basic Skills results, corroborated the claims that teacher teams impacted student achievement and professional growth and development (Brewer & Hunter, 1989; Creswell, 1995; Jick, 1979; Tashakkori & Teddlie, 1998).

The detailed descriptions of the teacher teams recreated the setting and meeting for the readers, allowing the readers to feel like they were present at the teacher team meetings. The researcher used the detailed descriptions of the teacher teams to provide triangulation among teacher teams (Campbell & Fiske, 1959; Denzio, 1978; Patton, 1990).

The Researcher's Role

The researcher shared the lenses of the teachers and the principals in the Team-Based Variable Pay Pilot Project schools because the researcher served as the principal in one of the ten schools and observed first-hand teacher teams in action. Through the initial survey, the researcher noted the importance of the teacher teams in the TBVP schools, and wondered about the importance of the “team” in TBVP Pilot Project schools. More broadly, the researcher raised the question of the importance of teacher teams in both TBVP Pilot Project and other schools in Iowa and elsewhere. The researcher conducted a qualitative study of the role of the principal in TBVP Pilot Project and became acquainted professionally with the principals in the TBVP schools. During the initial phase of this study the researcher became acquainted professionally with the lead teachers. Using multiple observations and interviews and sharing the transcripts of the observations and interviews with the participants, the researcher was able to serve as an objective outside observer of the teacher teams. The researcher's experience in the TBVP Pilot Project allowed the researcher to serve as an informed observer of the teacher teams (Asmussen & Glesne & Peshkin, 1992).

Throughout the study, the researcher reflected on the phenomenon and process of teacher teams viewed through multiple lenses, including the researcher's personal lens.

Spiri (2001) addressed the question of multiple perspectives in the school setting. All the teachers and principals in the case study shared the lens of a school that has successfully met its achievement goals. In addition to that shared lens, each teacher and principal had a unique set of lenses.

One set consisted of the setting and size of the school: the urban and rural setting lens, and large and small school size lenses. Another set consisted of the roles of the teacher, the team member, and the principal: the lens of educator when serving as part of the team and the lens of educator serving as an individual teacher or as principal.

In addition, the researcher introduced additional layers of lenses: the researcher's initial lens, the researcher's second lens as themes emerged, and the additional lenses of gender, role, and setting of the researcher as a principal. The researcher's lenses were superimposed on the multiple lenses of the teachers and principals, and the researcher reflected on the researcher's personal lens and its role in depicting, or potentially distorting, the phenomenon and process of teacher teams as observed in this case study (Creswell, 2003; Mertens, 2003; Spiri, 2001).

The researcher sought to establish a rapport and level of credibility with the teachers and the principals. As a fellow educator, the researcher shared a common bond with teachers and principals and an interest in promoting student achievement. Data collection during observations and interviews involved active participation by the teachers and principals. Transcripts of each observation and interview were shared with team members and they were asked to respond. Summaries and charts with emerging themes were also shared with team members and again they were asked to respond. Data collection also

included documents provided by the TBVP schools, ongoing e-mail and telephone communication, and field notes (Creswell 2003; Rossman & Rallis, 1998).

Ethics

The ethical issues the researcher addressed included recording, representing and reporting the data as accurately as possible, without allowing professional biases to influence perspective. Member checks allowed the participants and the readers to verify accuracy and identify any professional biases that influenced the analysis and interpretation.

The researcher applied for permission from the Iowa State University Institutional Review Board (ISU IRB) to protect the rights of the individual teachers and principals in the study (See Appendix A, which includes the application to the ISU IRB, the letter to the participants, and the approval letter from the ISU IRB. The application outlined the process involved in obtaining permission from the ISU IRB and the participants.)

Dianne Chadwick, the Department of Education consultant for the TBVP Pilot Project, provided a list of the schools selected to participate in the pilot project. The researcher followed the steps outlined in the ISU IRB application to initiate contact with the principals and the teachers in the Team-Based Variable Pay Pilot Project.

Dianne Chadwick also provided a member check throughout the process. She reviewed the transcripts of each observation and interview and responded. She also read and reviewed the summaries with emerging themes and charts and responded.

Initial contact with the principals included a letter, which provided a summary of the research project, what participation would involve, and what activities would be completed by telephone, survey, and on-site visits. The letter outlined how the observations and

interviews would minimize disruption in the learning process. The researcher followed the letter with a telephone contact and reviewed the information in the letter. All of the principals were willing to participate in phase one, and, if a teacher team were selected, the principals were also willing to have the teacher team and the principal participate in phase two.

During the telephone contact, the researcher detailed how the teachers and principals would be involved in the process, including the member check, and indicated that the results would be shared with the schools in the TBVP Pilot Project, the Department of Education, and other schools in Iowa, to better understand the role and the importance of the teacher teams in the pilot project and potentially other schools in Iowa. When the principals agreed to participate, the researcher scheduled a time to conduct the survey. During the survey, the principals were asked to identify a lead teacher on an exemplary teacher team (Asmussen & Creswell, 1995; Creswell 2003; Mertens, 2003).

Initial contact with the lead teachers mirrored the initial contact with the principals. It included a letter, which provided a summary of the research project, followed by a telephone contact. In all cases, the lead teachers had been notified by the principals that the researcher would be contacting them by letter and telephone (Berg, 2001; Glesne & Peshkin, 1992; Rossman & Rallis, 1998).

Initial contact with the teacher teams mirrored the initial contact with principals and lead teachers. It included a letter, which provided a summary of the research project, and telephone contact. In all cases, the teacher teams had been notified by the principals that the researcher would be contacting them.

The teachers and principals in the TBVP pilot project schools were asked to choose names to reflect their “star” status, yet protect school confidentiality. During the interviews and observations, the teachers on the teacher teams in the case study indicated they preferred using real names, not pseudonyms. The researcher assigned fictitious names to the schools and principals, and used first names only for team members. The schools became Dreyfus, Sarandon, and Hunt and the principals of the three schools became Richard (Dreyfus), Susan (Sarandon), and Helen (Hunt).

The researcher was the primary instrument for data collection and analysis. As a principal, the researcher was able to consider the school context, as well as the team context, respond to the context including both verbal and nonverbal aspects, and adapt as necessary. The researcher processed the observation and interview data as it was collected, clarified questions as they emerged, analyzed the data as it was organized, and explored emerging themes (Guba & Lincoln, 1981). The study was interactive and the researcher shared the data with the teacher teams and the principals as it was collected to clarify questions and allow the participants to analyze the data. The researcher shared emerging themes with the participants. The research was inductive, rather than deductive; the researcher used grounded theory based on effective teams and teacher teams (Goetz & LeCompte, 1984).

The study was emergent, with the researcher adding and adapting interview questions as she interacted with teachers and principals. The data collection process evolved as the picture of the teacher teams evolved. During the three month observation-interview process themes emerged as the data was coded and anchored with grounded theory.

The Qualitative Research Paradigm

Exploring the importance of the “team” in Team-Based Variable Pay Pilot Project schools was well suited to qualitative research. The researcher was interested in the importance of the teacher team, the meaning the teachers and the principals attributed to the team, and how team members made sense of the team and their teaming experience. The study took place in the natural setting to explore how the team experience is lived (Sherman & Webb, 1988). The researcher visited the schools in order to develop a detailed picture of the teacher teams and the individual teachers within the school setting. Visiting schools also enabled the researcher to develop a detailed picture of the principal and his/her role with respect to the teacher teams. The researcher was both an observer of the teacher team process during the actual team meetings and a participant during the interviews. As a result, the researcher was able to explore the teacher teams from both an outsider’s perspective and the participants’ or an insider’s perspective (Creswell, 1995, 2003; Crotty, 1998; Merriam, 1998; Patton, 1990; Tashakkori & Teddlie, 1998; Yin, 2003b).

The study explored the phenomenon of teacher teams holistically. The study evolved from the sketch of teacher teams in all ten TBVP Pilot Project schools to a detailed picture of the individual teacher teams, teachers, and principals in three TBVP Pilot Project schools. A model of the process and phenomenon of teacher teams was created to complement the sketch and the detailed picture of teacher teams (Creswell & Brown, 1992; Rossman & Rallis, 1998).

The study was interactive and interpretive as the researcher collected data and developed a sketch of the teacher teams present in TBVP Pilot Project schools and a

detailed picture of three teacher teams, the teachers, principals, and their school settings. The researcher analyzed both the sketch and detailed picture of teacher teams to identify emerging themes. The data were interpreted through the personal lens of the researcher (Merriam, 1998; Wolcott, 1994). The team members read and responded to the documents as they were written. In addition, Dianne Chadwick, Department of Education consultant, also read and responded to the documents, as did two educators who were not involved in the TBVP pilot project and two professionals who were not educators. The principals and teacher teams responded the case studies and narratives were accurate as well as interesting. They stated they learned more about their teacher team in reading about the other teacher teams. The professionals who were not educators provided the most detailed member checks. Dianne Chadwick confirmed the case studies, narratives, conclusions, and recommendations confirmed her conclusions and recommendations and complemented her quantitative studies.

The reasoning was iterative, with inductive and deductive processes intertwined and the focus moving from data collection to data analysis and back. The data collection, transcription, and interpretation were ongoing as the researcher visited and revisited the school sites during the three-month process. The emerging themes provided a focus and a refocusing during the study. The themes, which emerged from the sketch and the detailed picture of teacher teams, were anchored in grounded theory as described in Chapter 2 (Creswell 2003; Rossman & Rallis, 1998).

Limitations

1. This project is limited to those schools in the TBVP Pilot Project, so the conclusions relate to the ten schools in the TBVP Pilot Project and the three schools in the case study. The recommendations for future research include schools not in the TBVP Pilot Project.
2. Descriptive data were collected from all ten of the schools in the TBVP. The principals identified teacher teams that have impacted student learning and adult learning. The lead teachers corroborated the principals' descriptions of exemplary teacher teams. The case study included three teacher teams from three elementary schools. The teacher teams were selected with purposeful sampling. The case study did not include the vast array of teacher teams. Nor did it include teams from the middle and high school level. Therefore, the conclusions related to the three schools in the case study may be representative of the elementary school in the TBVP Pilot Project, but not the middle and high schools. The recommendations for future research include teacher teams for a case study from middle and high schools in the TBVP Pilot Project.
3. The project utilized the Comprehensive School Improvement Plan, the Annual Progress Report, and the Team-Based Variable Pay Pilot Project student achievement goals to document student achievement. The current project examined the study conducted by Dianne Chadwick to document student achievement and complete detailed descriptions. The current study did include extensive quantitative data to document student achievement. The project was an exploration of teacher teams in the TBVP Pilot Project. The recommendations for future research would include an extensive quantitative study to document student achievement and the correlation between teacher

teams and student achievement. The principals and the teachers on the teacher teams attested to the impact teacher teams have on student achievement, but this testament warrants further study.

4. The study probed what teacher teams were present and what impact they have had on student achievement and student learning, as reported by the principal, the teacher teams, and the teachers, but did not determine whether they actually impacted student achievement and student learning so the link is between teacher teams and student achievement and student learning has not been demonstrated. ITBS and ITED data can demonstrate if student achievement improved. The recommendations for future research would include an extensive quantitative study to document teacher teams impacted student achievement and the student achievement of students of teachers on teacher teams increased.
5. The study probed what impact the teacher teams have had on teacher learning, as reported by the principal, the teacher teams, and the teachers, but did not determine whether they actually impacted adult learning and student learning. The recommendations for future research would include further study to document the relationship between professional growth and development, teacher learning, and teacher teams.
6. A strength of the study was that teachers and principals have different lenses. A limitation was that the researcher introduced an additional layer of lenses, including the multiple lenses (gender, role, and setting) of the researcher as a principal. The conclusions and recommendations reflect the additional layers of lenses introduced by the researcher.

CHAPTER IV: DISCUSSION

Phase One: A Summary of Teacher Teams in TBVP Pilot Project Schools

This study explored the importance of the “team” in Team-Based Variable Pay Pilot Projects schools. The first phase of the study, the descriptive phase, asked principals and lead teachers what teacher teams existed in the TBVP Pilot Project schools and what roles the teacher teams played in their respective schools. Roles were defined as purpose, composition, structure and context, and interaction (Crow & Pounder, 2000). The first phase provided a picture of the teacher teams and an overview of the roles the teacher teams play.

Types of Teacher Teams in the Ten TBVP Pilot Project Schools

In order to answer the question of what teacher teams exist in the TBVP pilot project schools, the researcher surveyed the principals and lead teachers in the TBVP Pilot Project schools. The researcher then compared a review of the literature, which identified twelve types of existing teacher teams, with the teacher teams identified by the principals and lead teachers. The researcher determined that all twelve types of teacher teams (Gibson, 1992; Hall, 1995; Johnson & Johnson, 1989; Kaiser & Woodman, 1985; Maeroff, 1993b; Odden & Wohlstetter, 1995) were present in the ten pilot project schools, but not necessarily at all three levels. The teacher teams differed from the elementary to the middle and high school levels.

There were also differences in terminology. Multidisciplinary teams were referred to as problem solving teams. Leadership teams (site-based management teams, governance teams, and ad hoc decision-making team) were referred to by a number of names, such as

School Improvement Team, Building Leadership Team, and Professional Leadership Team. Principals also referred to the School Improvement Advisory Committee, a leadership team, which included teachers, parents, administrators, and community members. One school utilized a Focus Group (name given to teacher team by principal and teachers), which could be referred to as a task force team or an ad hoc decision-making team. The schools did not list collegial support teams, but many teachers belonged to professional associations which function as collegial support teams and referenced those collegial support teams in discussions. Also, a number of existing teams provided collegial support, such as mentors, grade level, content area, and learning teams.

Schools also did not refer to multipurpose teams by name, but many of the teams served multiple purposes. For example, leadership teams served as governance teams, learning teams, school improvement teams, and professional growth and development leadership teams. Content and subject area teams served as learning and study teams when content and subject area teams addressed a school-wide focus such as school pride or climate. Learning and study teams served multiple purposes when learning and study teams addressed the school-wide focus, which included reading, math, or science.

Table 10 provides an overview of the research on teacher teams and the teacher teams that exist in the TBVP Pilot Project schools. The teams with an asterisk indicate teams that are required by the Iowa Teacher Quality legislation, including the School Improvement Advisory Committee, a building leadership team, mentors, and a “team” if schools participate in the TBVP Pilot Project. Multidisciplinary teams are required by IDEA. Not one principal or teacher referred to the “education association” as a team, though every district has an association.

Table 10. Comparison of Teacher Teams in TBVP Pilot Project Schools and Summary of Research of Teacher Teams

Iowa Teams	Hall (1995)	Maeroff (1993b)	Johnson & Johnson (1989)	Summary of Previous Research on Teacher Teams
leadership teams;* professional growth and development leadership teams;* district leadership teams; and School Improvement Advisory Committee*	leadership teams	governance teams		site-based management teams
departments (subject matter teams)	subject area teams	subject matter teams		
interdisciplinary teams		interdisciplinary teams		interdisciplinary teams
grade-level teams	grade-level teams	grade-level teams		
primary and intermediate teacher teams and grade level cluster teams	primary and intermediate teacher teams			
study teams and learning teams				
pedagogy teams (focus of learning/study teams)		pedagogy teams		
subject matter teams (focus of learning/study teams)	subject area teams	subject matter teams		

Table 10. (continued)

Iowa Teams	Hall (1995)	Maeroff (1993b)	Johnson & Johnson (1989)	Summary of Previous Research on Teacher Teams
focus group			task force teams and ad hoc decision-making teams	
mentors*	new teacher buddy teams and buddy teams			
technology teams		subject matter teams	task force teams and ad hoc decision-making teams	
multidisciplinary teams (problem solving teams) *			collegial support teams	multidisciplinary teams
		multipurpose teams		
education associations				

* Required by Iowa Teacher Quality Legislation

The table demonstrates that every school had leadership teams, departments, grade level, and interdisciplinary teams, and some schools recommended their building leadership teams as exemplary teams. Not one principal recommended a department, grade level, and interdisciplinary team as an exemplary team. Every school had multidisciplinary teams and mentors, but again principals did not recommend them as exemplary teams. The teams the principals recommended as exemplary teams played a role in professional growth and development, whether it was the Teaching and Learning Community, the teaching team, the Focus Group, or the professional development team. Every district had a negotiating team, but the principals did not recommend them as exemplary teams. One district used interest-based decision making for bargaining and, in retrospect, the Partners team would be an exemplary team.

Types of Teacher Teams in the TBVP Pilot Project Elementary Schools

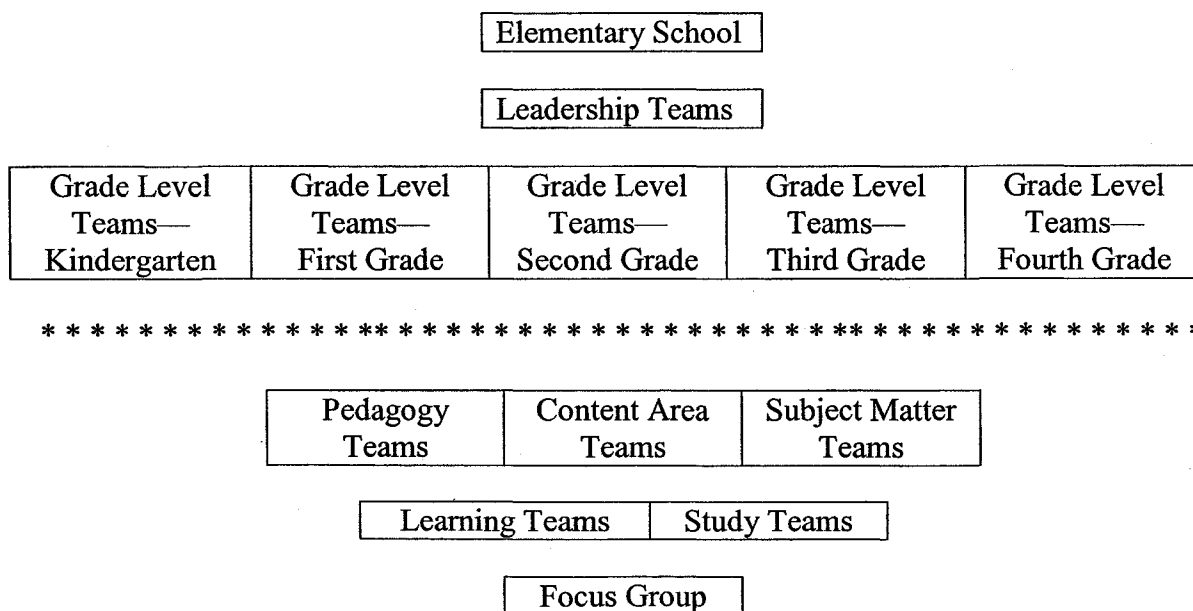
There were six elementary schools in the TBVP Pilot Project—two small rural elementary schools (approximately 100 students), two rural community elementary schools (ranging from 200 students to 400 students), a suburban elementary school (more than 400 students), and an urban elementary school (more than 400 students). The principals described the variety of teacher teams that exist and the roles they played in the elementary schools.

Overall, the team structure at the elementary level included a leadership team with grade level teams. Every teacher served on a grade level team. The leadership team provided horizontal and vertical articulation. The grade level teams provided horizontal articulation. In addition, every teacher served on a content area, subject, or pedagogy team.

The content area, subject, or pedagogy teams were cross-grade-level teams and serves as learning or study teams. If not, every teacher served on a learning or study team that addressed a school-wide theme such as reading, a content area, or school climate. The learning and study teams were utilized to provide professional growth and development. Content area, subject, and pedagogy teams were structured in such a way that they also provided opportunities for professional growth and development. The additional teams provided further opportunities for horizontal and vertical articulation in that teachers from different grade level teams serve on the same learning or content area team. Model 4A provides a visual of the typical team structure at the elementary level.

The leadership teams and the grade level teams above the dotted line represent the basic “bare bones” team structure and there is a hierarchy to the team structure with grade

Model 4A: A Model of the Elementary Team Structure in the TBVP Pilot Project Schools



level teams reporting to the leadership team; the leadership and the grade level teams could be referred to as the cake. The teams below the dotted line represent the teacher teams principals have created to address and align professional growth and development with student achievement goals and they are not hierarchal. They represent the frosting on the cake. Teacher A would serve on the leadership, representing her grade level team. She would serve as the team leader on the grade level team. In addition, Teacher A would serve on the learning team focusing on reading (the school-wide focus) and the content area team focusing on science (Teacher A's area of interest). Teacher B would serve on the grade level team. In addition, Teacher B would serve on the learning team focusing on reading (the school-wide focus), the content area team focusing on math (Teacher B's area of interest), and the pedagogy team focusing on School Pride.

Typically, the six elementary schools utilized grade level teams, cluster grade level teams, and related arts (content area) teams to provide opportunities for collaboration. One elementary school had Teaching and Learning Communities (TLC) and another elementary school had, in addition to grade level teams, a focus group. These teams served a dual role and focused on the needs of the students as a group and the needs of individual students.

All of the elementary schools had leadership teams, which focused on student achievement, school improvement, and professional growth and development. The names given to these teams included building leadership, building improvement, and professional growth and development teams. One school had School Improvement Facilitators, who served on the leadership team and coordinated professional growth and development. The leadership teams focused on the needs of the students as a group and on school improvement, including the professional growth and development needs of staff members.

All of the elementary schools had learning (study) teams, which provided opportunities for teacher teams to study research-based instructional strategies and best practices related to and leadership in the content or pedagogy area. The learning (study) and leadership teams provided learning opportunities for teachers as professionals and leadership opportunities for teachers as leaders. The learning teams included representatives from each grade level team and content area and focused on a school-wide topic such as reading, math or science.

All but one of the elementary schools had building assistance teams (problem solving teams), which ranged from informal problem solving teams where teacher teams developed interventions for individual students, to formal problem solving teams where teacher teams developed Individualized Education Plans (IEPs) for students with identified special needs. These teams focused on individual students and their needs. One school had informal problem solving embedded in the Teaching and Learning Community and formal problem solving embedded in the problem solving team (multidisciplinary team).

Table 11 indicates the teacher teams unique to each elementary school in the TBVP Pilot Project. Each principal identified at least one exemplary team. One of the principals asked the researcher not to include the exemplary teacher team in the case study due to an emergency situation the district experienced.

Roles of Teacher Teams in the Ten TBVP Pilot Project Elementary Schools

In order to answer the question of what roles do the teacher teams play, the researcher used Crow and Pounder's (2000) constructs of purpose, composition, structure and context, and interaction, to describe the teacher teams.

Table 11. Summary of Teacher Teams in TBVP Pilot Project Elementary Schools

Teacher teams	Elementary School One	Elementary School Two	Elementary School Three	Elementary School Four	Elementary School Five	Elementary School Six
Grade level teams	X	X	X	X	X	X
Building leadership teams	X	X	X	X	X	X
Learning teams	X	X	X	X	X	X
Other teams: technology, problem solving, school culture/ climate		X	X	X	X	
Exemplary team(s)	Teaching and learning community (grade level team)	Building leadership team	Focus group (cross-grade level team)	Grade level cluster team (grade level team)	Learning team	Professional development team (building leadership team)

Purpose

The elementary teams served a number of purposes: they used student achievement data to make instructional decisions, team teach, addressed student needs as a group and/or needs of individual students, developed teaching units, planned, provided, or participated in professional growth and development, steered the Comprehensive School Improvement Plan (CSIP), and implemented CSIP. Most teams served multiple purposes, though the principals did not refer to them as “multipurpose teams.” The principals and lead teachers reported this information. The researcher did not observe all of the teacher teams at the elementary level so the conclusions regarding the purpose, composition, structure and context, are general. The researcher did observe three teacher teams at the elementary level and the conclusions regarding purpose, composition, structure and context of the three teacher teams are specific.

The leadership team provided the direction for all the teams. The principals reported that all the teams used student achievement data to make instructional decisions. The leadership team and the technology team were responsible for planning and presenting professional growth and development. The learning teams provided an avenue for extending the professional growth and development in a team setting. Table 12 outlines the multiple purposes of the teacher teams. The principals noted the importance of collaborating and communicating, but did not state collaborating and communicating as purposes. Lead teachers referred to the purpose of the teams as collaborating within the teacher team and communicating with other teams.

Table 12. Purpose of Teacher Teams in TBVP Pilot Project Schools at the Elementary Level

Teacher Teams	Purpose
Grade Level and Grade Level Cluster Teams, including Teaching and Learning Community	used student achievement data at grade level to make instructional decisions; addressed student needs as a group and needs of individual students
Building Leadership Teams	steered Comprehensive School Improvement; used student achievement data to make instructional decisions; used student achievement data to plan, present, and evaluate professional growth and development
Learning Teams	provided professional growth and development
Focus Group (cross grade level team)	used student achievement data across grade levels to make instructional decisions; addressed student needs as a group
Technology	integrated technology in curriculum; addressed student needs as a group; provided professional growth and development
Problem Solving	used student achievement data for individual students and made instructional decisions
School Culture/Climate	addressed student needs as a group; used student achievement data; made instructional decisions school-wide

Composition

Using composition (Crow & Pounder, 2000) to describe teacher teams, the elementary teams ranged from groups of 3-4 members to groups of 6-8 members. The grade level teams were the most homogeneous teams. The grade level clusters and focus groups represented more than one grade level. The Teaching and Learning Community

coupled grade level teachers with school-wide teachers. The leadership and learning teams were the most heterogeneous teams. The principals deliberately created heterogeneous teams to balance the homogenous teams. Table 13 outlines the composition of the teacher teams. Principals were not aware of the constructs and did not use the terms, but in describing their decision making processes, the researcher determined the principals used the construct, composition, to create a variety of teacher teams without realizing it. The principals provided opportunities for teachers to interact with teachers they would not otherwise be involved with. Principals were aware composition would contribute to

Table 13. Composition of Teacher Teams in TBVP Pilot Project Schools at Elementary Level

Teacher Teams	Composition
Grade Level and Grade Level Cluster Teams, including Teaching and Learning Community Building Leadership Teams	4-6 grade level or grade level cluster teachers
Learning Teams	4-8 grade level representatives, content or subject area representatives, including special education staff
Focus Group (cross grade level team)	4-6 cross-grade level representatives; all teachers serve on learning team
Technology	4-6 grade level representative across grade levels
Problem Solving	3-4 content or subject area representatives, including media staff
School Culture/Climate	3-6 members, including individual teacher, parents, student, special education staff as needed
	4-8 grade level representatives, content or subject area representatives

healthy or unhealthy communication and conflict and varied the composition as teams succeeded or struggled to interact effectively.

Structure and Context

Using structure and context (Crow & Pounder, 2000) to describe teacher teams, the elementary teams used formal to informal structure, depending on the team. Some teams had scheduled time blocks to meet and others did not. The teams with scheduled blocks of time tended to use more formal structure, while the teams with no scheduled block were more informal. Table 14 outlines the structure and composition of the teacher teams. Principals used the purpose of the teams to provide structure and context for the teams.

Table 14. Structure and Context of Teacher Teams in the TBVP Elementary Schools

Teacher Teams	Structure and Context
Grade Level and Grade Level Cluster Teams, including Teaching and Learning Community	varied from school to school: informal to formal structure; scheduled block to no scheduled block
Building Leadership Teams	formal structure; scheduled block
Learning Teams	formal structure; scheduled block
Focus Group (cross grade level team)	informal and formal structure; scheduled block
Technology	informal structure; no scheduled block
Problem Solving	formal structure; scheduled block
School Culture/Climate	varied from school to school: informal to formal structure; scheduled block to no scheduled block

Interaction

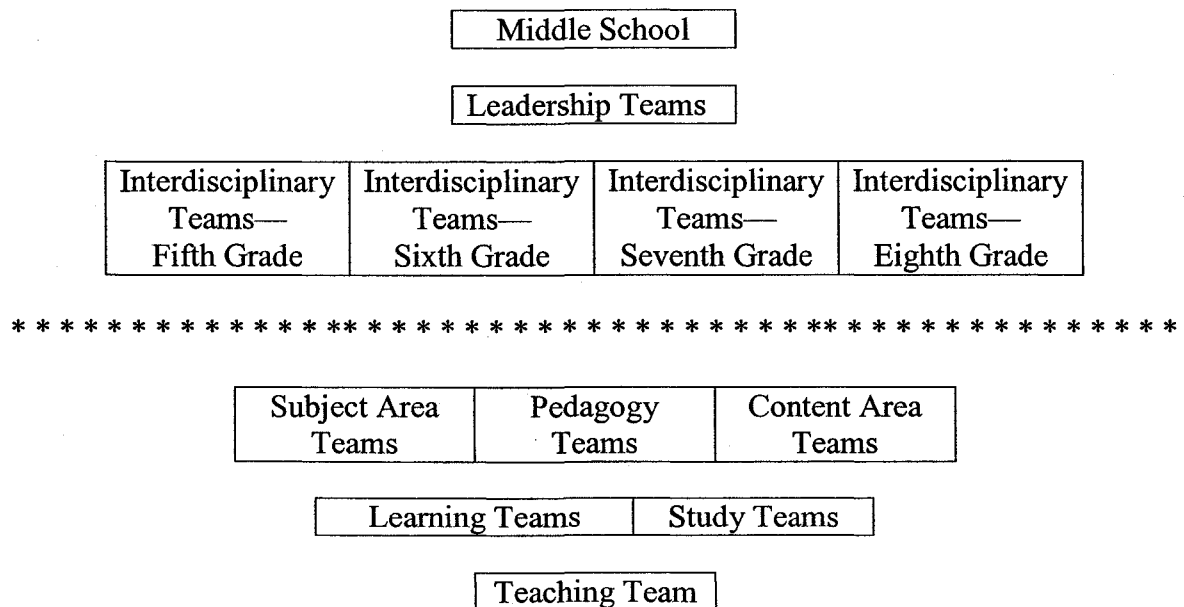
The principals and lead teachers used the term interaction (Crow & Pounder, 2000) when describing the teacher teams. They were tactful when they referred to the interaction. They gave concrete examples, which the researcher was able to code according to purpose, composition, structure and context, to describe the more abstract construct of interaction. The principals used the concrete examples to keep the comments from being “personal” and a positive or negative reflection on the individual. The principals stated some teacher teams did not interact as well as other teams, but they recognized that composition contributed to effective interaction. A clear purpose, delineated structure, and context also contributed to effective interaction. The researcher did not observe all the teacher teams at the elementary level so conclusions regarding interaction are limited.

Types of Teacher Teams in the TBVP Pilot Project Middle Schools

There were four middle schools in the Team-Based Variable Pay Pilot Project—a small rural middle school (approximately 100 students), two small rural community middle schools (approximately 400 students), and a large suburban middle school (approximately 1200 students). The principals at the middle school level described a variety of teacher teams that played a number of roles. The teacher teams were similar to the teacher teams at the elementary level, with the exception of the interdisciplinary teams. The middle schools had interdisciplinary teams (core grade level teachers) and related arts teams (art, music, and physical education teachers which may serve one or more grade levels). Core subjects included language arts (reading, writing, and literature), math, science, and social studies. Some interdisciplinary teams included core teachers and related arts teachers.

The team structure at the middle school level included a leadership team, with interdisciplinary teams. Every teacher served on an interdisciplinary team. The leadership team provided horizontal and vertical articulation. The interdisciplinary teams provided horizontal articulation. Like the elementary level, the team structure included additional teams. Every teacher served on a learning or study team that addressed a school-wide theme and were organized by content or subject area or pedagogy. The learning and study teams were cross-grade level teams to provide additional horizontal and vertical articulation and professional growth and development. The content area, subject, and pedagogy teams were also structured in such a way that they provide opportunities for professional growth and development. Model 4B provides a visual of the typical team structure at the middle level.

Model 4B: A Model of the Middle Team Structure in the TBVP Pilot Project Schools



The leadership teams and the interdisciplinary teams above the dotted line represent the basic “bare bones” team structure and there is a hierarchy to the team structure with interdisciplinary teams reporting to the leadership team. They represent the team structure “cake.” The teams below the dotted line represent the teacher teams principals have created to address and align professional growth and development with student achievement goals and they are not hierarchal. They represent the frosting on the cake. Teacher A would serve on the leadership, representing her interdisciplinary team. She would serve on the interdisciplinary team. In addition, Teacher A would serve on the learning team focusing on reading (the school-wide focus) and the content area team focusing on integration of technology (Teacher A’s area of interest). Teacher B would serve on the interdisciplinary team. In addition, Teacher B would serve on the learning team focusing on reading (the school-wide focus), the content area team focusing on math (Teacher B’s area of interest), and the pedagogy team focusing on Positive Behavior Supports.

Typically, the middle schools utilized interdisciplinary teams. One middle school had teaching teams, similar to Teaching and Learning Communities, which included two core teachers and one related arts teacher. Two of the four middle schools had learning teams, in addition to the interdisciplinary teams. The learning teams were mixed grade level teams and included all teachers. The focus of the learning teams was instructional strategies and skills related to an identified content area. One middle school had study teams in addition to grade level teams. The study teams appear to serve the same role as learning teams with mixed grade levels teams. The teaching teams also served as learning teams (study teams). All of the middle schools coupled the interdisciplinary teams (grade

level teams) with the learning and study teams, which included teachers from multiple grade levels and all content areas.

As required by Iowa law, all of the middle schools had building leadership teams. The names included School Improvement Facilitators, Steering Team, Building Improvement Team, and Professional Development Team. The building leadership teams addressed the needs of students as a whole or as a grade level. Many of the schools had combined a number of former committees (technology, school climate, and school culture) into the building leadership team. At the middle school level, teachers also served on district level teacher teams, which provided cross-building teams, in addition to grade level and cross-grade level teams.

All of the middle schools had a problem solving team (multidisciplinary team), which addressed the needs of individual students. Like the elementary level, the building assistance teams ranged from informal problem solving teams to formal problem solving teams depending on the needs of the individual students.

Table 15 indicates the teacher teams which are unique to each middle school in the TBVP Pilot Project. Each principal identified at least one exemplary team. One of the principals asked the researcher not to include the exemplary teacher team in the case study due to an emergency situation the district experienced.

Table 15. Summary of Teacher Teams in TBVP Pilot Project Middle Schools

Teacher Teams	Middle School One	Middle School Two	Middle School Three	Middle School Four
Interdisciplinary Teams	X	X	X	X
Teaching Teams	X			
Building Leadership Teams	X	X	X	X
Learning Teams		X	X	X
Other Teams: Technology, Problem Solving, School Culture/Climate	X		X	X
Exemplary Team(s)	Teaching Team	Learning Team	Learning Team	Professional Development Team

Roles of Teacher Teams in the Ten TBVP Pilot Project Middle Schools

Purpose

The middle school teams served a number of purposes: they used student achievement data to make instructional decisions, developed interdisciplinary themes, team taught, addressed student needs as a group and/or needs of individual students, planned, provided, or participated in professional growth and development, steered the Comprehensive School Improvement Plan (CSIP), and implemented CSIP. All of the teams served multiple purposes. The principals noted a concerted effort to use student achievement data to make instructional decisions at every level—individual class, interdisciplinary team (grade level), and school. The principals also noted the need to have

Table 16. Purpose of Teacher Teams in the TBVP Middle Schools

Teacher Teams	Purpose
Interdisciplinary Teams (grade level teams)	used student achievement data at grade level to make instructional decisions; addressed student needs as a group and needs of individual students; implemented CSIP
Teaching Teams	team taught; used student achievement data make instructional decisions; addressed student needs as a group and needs of individual students
Building Leadership Teams	steered Comprehensive School Improvement; used student achievement data to make instructional decisions; used student achievement data to plan, present, and professional growth and development
Learning Teams	provided professional growth and development; implemented CSIP
Technology	integrated technology in curriculum; addressed student needs as a group; provided professional growth and development
Problem Solving	used student achievement data for individual student and made instructional decisions
School Culture/Climate	addressed student needs as a group; used student achievement data; made instructional decisions school-wide; implemented CSIP

teachers serve on more than one team in order to work with different teachers in different settings. Table 16 denotes the combination of purposes the teacher teams serve. The principals referred to the importance of collaborating and communicating when describing the overall team structure, but did not state that collaborating and communicating were the specific purposes of any one teacher team. The researcher did not observe all the teacher teams at the middle school level so the conclusions are general.

Composition

The composition of the teacher teams at the middle school level ranged from groups of 2-3 members to groups of 6-8 members. The interdisciplinary teams shared the same students, but were heterogeneous teams. The leadership and learning teams included teachers from each grade level and were therefore more heterogeneous than the interdisciplinary teams. Table 17 outlines the composition of the teacher teams. Principals used composition to create a variety of teacher teams in order for teachers to interact in more ways than interdisciplinary teams, which can create mini-schools within the schools.

Table 17. Composition of Teacher Teams in the TBVP Middle Schools

Teacher Teams	Purpose
Interdisciplinary Teams (grade level teams)	4-6 content area teachers who share students and instructional decisions as shared grade level
Teaching Teams	2-3 content or subject area teachers who team teach, including related arts teachers
Building Leadership Teams	6-8 grade level representatives, content or subject area representatives, including special education staff
Learning Teams	4-6 cross-grade level representatives; all teachers serve on learning team
Technology	3-4 content or subject area representatives, including media staff
Problem Solving	3-6 members, including individual teacher, parents, student, special education staff as needed
School Culture/Climate	6-8 grade level representatives, content or subject area representatives

The leadership and learning teams provided opportunities for teachers to interact across teams and keep the school as a whole functioning as a team as well as the many teams within the school team. Principals were comfortable with the composition, communication and conflict of the interdisciplinary teams, but provided opportunities for teachers to intermingle and interact in other teams in order to continue to provide new perspectives.

Structure and Context

The middle school teams used formal and informal structure. The interdisciplinary teams, which had a scheduled block and met every other day, used informal structure. The teaching teams also used informal structure. They met daily to team teach, but did not have a scheduled block to plan. The technology team used informal structure and did not have a scheduled block to plan. In general, the teams, which had a scheduled time block to meet, used formal structure. Table 18 outlines the structure and composition of the teacher teams. Principals used the purpose of the teams to provide structure and context for the teams.

Interaction

The principals stated the teacher teams interacted effectively. The middle school philosophy appeared to support teachers and teams as well as students. The principals noted the interdisciplinary teams functioned independently; the principals believed the middle school philosophy, a clear purpose, delineated structure, and clear context for the leadership and learning teams contributed to effective interaction.

Table 18. Structure and Context of Teacher Teams in the TBVP Middle Schools

Teacher Teams	Purpose
Interdisciplinary Teams (grade level teams)	informal structure; scheduled block
Teaching Teams	scheduled block for team teaching
Building Leadership Teams	formal structure; scheduled block
Learning Teams	informal and formal structure; scheduled block
Technology	informal structure; no scheduled block
Problem Solving	formal structure; scheduled block
School Culture/Climate	formal structure; scheduled block

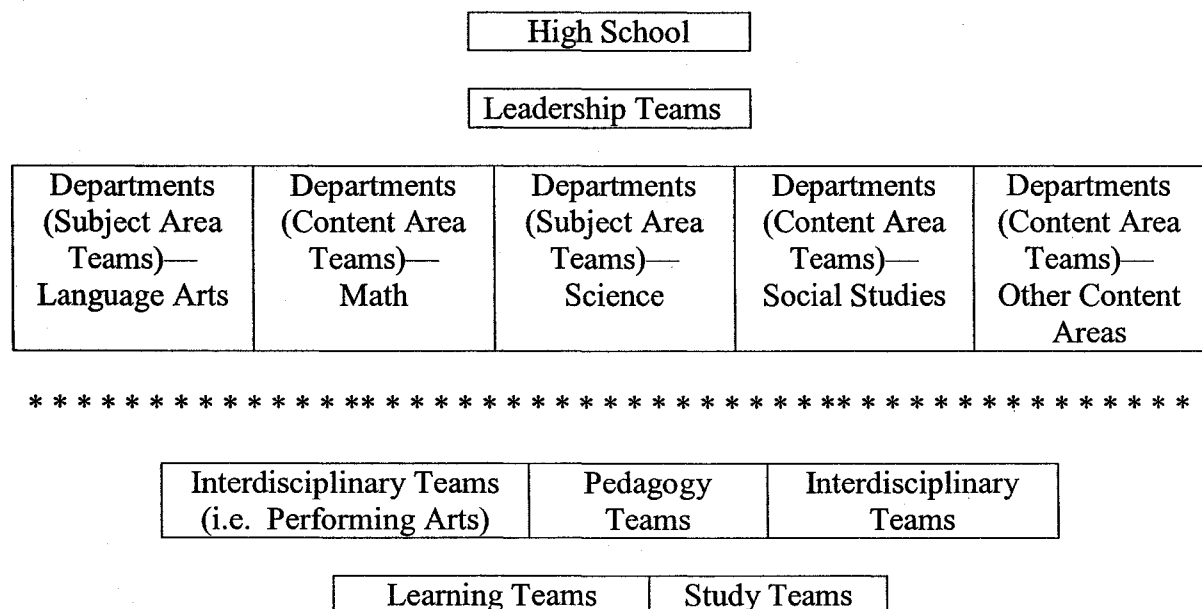
Types of Teacher Teams in the TBVP Pilot Project High Schools

There were two high schools in the Team-Based Variable Pay Pilot Project—a small rural high school (approximately 100 students) and a large suburban high school (approximately 1300 students). The principals at the high school level described a variety of teacher teams that played a number of roles.

The team structure at the high school level included a leadership team, with departments (subject or content area teams). Every teacher served in a department though the departments ranged from two to ten teachers. Every teacher served on a learning or study team that either addressed a school-wide theme that may have been a content area or pedagogy. The leadership team provided horizontal and vertical articulation. The departments provided horizontal articulation. Like the elementary and middle school

levels, the team structure included additional teams, which provided further horizontal and vertical articulation and professional growth and development. The learning or study teams were organized across departments, but included teachers from the same grade levels, like the interdisciplinary and grade level teams. Model 4C provides a visual of the team structure at the two high schools.

Model 4C: A Model of the High Team Structure in the TBVP Pilot Project Schools



The leadership teams and the departments above the dotted line represent the basic “bare bones” team structure and there is a hierarchy to the team structure with departments being represented on the leadership team; they represent the team structure “cake.” The teams below the dotted line represent the teacher teams principals have created to address and align professional growth and development with student achievement goals and they are not hierarchal. They represent the frosting on the cake. Teacher A would serve on the leadership, representing her department. She would serve as the chairperson on the

department. In addition, Teacher A would serve on the learning team focusing on reading (the school-wide focus). Teacher B would be a member of the department. In addition, Teacher B would serve on the learning team focusing on reading (the school-wide focus) and the pedagogy team focusing on School Pride.

The suburban high school utilized departments, which consisted of teachers who taught a number of courses in the content area at multiple grade levels and/or with students at multiple grade levels. Each department had a representative on the school leadership team. The small rural high school referred to the departments as grade level cluster teams, which included a cluster of content area teachers from both the middle and high school levels.

Both high schools had leadership teams. The suburban high school had a School Improvement Team and Building Improvement Team. The small high school had a Professional Development Team. The leadership teams developed professional growth and development aligned with student needs, providing opportunities for teachers as learners and leaders. At the suburban high school, the leadership teams developed and shared expertise within the leadership teams and shared this information and expertise with the entire teaching staff as appropriate. The principal used the leadership teams to facilitate communication within the school. At the rural high school, the leadership team participated in decision-making that impacted the three building levels. The principal used the leadership team to facilitate decision-making and communication across the district. The problem solving teams (multidisciplinary teams) addressed individual student needs and ranged from informal to formal problem solving meetings.

Table 19. Summary of Teacher Teams in TBVP Pilot Project High Schools

Teacher Teams	High School One	High School Two
Departments (Content Area Teams)	X	X
Leadership Teams (Learning Teams)	X	X
School Improvement Teams	X	
Building Leadership Teams	X	X
Other Teams: Technology, Problem Solving, School Culture/School Climate	X	X
Exemplary Team(s)	Leadership Teams (Learning Teams)	Professional Development Team (Building Leadership Team)

Table 19 indicates the teacher teams unique to each high school in the TBVP Pilot Project. Each principal identified a leadership team as an exemplary team, whereas, the elementary and middle school principals identified teaching, learning, and leadership teams as exemplary teams.

Roles of Teacher Teams in the Ten TBVP Pilot Project High Schools

Purpose

The high school teams served a number of purposes: they used student achievement data to make instructional decisions, addressed student needs as a group and/or needs of individual students, planned, provided, or participated in professional growth and development, steered the Comprehensive School Improvement Plan (CSIP), and implemented the CSIP. Teams served multiple purposes. One difference between the suburban high school and the elementary, middle and small rural high schools was the need for additional levels of

teacher teams. The researcher attributed the need to the size of the high school. The principal also noted the need to have content area teachers aware of school-wide goals and actively involved in the implementation of school-wide goals. The leadership (learning) and school improvement teams, which created additional levels of teacher teams, provided opportunities for content area teachers to interact across content areas and address school-wide goals. The principals of both high schools noted a concerted effort to use student achievement data to make instructional decisions at every level—individual class, department, and school. Table 20 denotes the combination of purposes the teacher teams serve. The principals noted the importance of collaborating and communicating, but did not state collaborating and communicating as purposes. The researcher concluded that collaborating and communicating were unstated purposes of teacher teams. The researcher did not observe all the teacher teams at the high school level so conclusions are limited.

Composition

The composition of the teacher teams at the high school level had the greatest range in size from the school improvement team of five to the leadership teams of 16-20. The team of five represented the five leadership teams (learning teams). All of the teams at the high school appeared to be heterogeneous teams. The departments shared a content area, but were heterogeneous within the content area depending on the course offerings. The teachers within the department did not share the same students. Table 21 outlines the composition of the teacher teams. The principal at the suburban high school deliberately

Table 20. Purpose of Teacher Teams in the TBVP High Schools

Teacher Teams	Purpose
Departments (content area teams)	made instructional decisions; addressed student needs as a group and needs of individual students
Leadership Teams (Learning teams)	used student achievement data; focused on school-wide themes; focused on students as group; included representative from each department; communicated from leadership team to departments; developed implementation plans for departments related to school-wide focus; provided professional growth and development; implemented CSIP
School Improvement Teams	used student achievement data; focused on school and students as a school; provided professional growth and development; implemented CSIP
Building Leadership Teams; Professional Growth and Development Leadership Team	used student achievement data make instructional decisions; steered Comprehensive School Improvement; planned professional growth and development
Technology	integrated technology in curriculum; addressed student needs as a group; provided professional growth and development
Problem Solving	used student achievement data for individual student and made instructional decisions
School Culture/Climate	addressed student needs as a group; used student achievement data; made instructional decisions school-wide

Table 21. Composition of Teacher Teams in the TBVP High Schools

Teacher Teams	Purpose
Departments (content area teams)	4-6 content area teachers
Leadership Teams (Learning teams)	16-20 representatives, each department is represented; every teacher serves on a leadership team
School Improvement Teams	5 representatives, one from each leadership team
Building Leadership Teams	6-8 representatives, including special education staff
Technology	media staff
Problem Solving	3-6 members, including individual teacher, parents, student, special education staff as needed
School Culture/Climate	6-8 representatives

created teacher teams to involve teacher in more ways than typical high school departments.

The principal struggled with the composition as experienced teachers retired and new teachers joined the staff. Initially, the principal allowed teachers to select learning teams and the composition and interaction were stilted. The principal changed practices and assigned teachers to learning teams to provide create new sets of teachers to interact in order to continue to provide new perspectives. The principal controlled the composition of the teacher teams, which contributed to more heterogeneous teacher teams and more effective interaction. The principal learned by trial and error not to leave composition to chance.

Structure and Context

The high school teams used formal and informal structure. The departments used informal structure and met as needed; they did not have a scheduled block. The technology

team used informal structure and did not have a scheduled block to plan. The leadership, school improvement, and building leadership teams, which used formal structure, met before school. Table 22 outlines the structure and composition of the teacher teams. The principal in the suburban high school instigated the leadership (learning) and school improvement teams to provide a structure and context for teams, which were unique to high schools. The principal in the rural high school initiated the professional leadership team (learning teams), which was also unique to high schools.

Interaction

The principal of the suburban high school stated some departments interacted more effectively than others. The teacher teams were designed to provide additional opportunities for the teacher to interact in addition to department interaction. The principals noted the teachers interacted effectively in the teacher teams. The departments

Table 22. Structure and Context of Teacher Teams in the TBVP High Schools

Teacher Teams	Purpose
Departments (content area teams)	informal structure; not a scheduled block
Leadership Teams (Learning teams)	formal structure; scheduled block
School Improvement Teams	formal structure; scheduled block
Building Leadership Teams	formal structure; scheduled block
Technology	informal structure; no scheduled block
Problem Solving	formal structure; scheduled block
School Culture/Climate	formal structure; scheduled block

and teacher teams were large, which contributed to interaction challenges. The principals noted the importance of a school mission with school-wide goals, which gave the leadership and school improvement teams a clear purpose, delineated structure, and clear context contributed to effective interaction.

Team-Based Variable Pay Pilot Project Case Study Schools

In order to explore in-depth the importance of the “team” and probe the roles of the teacher teams play, the researcher used purposeful sampling to select a limited number of schools for the case study. The exemplary teacher teams appeared to meet Katzenbach and Smith’s (1993) criteria for defining a teacher team. The principals and lead teachers described the teacher teams as committed to a common purpose; composed of, for the most part, a small number of people with complementary skills; utilized an agreed and accepted structure; interacted; and shared a set of performance goals for which they held themselves accountable.

Table 23 provides an overview of the teacher teams in the ten TBVP Pilot Project schools. Whereas, each school had a leadership and learning teams, each level had a unique team. The elementary level used grade level teams, the middle school used interdisciplinary teams, and the high school used departments.

The overall team structure in the pilot project schools and the teacher teams within the team structure met the criteria outlined by Crow and Pounder (2000), Hart (1990), Kruse and Louis (1997), Maeroff (1993a), and Marks and Printy (2003) for substantive and significant school reform. All the teachers in the TBVP Pilot Project schools were involved in teacher teams and they were involved with different teacher teams in different capacities,

Table 23. Teacher Teams in TBVP Pilot Project Schools

Iowa Teams	Elementary Level	Middle School Level	High School Level
leadership teams* (site-based management teams, governance teams, ad hoc decision-making teams); professional growth and development leadership teams*	leadership teams; professional growth and development leadership teams	leadership teams; professional growth and development leadership teams	leadership teams; professional growth and development leadership teams
grade-level teams	grade-level teams including Teaching and Learning Communities	teaching teams	
primary and intermediate teacher teams	cluster grade level teams		
departments (subject matter teams and content area teams)			departments (subject matter teams and content area teams)
interdisciplinary teams		interdisciplinary teams	
learning and study teams	learning and study teams	learning and study teams	learning and study teams
focus groups (task force teams)	focus groups		
subject matter teams (focus of learning teams/study teams, collegial support teams)	subject matter teams including reading, writing, math, science, and technology	subject matter teams including reading, writing, math, science, and technology	subject matter teams including reading, writing, math, science, and technology
pedagogy teams (focus of learning teams/study teams, collegial support teams)	pedagogy teams including school culture/climate	pedagogy teams including school culture/climate	pedagogy teams including school culture/climate

Table 23. (continued)

Iowa Teams	Elementary Level	Middle School Level	High School Level
mentors* (new teacher, buddy teams, collegial support teams)	mentors	mentors	mentors
multidisciplinary teams (problem solving team) *	problem solving teams	problem solving teams	problem solving teams

* required by Iowa Teacher Quality Legislation

changing the nature of teacher work itself (Crow & Pounder, 2000). The principals and the teacher teams were making a concerted effort to use student achievement to make instructional decisions that directly affect the instruction of all students (Kruse & Louis, 1997; Marks & Printy, 2003). The principals and the teacher teams were also making a concerted effort to establish a close and direct link between the school improvement, student achievement, and the restructuring efforts (Hart, 1990; Maeroff, 1993a). These findings were reported by principals and teachers; it was evident the principals and teachers valued the importance of actively involving all teachers in teacher teams and linking the purpose of the teams to student achievement. These findings were similar to Pounder's (1997, 1998c) findings.

The principals used two key terms to describe the teacher teams: collaborating and communicating. The principals did not claim that all the teacher teams were equally effective at collaborating and communicating, but the goal was to help all teacher teams function or learn to function effectively. According to the principals, collaborating and communicating included: a) using student achievement data to make instructional decisions; b) developing and aligning curriculum, instructional strategies based on student needs, and assessment; c) developing interventions to address student learning (aggregated and disaggregated); d) participating in professional growth and development (adult learning) to address student learning; and e) steering the comprehensive school improvement process. The teacher teams and the principals were striving to keep the connection between the learners' needs and the teaching-learning process as the purpose of the teacher teams. The learners' needs included both the students and the teachers; with the overall team structures and the multitude of teacher teams, the schools were organized to

support learners' needs. Clark and Clark (1994) identified these key responsibilities as critical to teacher teams and restructuring efforts to use teacher teams to address student achievement, school improvement, and professional growth and development.

The teacher teams in the TBVP pilot project schools were focused on student needs; their work revolved around students (Crow & Pounder, 1997, Pounder, 1997, 1998b, 1998c, 1999). Teachers had knowledge of and responsibility for student learning and student achievement goals (Kruse & Louis, 1997; Marks & Printy, 2003). The teacher teams provided opportunities for decision-making, contributed to work interdependence, and increased team members' responsibility for the team's performance, including meeting student achievement goals (Crow & Pounder, 1997; Pounder, 1997, 1998b, 1998c, 1999). Team members had professional autonomy over a broad array of work issues and demonstrated interpersonal and group decision-making skills (Crow & Pounder, 1997; Pounder, 1997, 1998b, 1998c, 1999). The teacher teams involved teachers in organizational decision-making, including change, and tightened the connection between teachers' work and student outcomes (student achievement goals). The teacher teams provided opportunities for teacher involvement by changing the design of teachers' work during the student day and the teacher's day (Kruse & Louis, 1997; Marks & Printy, 2003). According to leading researchers, Crow and Pounder (1997), Kruse and Louis (1997), Marks and Printy (2003), Maeroff (1993a), Mohrman and Lawler (1992), and Pounder (1997, 1998b, 1998c, 1999), restructuring efforts that enhance teachers' work contribute to the rebuilding of today's schools.

The principals at each school in the TBVP Pilot Project recommended an exemplary team at their schools. After interviewing the principals and the lead teachers on the

exemplary teams, and consulting with Dianne Chadwick at the Iowa Department of Education, the researcher decided to focus on three elementary teams, including a Teaching and Learning Community (unique form of cluster grade level team), a Focus Group (a task force team), and a Building Improvement Team (leadership team, site-based management team, governance team, and/or ad hoc decision-making team). Table 24 outlines the teacher teams the principals recommended as exemplary teams. The asterisk indicates the teacher teams the researcher selected for the case study. Models D, E, and F provide a

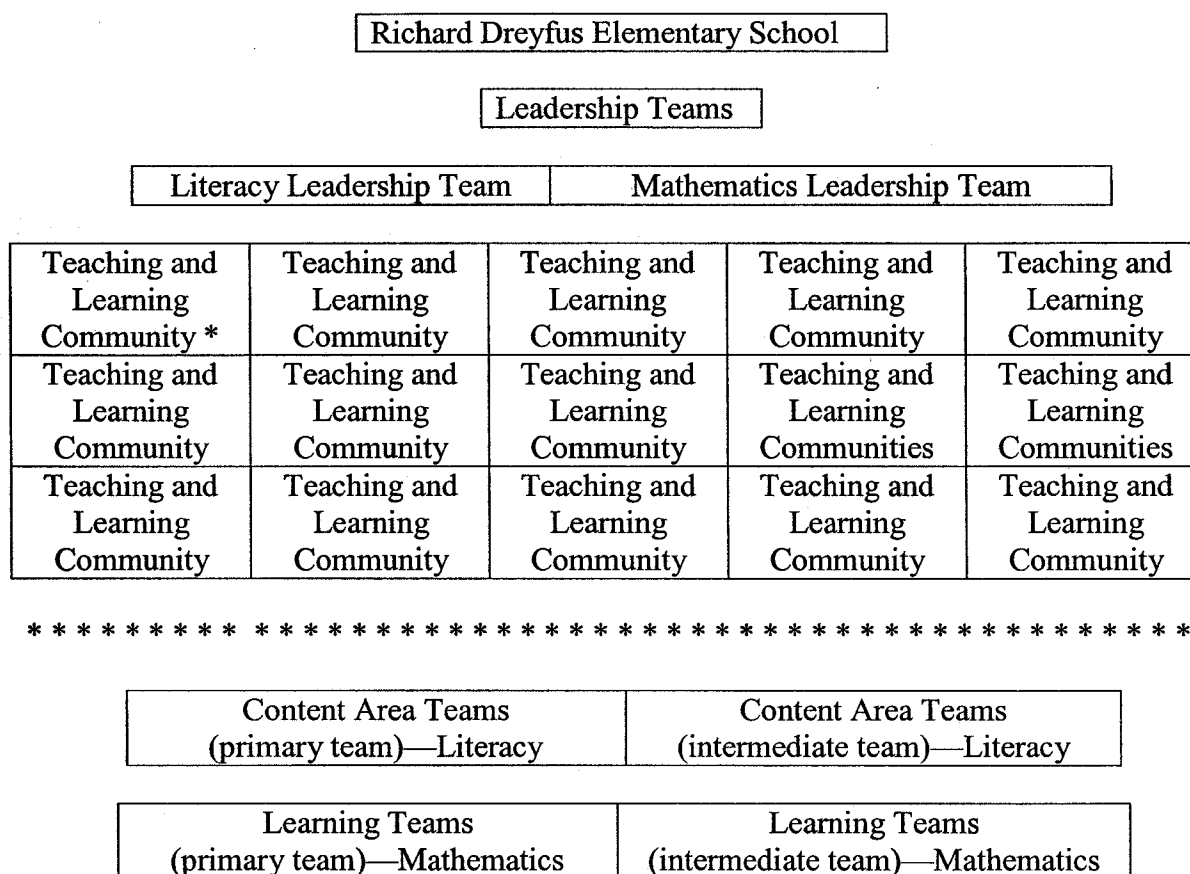
Table 24. Summary of Exemplary Teacher Teams in TBVP Pilot Project Schools

Teacher Teams	Elementary Schools	Middle Schools	High Schools
Grade Level Teams; Interdisciplinary Teams; Departments (subject area)	Teaching and Learning Community* (grade level cluster team); Grade Level Cluster Teams	Interdisciplinary Teams; Teaching Teams	Departments (subject area)
Building Leadership Teams	Building Leadership Team;* Professional Development Team	Building Leadership Team;* Professional Development Team	Building Leadership Team;* Professional Development Team
Learning (Study) Teams	Learning Teams	Learning Teams	Leadership Teams
Other Teams: Technology, Problem Solving, School Culture/Climate	Focus Group* (cross-grade level team); Tech Cadre; School Pride, School Climate	School Pride, School Climate	School Improvement Teams

*Exemplary teams selected for case study.

visual of the overall team structure in the three elementary school, which were selected for the case study.

Model 4D: Richard Dreyfus Elementary School



The Richard Dreyfus Elementary School, an urban elementary school, had a well-established team structure, which consisted of the Teaching and Learning Communities (TLCs), literacy and a math team, and a building leadership team. The school structure evolved around the TLCs, which had been in place for five years.

Teacher A would serve on the leadership team, representing her content area (math). She would also serve math team as a lead teacher planning the professional growth and development related to math extensions. In addition, Teacher A would serve on the Teaching and Learning Community. Teacher A would lead the learning teams (primary and intermediate) modeling the use of math extensions. Teacher B would serve on the leadership team, representing his content area (reading). He would also serve literacy team as a lead teacher planning the professional growth and development related to literacy extensions. In addition, Teacher B would serve on the Teaching and Learning Community. Teacher B would lead the learning teams (primary and intermediate) modeling the use of literacy extensions. Teacher C would serve on the teaching and Learning Community and participate on the learning teams (intermediate) learning how to use of the math and literacy extensions.

Model 4E: Susan Sarandon Elementary School

Susan Sarandon Elementary School

Building Leadership Team *

Grade Level Teams: K-1	Grade Level Teams: 2-3	Grade Level Teams: 4-5
---------------------------	---------------------------	---------------------------

Pedagogy Teams— Literacy	Pedagogy Teams— Mathematics	Pedagogy Teams— Science	Pedagogy Teams— School Climate
--------------------------------	-----------------------------------	-------------------------------	--------------------------------------

Learning Teams (multiple grade level clusters)— Literacy	Learning Teams (multiple grade level clusters)— Mathematics	Learning Teams (multiple grade level clusters)— Science	Learning Teams (multiple grade level clusters)— School Climate
---	--	--	---

Problem Solving Team

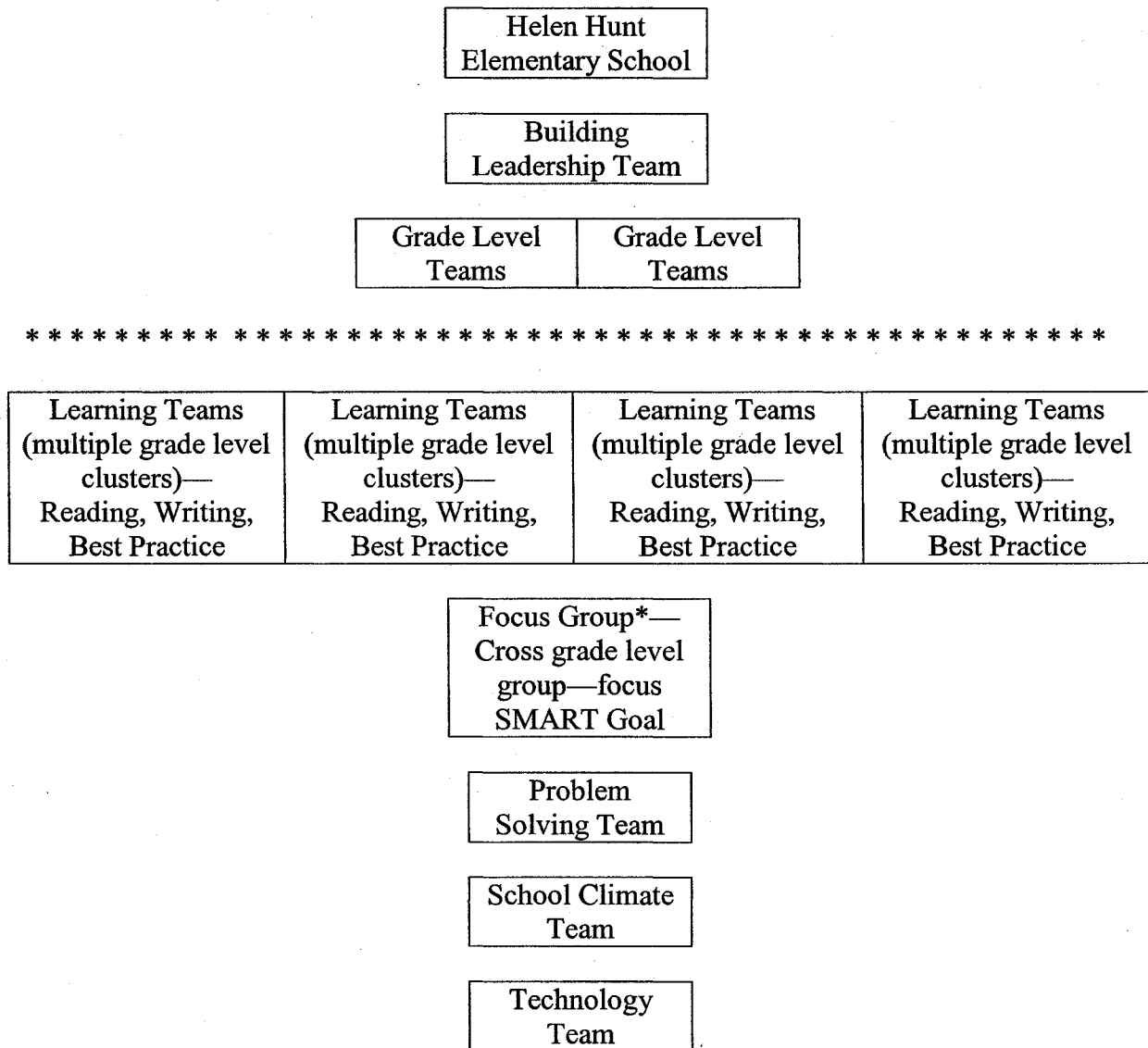
School Climate Team

Technology Team

The Susan Sarandon Elementary School, a suburban elementary school, had a team structure, which included the Building Improvement Team, grade level teams, a related arts team, a special education team, the Technology Cadre, the STAT (Student-Teacher Assistance team) team, and the leadership teams in the content areas. Lawson Station Team and Lawson Pride addressed school climate and culture. The Building Leadership Team structure had been in place for many years, but the composition of the team itself was newly formed this year to overcome challenges.

Teacher A would serve on the leadership team, representing her grade level team. She would serve as grade level team leader. In addition, Teacher A would be an active member of the learning teams (school-wide focus reading). Teacher A would continue to serve on the science content area team (Teacher A's area of interest). In addition, Teacher B would be an active member of the learning teams (school-wide focus reading). Teacher B would continue to serve on the pedagogy team (Teacher B's area of interest) that focused on School Climate. Teacher C would serve on the grade level team. In addition, Teacher C would be an active member of the learning teams (school-wide focus reading). Teacher C would continue to serve on the math content team (Teacher C's area of interest).

Model 4F: Helen Hunt Elementary School



The Helen Hunt Elementary School, a rural elementary school, had a team structure which included grade level teams, building leadership team, and learning teams/study teams. The grade level teams included core teachers at each grade level and focused on student learning and student needs. The building leadership team included the “core teachers,” but not the related arts teachers, who were shared with the middle school. The

learning teams/study teams were cross-grade level teams and included the core teachers and the related arts teachers. The Focus Group structure was new, created this year to develop a collaborative school climate committed to student and adult learning.

Teacher A would serve on the leadership team, representing her grade level team. She would serve on the grade level team leader. In addition, Teacher A would be an active member of a learning team (school-wide focus reading). Teacher A would also serve on the Focus Group. Teacher B would serve the grade level team leader. In addition, Teacher B would be an active member of a learning team (school-wide focus reading). Teacher B would also serve on the pedagogy team (Teacher B's area of interest) that focused on School Climate. Teacher C would serve on the grade level team. In addition, Teacher C would be an active member of the learning teams (school-wide focus reading). Teacher C would also serve on the Focus Group.

Phase Two: Case Study

A Comparison of Three Teacher Teams in Team-Based Variable Pay Pilot Project Schools

The descriptive data provided a sketch of the teacher teams in the ten TBVP Pilot Project schools and the roles they played within their respective schools, which led to purposeful sampling. Three teacher teams in the TBVP Pilot Project were selected for the case study. The questions for the second phase of the study, the case study, explored the importance of the "team" in a limited number of TBVP Pilot Project case study schools:

4. How important is the "team" in TBVP Pilot Project schools? The sub-questions included:

- a. How do teacher teams impact student learning and student achievement?
What strategies do teacher teams and principals use to promote student achievement (student learning)?
- b. How do teacher teams function as a learning community and support teacher learning? What strategies do the teacher teams and the principals use to impact professional growth and development (teacher learning)?
- c. What characteristics of teamness do the team teachers exhibit? What strategies do the teacher teams and principals use to promote teamness in teacher teams?

Three Teacher Teams in TBVP Pilot Project Schools

The first case study involved an urban elementary school and will be referred to as the Richard Dreyfus Elementary School. The team structure consisted of the Teaching and Learning Communities (TLCs), a literacy and a math team, and a building leadership team. The school structure evolved around the TLCs and the principal stated any one the TLCs would be exemplary teacher team for the case study. (Refer to the Richard Dreyfus Elementary School Case Study in Appendix D for more information.)

The second case study involved a suburban elementary school and will be referred to as the Susan Sarandon Elementary School. The team structure included the Building Improvement Team (BIT), District Improvement Team (DIT), grade level teams (including a related arts team and a special education team), the Technology Cadre, the Student-Teacher Assistance Team (STAT), the leadership teams, one academic leadership team for reading, math, and science, the Lawson Station Team, and Lawson Pride. Lawson Station

Team and Lawson Pride addressed school climate and culture. In addition, the School Improvement Facilitators served on the Building Improvement Team and the District Improvement Team and helped plan, coordinate, implement, and evaluate professional growth and development. The principal recommended the BIT team as an exemplary teacher team that had overcome challenges. (Refer to the Susan Sarandon Elementary School Case Study in Appendix E for more information.)

The third case study involved a rural elementary school and will be referred to as the Helen Hunt Elementary School. The team structure consisted of the Focus Group, grade level teams, a building leadership team, and learning teams/study teams. The grade level teams included core teachers at each grade level (approximately 7 people) and focused on student learning and student needs. The building leadership team included the “core teachers,” but not the related arts teachers who were shared with the middle school. The learning teams/study teams were cross-grade level teams and included the core teachers and the related arts teachers. The principal recommended the Focus Group as an example of a teacher team designed to address student learning, adult learning, and school culture. (Refer to the Helen Hunt Elementary School Case Study in Appendix F for more information.)

Table 25 details the type of school, number of students and teachers, and the types of teacher teams in the three elementary schools. (Appendix D, E, and F contain detailed descriptions of Case Study I, II, and III).

Table 25. Three Elementary Schools in the Case Study

School	Students	Teachers	Teacher Teams
Richard Dreyfus Elementary - Urban	410	40 (30 grade level teachers, including special education and 10 related arts teachers)	<ul style="list-style-type: none"> • 12 Teaching and Learning Communities • Literacy and Math Teams • Building Leadership Team
Susan Sarandon Elementary - Suburban	440	40 (30 grade level teachers, including special education and 10 related arts teachers)	<ul style="list-style-type: none"> • Grade Level Teams including Related Arts and Special Education "Grade Level" Teams • Building Improvement Team and District Improvement Team • Tech Cadre • STAT (Student-Teacher Assistant Team) • Leadership Teams, including reading, math, and science • Learning teams (study teams) • Lawson Station Team (school climate/culture team) • Lawson Pride (school climate/culture team) <p>School Improvement Facilitators</p>
Helen Hunt Elementary - Rural	280	20 (14 grade level teachers, including special education and 6 shared related arts teachers)	<ul style="list-style-type: none"> • Grade Level Teams • Building Leadership Team • Focus Group • Learning Teams (study teams) • Building Assistance Team (BAT) • Special Education (IEP) Team • Technology Team

Table 26. Teacher Teams in the Three Elementary Schools in the Case Study

Richard Dreyfus Elementary School	Susan Sarandon Elementary School	Helen Hunt Elementary School
Teaching and Learning Communities*	Grade Level Teams including Related Arts and Special Education Teams	Grade Level Teams Focus Group*
Building Leadership Team	Building Improvement Team* (Building Leadership Teams)	Building Leadership Team
Literacy and Math Teams	Learning Teams (study teams)	Learning Teams (study teams)
	Student-Teacher Assistant Team	Building Assistance Team
	Tech Cadre	Technology Team
	Lawson Station Team; Lawson Pride; School Improvement Facilitators	

* Teacher Teams selected for Case Study

Table 26 highlights the different types of teacher teams in the three elementary schools. All three schools had grade level teams and leadership teams. Richard Dreyfus had a unique grade level cluster team, a Teaching and Learning Community, which functioned as a grade level team and a focus group.

In the interviews, the teachers on the Teaching and Learning Community, the Building Leadership Team, and the Focus Group, stated they viewed themselves as effective teams. The teachers referred to the roles the teams played in supporting both developing teachers as professionals (adult learning) and leaders. The observations support

the interviews. The teacher teams demonstrated the characteristics of teamness (Hall, 1995), which include: open, direct communication and conflict, mutual trust, common identity and tenets, risk taking, awareness and acceptance of group structure, and common tasks.

The Role of the Three Teacher Teams

In order to more fully answer the research question, “What roles do the teacher teams play?” the researcher used observations of the teacher teams and Crow and Pounder’s (2000) constructs, purpose, composition, structure and context, and interaction, to clarify the roles the teacher teams played and compare teacher teams across settings. An overview was included in Chapter IV, Phase I. The observations and interviews allowed the researcher to further detail the roles teacher teams played.

Purpose of the Three Teacher Teams

The three teacher teams served a variety of purposes. Table 27 demonstrates the similarities. The purpose of the Richard Dreyfus TLC team was to implement the collaborative teaching model, whereas the purpose of the Susan Sarandon BIT team was to steer the comprehensive school improvement plan and process. The purpose of the Helen Hunt Focus Group was to implement CSIP and research the SMART goal. The purpose and focus of the three teacher teams were aligned. The focus of the Richard Dreyfus TLC team was the teaching and learning community, which included sixty students and four teachers, whereas the focus of the Susan Sarandon BIT team was comprehensive. It included all the students and teachers. The focus of the Helen Hunt Focus Group was more specific. It included all the students, but focused on one SMART

Table 27. Purpose of Teacher Teams TBVP Pilot Project

Richard Dreyfus School: Teaching and Learning Community	Susan Sarandon School: Building Improvement Team	Helen Hunt School: Focus Group
focused on student achievement; used student achievement data to make decisions	focused on student achievement; used student achievement data to make decisions	focused on student achievement; used student achievement data to make decisions
used collaborative teaching model		
	steered the comprehensive school improvement process	
		researched focus area: SMART Goal—making inferences
used flexible groupings to provide differentiated instruction		
	developed and implemented comprehensive school improvement plan	
planned instruction, implemented curriculum, and administered assessments	planned curriculum and assessment opportunities for teacher teams in school-wide focus area	developed curriculum and assessment in focus area; aligned curriculum and assessment in focus area
implemented professional growth and development	planned, implemented, and evaluated professional growth and development	participated in professional growth and development
participated in problem solving		
	communicated with grade level teams	served as liaisons with grade level teams

goal—making inferences. Professional growth and development played an important role in all three teacher teams. Communication and collaboration differed. The Richard Dreyfus TLC used communication to collaborate within the TLC, whereas the Susan Sarandon and Helen Hunt teacher teams used communication to collaborate within the teams and across the school-wide team structure to extend the collaboration efforts from the BIT and Focus Group teams to the grade level teams and communicate to develop school-wide consensus on a common identity and shared tenets.

The three teacher teams addressed and valued curriculum planning involving all students, and reserved the majority of the time for curriculum planning. At Richard Dreyfus Elementary School, the TLC balanced curriculum planning with planning for individual student needs, with the majority of the time being devoted to curriculum planning. At Susan Sarandon Elementary School, the BIT addressed curriculum development and professional growth and development at the school level, not the individual student level. At Helen Hunt Elementary School, the Focus Group also addressed curriculum planning at the school level, not the individual student level. This finding was unique. These three teacher teams differed from Pounder's (2000) teacher teams in that she found teacher teams were more likely to address and value individual student needs than interdisciplinary curriculum planning, involving all students. The three teacher teams appeared to represent and reflect the schools' commitment to teacher teams, student learning, and adult learning. Erb (1995) found teacher teams can represent a microcosm of their schools. When schools are committed to student and adult learning, the teacher teams reflect the commitment.

All three teams focused on curriculum development, which is considered one of the most difficult areas of teacher “team” work to address and an area fully functioning mature teams are able to address. Typically young teams are not able to address curriculum development (Arhar *et al.*, 1989; Beane, 1993; Lipsitz, 1984). The TLC, BIT, and Focus Group had goal clarity (Larson & LaFasto, 1989), which may have contributed to the focus on curriculum development. At Richard Dreyfus Elementary School, the TLC team had functioned as a team for more than three years and, using Stout’s (1998) definition, appeared to be a “fully functioning” team. At Susan Sarandon Elementary School, the BIT team was newly formed, but the school had a Building Leadership Team in past years. The BIT team had goal clarity—comprehensive school improvement plan and process. At Helen Hunt Elementary School, the Focus Group was also newly formed; the teachers had served on grade level teams. The Focus Group also had goal clarity—one component of the comprehensive school improvement plan. The two young teams did not reflect the early developmental stages of teams. The goal clarity seemed to help the young teams function as “fully functioning teams,” which typically can take three or more years to develop (Erb & Doda, 1989). The clearly defined common task also seemed to help the teacher teams transition through the early stages of learning to “team” to the later stages of collaborative curriculum development and teaching, which according to Erb (1995) and Stout (1998) are traits of fully functioning teams.

According to the three teacher teams, the teachers experienced heightened professional autonomy associated with the decrease in teaching and working in isolation. At Richard Dreyfus Elementary School, the TLC team attributed the increase in professional autonomy, with little or no isolation, to the teacher teams: sharing students,

having the flexibility to group students as needed, and team teaching. The TLC team structure contributed to a common identity, shared tenets, and professional autonomy. The TLC team structure allowed teachers to group and regroup students for instruction and “single, double, and triple dip” the instructional time. Erb (1995) and George and Oldaker (1985) also attribute the increase in professional autonomy to the discretion teacher teams have in how they group their students for instruction and structure their instructional time.

At Susan Sarandon Elementary School, the BIT team experienced school-wide consensus building, decision making, and shared school identity and tenets. The BIT team members indicated the professional autonomy was due to the leadership of the teacher teams, the teachers, and the principal. The BIT team members differentiated between individual autonomy and professional autonomy. Individual autonomy referred to individual teachers doing “their own thing” and professional autonomy referred to professionals making a decision to do “the school thing” and doing it. At Susan Sarandon Elementary School, the teachers attributed the increase in professional autonomy to the collaboration, communication, and focus on curriculum development that the teacher teams allowed. Erb (1995), George and Oldaker (1985), and Kruse and Louis (1997) also found that teachers attribute the increase in professional autonomy to collaboration, communication, and curriculum development, which can occur in teacher teams.

At Helen Hunt Elementary School, the Focus Group team expressed a decrease in feelings of isolation as well as an increase in professional autonomy. The Focus Group team members stated that collectively they were able to meet the Focus Group goal; they were in agreement that individually they would not have met the goal. These feelings were shared by the BIT team members who stated that collectively they were able to write the

CSIP, but individually they would not have met the goal. The CSIP represents the vision for the school; without the vision they would have been lost and leaderless. These findings are supported by Darling-Hammond and Snyder's findings (1992). The teachers on teams expended more effort collectively toward achieving student learning goals than they did individually and the efforts positively impacted student achievement. Little (1990) found teachers who experienced strong collegial relations also had greater work interdependence, which led to a greater sense of the collective enterprise—working to achieve common student achievement goals. Lee and Smith (1996) also found collectively teachers expended more effort toward achieving student learning goals and these efforts positively impacted student achievement.

The three teacher teams referred to decision making as contributing to the effectiveness of the teacher teams and professional autonomy teachers experienced. Smylie and associates (1996) found teacher participation in decision-making is positively related to perceived teacher accountability and opportunities for teacher learning and negatively related to individual autonomy.

Composition of the Three Teacher Teams

The three teacher teams differed in their composition. The composition of the three teacher teams was determined by their purposes. Table 28 outlines the composition of the three teacher teams.

At Richard Dreyfus Elementary School, the TLC team included four members, with homogeneity of educational philosophy and heterogeneity of teaching assignment. The homogeneity of educational philosophy was expressed in a common identity and shared

Table 28. Composition of Teacher Teams in TBVP Pilot Project

Richard Dreyfus School: Teaching and Learning Community	Susan Sarandon School: Building Improvement Team	Helen Hunt School: Focus Group
two regular classroom teachers	K-1, 2-3, and the 4-5 grade level team leaders (teachers)	two regular classroom teachers from each grade level team
two school-wide teachers	one related arts teacher, special education area teacher, and associate	
principal attends as needed	principal and Dean of Students attend and facilitate meetings two School Improvement Facilitators (teachers)	principal attends as needed

tenets, which included a commitment to student and adult learning. The teaching experience varied from beginning to career teachers. All four teachers demonstrated interpersonal and leadership skills. At Susan Sarandon Elementary School, the BIT team included eight members, with homogeneity of educational philosophy and heterogeneity of teaching assignment. The BIT team also included the two administrators. The teaching experience varied from beginning to career teachers, but overall the team members had less than ten years experience. The BIT team demonstrated the most heterogeneity in teaching assignment. The homogeneity of educational philosophy stemmed from the shared school-wide identity and tenets, which included a commitment to student and adult learning. All members demonstrated interpersonal and leadership skills. At Helen Hunt Elementary School, the Focus Group team included four members, with less homogeneity of educational philosophy than the TLC and BIT team members. The design elements of the

“grade alike” elementary school limited the heterogeneity of teaching assignment, but the Focus Group was more heterogeneous than the grade level teams. The teaching experience varied from beginning to career teachers. All four teachers demonstrated a commitment to developing interpersonal and leadership skills.

Like Pounder (1999), the principals at the Susan Sarandon and Helen Hunt Elementary Schools found teacher assignment to teacher teams was critical to the success of the teacher teams. The principals considered educational philosophy, including student and adult learners, and a commitment to the school, including teaming, in determining the newly formed teams. The principals did not want teams that “rubber stamped” or “derailed” every decision. The principals wanted healthy communication and conflict, which would contribute to the success of the new teacher teams; the old teacher teams had either too much or too little conflict and it did not contribute to the success of the teams. The principals recognized they had, what Hackman and Oldham (1980) refer to as, teams that were too heterogeneous or too homogeneous. Teams that are too heterogeneous may contribute to uneven participation, create unhealthy conflict, or group inertia. Teams that are may contribute to lackluster participation, no conflict, which is unhealthy, and group inertia (Hackman & Oldham, 1980).

The principal at Susan Sarandon Elementary School disbanded the old BIT team and formed a new BIT team to overcome challenges related to team composition. The old team members shared a reluctance to try anything that was not “tried and true.” The team may have been too homogeneous in educational philosophy, contributing to lackluster or uneven participation, unhealthy conflict, and group inertia. The new team members shared a willingness to try new ideas after reviewing the research and discussing its merits. It

would seem the old team members were not comfortable making decisions while the new team members were willing to make a decision and support it.

The principal at Helen Hunt Elementary School used the new team structure to form the Focus Group to overcome challenges related to team composition. The grade level teams appeared to be too homogeneous in philosophy of education and teaching assignment. The homogeneity seemed to support the status quo and stifle any teacher innovation and collaboration. The homogeneity of the grade level teams may have contributed to lackluster participation, no conflict, and group inertia. The principal reported that individuals dominated participation in the grade level teams, creating unhealthy conflict. The researcher concluded interpersonal and leadership skills contributed to effective teams; teaching experience did not appear to be as important as interpersonal and leadership skills. New and experienced teachers contributed to teacher teams. The interpersonal and leadership skills of the individuals on the teacher teams may have helped new and experienced teachers make contributions. The researcher also concluded that schools such as the Helen Hunt Elementary School have factors which contribute to teams that are too homogeneous, and principals must be creative in seeking ways to provide opportunities which provide a balanced team, with heterogeneous and homogeneous team members. The Helen Hunt Elementary School, which is basically a "grade alike" school, found a solution. Small schools with single sections may also find focus groups to be the solution. Pounder (1999) found team size and homogeneity, especially homogeneity of educational philosophy, were factors that contributed positively or negatively to teacher teams. Pounder found teaching experience, interpersonal and leadership skills also appear to be important to effective teacher teams. Pounder's findings that interpersonal and

leadership skills are important to effective teacher teams support the findings of this research project but Pounder's finding that teaching experience is important to effective teacher teams does not.

Structure and Context of the Three Teacher Teams

The structure and context of the three teacher teams differed. They were in part determined by the multiple purposes and the composition of the teacher teams. Table 29 outlines the structure and context of the three teacher teams.

Table 29. Structure and Context of Teacher Teams in TBVP Pilot Project

Richard Dreyfus School: Teaching and Learning Community	Susan Sarandon School: Building Improvement Team	Helen Hunt School: Focus Group
shared planning time built into the student day and the teacher day	shared planning time built into the teacher day	shared planning time built into the student day and the teacher day
shared teaching time; facilitated communication within the TLC	facilitated school-wide communication	facilitated communication across grade levels
team members had worked together in various combinations since TLCs were implemented	first year this combination of team members had worked together	first year this combination of team members had worked together
focused on student achievement goals	developed and implemented comprehensive school improvement plan (CSIP)	implemented action plan (component of CSIP) and focused on SMART Goal
teaching and learning community lens (including vertical and horizontal lenses)	comprehensive picture (including grade level, content, and school-wide lenses)	vertical and horizontal lenses (grade level and content area lenses)

The three teacher teams had built-in scheduled times to meet and were not hindered by scheduling constraints. The principals were committed to the teacher teams and found time for the teacher teams to meet. The three teacher teams established strong norms of independence and were not dependent on the principals. Team members on the TLC and Focus Group teams facilitated the meetings and the principals attended periodically. At Susan Sarandon Elementary School, the principal facilitated the BIT team, but the teachers were not dependent on the principal. They did not look to the principal for answers, but actively discussed issues and posed solutions. The teachers could function independently. They demonstrated the necessary interpersonal skills and could facilitate the BIT team meetings, but preferred it when the principal facilitated. The BIT team differed from the TLC and Focus Group teams in that the common task, "school improvement" was more abstract; it was related to "the school." The teachers were planning what they would do in the future with all students. The TLC and Focus Group teams were more closely connected to classrooms. The teachers were planning what they would do tomorrow with their students. The common task was concrete.

The grade level teams at Helen Hunt Elementary School did not have built-in blocks to meet. According to the principal, the fifth grade team valued team time so they used a planning time to meet; the fourth grade team did not value team time and did not use a planning time to meet. According to the teachers, the fifth grade team valued the time so they created a time during planning time; the fourth grade team did not have a planning time to meet. According to the teachers, both teams were committed to the team time; according to the principal, the fifth grade team was committed, while the fourth grade team

was not. In contrast, the Focus Group was committed to the team. The lack of built-in scheduled time may have contributed to the commitment of the grade level teams. Other factors, such as homogeneity of educational philosophy and teaching assignment, may also have contributed to the ineffectiveness of the grade level teams. The researcher concluded that team commitment played an important role in the differing levels of success of the grade level teams and the Focus Group. Erb (1995) also found team commitment plays an important role in the success of teaming efforts.

The team structure in the TBVP pilot project schools was school-wide. The schools had a team structure, and teachers chose to actively participate in teacher teams. At Richard Dreyfus Elementary School, the teachers had the option of transferring to a school that did not have Teaching and Learning Communities. Choosing to be at a school with Teaching and Learning Communities also included choosing to be a part of the literacy and math extensions (learning teams). At Susan Sarandon Elementary School, the teachers volunteered to serve on the BIT team, but were required to serve on grade level and learning teams. At Helen Hunt Elementary School, the teachers volunteered to serve on the Focus Group, but were required to serve on grade level teams, building leadership team, and learning teams. In contrast, Hall (1995) found teacher teams created the time to team, but that time was not built-in and the teams were not school-wide. The teacher teams were informal and involved a limited number of teachers. Hall's (1995) teacher teams were homogeneous in educational philosophy, which was one reason the teachers chose to team. It was not a requirement and the schools did not have a school-wide team structure.

The three principals in the TBVP Pilot Project schools utilized the team structure to positively impact collaboration and communication. They created teacher teams, balancing

of homogeneous and heterogeneous considerations, and found time for the teacher teams to meet. The principals met the challenges identified by Clark and Clark (1994) of regularly scheduled team time and teaching time, which enhances communication and coordination among team members, whereas Pounder (1999) found that scheduling constraints hampered the effectiveness of the teams.

Communication efforts of the three teacher teams were enhanced with built-in scheduled time to meet; communication was also enhanced with planners, implementation logs, e-mail, and the shared teaching unit. At Richard Dreyfus Elementary School, the TLC teachers maintained detailed planners and completed implementation logs. At Susan Sarandon Elementary School, the agenda and supporting materials were electronically shared prior to the meeting; the minutes and supporting materials were electronically shared following the meetings. At Helen Hunt Elementary School, the teachers developed an agenda and recorded the minutes during the meetings. The teaching unit was shared with all teachers. The researcher found the teacher teams and principals used a variety of communication strategies which enhanced collaboration efforts. The principals met the challenges identified by Clark and Clark (1994) of face-to-face time supplemented by written communication which contribute to effective teacher teams, whereas Pounder (1998c) found principals and teacher teams did not use strategies to communicate effectively and enhance collaboration.

At the Richard Dreyfus Elementary School, the principal shared that the TLC teams initially had a designated leader, the school-wide teacher, but as a mature team, it appeared the TLC no longer needed a designated leader. All of the teachers took turns as the leader. The young teams had designated leaders and appeared to function well. MacIver (1990)

and Pounder (1998c) also found that designated leaders helped young and mature teams function well.

The teachers on the three teacher teams felt they not only exercised influence in school-wide decisions, they felt they made school-wide decisions. At Susan Sarandon Elementary School, the teachers were active in school-wide decision making. The decisions the BIT team made were used to steer the school in the school improvement process. At Helen Hunt Elementary School, the teachers were expected to develop a teaching unit, which was shared with grade level teachers. The teachers utilized action research in the process. At Richard Dreyfus Elementary School, teachers were encouraged to raise questions, provide input, and propose solutions. When teachers raised questions, they were expected to be proactive and provide alternative solutions. The teachers on all three teacher teams were actively involved in decisions affecting individual classrooms, teacher teams, and the school.

This is consistent with much of the previous research on teaming. For example, Erb (1987, 1995) also found teachers on teacher teams felt they contributed to school-wide decisions. Murphy and Beck (1995) found shared decision-making within the team and within the school, like that experienced by the three teacher teams, positively affects teacher involvement. Smylie *et al.* (1996) found teacher involvement in decision-making is positively correlated with professional growth and development and perceived teacher and teacher team accountability, but is negatively correlated with individual teacher autonomy. Smylie *et al.* (1996) found these variables (increased opportunities for professional growth and development, increased teacher and team accountability, and decreased individual autonomy) are positively correlated with student learning. This research supports the

researcher's conclusion that teachers' active involvement in decisions affecting individual classrooms, teacher teams, and the school, provided by participation on teacher teams, positively impacted student and teacher learning.

The teacher team members demonstrated team skills. Team members utilized strategies to maximize meetings, making efficient and effective use of time, including action research, step setting (goal setting), implementation of steps, discussion of results, and evaluation of steps. They focused on curriculum and student development. They utilized open communication and conflict, interpersonal skills and team decision-making skills. The teacher teams shared they had professional growth and development specifically on developing team skills. Research on teacher teams underscores the importance of professional growth and development on developing team skills (Clark & Clark, 1994; Erb, 1995; Haimes, 1995; Wilkinson & Smith, 1995).

The three teams reflected several developmental stages. One team was a mature team, having existed as a team for more than three years. The other two teams were young teams (functioning less than one year), but all the teachers had professional growth and development related to team skills and individual teachers with well-developed team skills. One young team was facilitated by the principal, which provided an opportunity for ongoing professional growth and development as the principals modeled team skills. The other young team was facilitated by the lead teacher, which also provided an opportunity for ongoing professional growth and development for team members. The principal shared that she designated the individual as lead teacher based on demonstrated interpersonal team skills. Erb and Doda (1989), too, noted the importance of designated leaders and professional growth and development of the team members in team skills.

The team norms shaped the behavior of the individual team members, which in turn molded the identity of the teacher teams. One team norm shared by all three teacher teams is that team members come prepared to team meetings, having communicated with grade level teams and completed assigned tasks, ready to work. Another team norm shared by all three teams is that team members are professional, focused on student learning, positive, and proactive. The teachers demonstrated they are knowledgeable of one another's work. The researcher observed team members use feedback from the work itself, in the form of student achievement data, and ask for and receive constructive feedback from team members. The team meetings, combined with the constructive feedback, shape the behavior of the individual team members and the team. Another norm shared by all three teacher teams was the use of student achievement data to plan, implement, and evaluate interventions. The student achievement data provided feedback from the work itself and fueled future work. Kelley and Finnigan (2003) found providing student achievement data helps teacher teams meet school goals. The norms of being prepared, being professional, and using student achievement data kept the focus on student learning, which should impact student learning.

Pounder (1998c) did not find the same norms to be true across teacher teams, settings, and schools. Some teacher teams were professional, focused on student learning, and took a proactive stance; other teams were not. They focused on student limitations; they reacted by complaining, not collaborating. Hackman and Oldham (1980) consider team norms to be part of structure and context because team norms serve as an informal control mechanism—shaping the behavior of the individuals, molding the team, improving team performance, and reducing the need to monitor team performance.

Table 30. Interaction on the Teacher Teams in TBVP Pilot Project

Richard Dreyfus School: Teaching and Learning Community	Susan Sarandon School: Building Improvement Team	Helen Hunt School: Focus Group
teachers take turns facilitating meetings even participation	principal and Dean of Students facilitate meetings even participation with grade level teachers taking the lead and soliciting input from related arts, special education, and associate members	lead teacher facilitates meetings even participation
TLC structure provides the agenda: reading, writing, math, and content area planning, all students, individual students, and professional growth and development	principal and Dean of Students create the agenda	teachers create the agenda
implementation log	completed CSIP, including action plans and professional growth and development calendar	completed packet, including probes

Interaction on the Three Teacher Teams

The interaction on the three teacher teams was more similar than dissimilar. The teacher teams were recommended as exemplary teams, which may account for their interaction skills. Table 30 summarizes the interaction on the three teacher teams.

Interaction included balancing member inputs, even participation, and active involvement (Pounder, 1998c). At Richard Dreyfus Elementary School, it was evident the TLC team members had completed the collaborative teaching model courses. The TLC

team balanced member inputs; the norm was active involvement and even participation. The members stated that they were, and appeared to be, one hundred percent committed to the team, and were able to coordinate team teaching and team planning with built-in block scheduling. All four teachers taught core subjects. The members also stated, and appeared to be, one hundred percent committed to professional growth and development. Each team meeting included a professional growth and development component.

At Susan Sarandon Elementary School, the BIT team balanced member inputs; team members expected active involvement and even participation. The self-contained classroom teachers were skilled at eliciting balanced input from other team members. The members appeared to be one hundred percent committed to the team; when asked if team members would serve a second year, all eight team members volunteered. The members were able to coordinate team time with a built-in before school block. The district provided funding for building leadership team members and school improvement facilitators. Teachers received a stipend for the additional commitment. Four teachers taught core subjects—three of the four taught self-contained classes and one taught special education, with an emphasis on reading, writing, and math and the ability to integrate core subject areas. One teacher taught a related arts area. Two members were administrators and one member was a paraeducator who worked with students with special needs. The BIT team was a newly formed team and the members were handpicked. The teachers demonstrated why they were asked to serve; they demonstrated effective interpersonal skills, balancing member inputs, actively involving members, and encouraging member participation. There will be a change in BIT team membership next year. This year the school improvement facilitators attended the BIT team meetings periodically; next year they will attend

regularly. The district determined that the two school improvement facilitators will serve on the building leadership teams. The school improvement facilitators also demonstrated effective interpersonal skills.

At Helen Hunt Elementary School, the Focus Group team balanced member inputs; all four members participated. Each agenda item included input from both grade levels and individual team members were actively involved. The members were one hundred percent committed to the team, and were able to coordinate team planning with built-in block scheduling. All four teachers taught core subjects. The Focus Group was a newly formed team, but the teachers referred to the professional growth and development they had related to interpersonal processes in other settings.

The three teams referred to ongoing professional growth and development related to the development of students and the implications for teaching and learning, what Clark and Clark (1994) referred to as the most important professional growth and development related to teacher "team" work. During the meetings, the teachers were business-like and focused on the common task, though it was evident the teachers were comfortable with each other. They joked with each other before the meeting and lingered after the meeting to "talk shop." The principals have devoted time to team building because the teams demonstrated interpersonal processes and a commitment to teaming, but the researcher did not observe the teams devoting time specifically to building team commitment. Erb (1995) noted the need for teams to devote time specifically to building team commitment.

Balancing member inputs was an important interaction skill. The three teacher teams balanced member inputs, which contributed to the development of member expertise and experience. Hackman (1990) argued that teams that fail to achieve a balance of team

member inputs may suffer from the loss of appropriate member expertise and effort, resulting in a self-fueling downward spiral. According to the principals, the disbanded BIT team at Susan Sarandon Elementary School and the grade level teams at Helen Hunt Elementary School had an imbalance of team inputs. The researcher concluded this imbalance contributed to the downward spiral of the BIT team and the loss of appropriate member expertise and effort resulting in a self-fueling downward spiral of the grade level teams.

The researcher found the teachers interacted effectively. Lead teachers began with “I was thinking ..., what were you thinking?” and directed the question to each team member, balancing member input. Comments that followed included, “I’d like to put this idea on the table, what do you think?” or “You mentioned, could you elaborate?” and pausing to let team members think before responding and probing their responses. Team members used paraphrasing to interact. Team members also pursued a balance between advocacy and inquiry, “I’d like to propose this” and “I heard you mention that, tell us more about that.” Team member also used the strategy “I’m not following” or “Do you follow me? Am I explaining myself well?” and monitored the level of understanding for team members, including themselves. Teachers on the TLC referred to presuming positive presuppositions as an effective interaction strategy. (Refer to the Case Studies in Appendix D.)

The teachers expressed a commitment to teaming. The teachers mostly taught core subjects and therefore the teachers were able to integrate the content naturally. At the Susan Sarandon Elementary School, the teachers who taught related arts did not interact as often as the core content teachers, but the core content teachers asked for their input. These

findings are similar to Pounder's (1999) findings. Pounder (1999) found the subjects teachers taught, the naturalness of the integration, and the degree of commitment to teaming contributed to effective interaction.

All three teacher teams used collaboration. The Richard Dreyfus team used the collaborative teaching model. The Susan Sarandon team used collaboration in the comprehensive school improvement process. The Helen Hunt team used collaboration as they participated in the professional growth and development opportunity provided by the Focus Group. The Richard Dreyfus team shared a common perspective. The Susan Sarandon team used multiple perspectives from the grade level teams to create a school-wide perspective. And the principal used the Focus Group to create a school culture committed to student and adult learning. All three teams provided opportunities for professional growth and development for teachers and leaders. The teachers noted they served as professionals, mentors, and leaders.

Impact of the Three Teacher Teams on Student Learning and Student Achievement

In order to answer the research question of how do teacher teams impact student learning and student achievement, the researcher used information from the Annual Progress Report (IDE, 2004). As Table 31 demonstrates, two of the schools met their Yearly Adequate Progress (AYP) goals, but not their TBVP goals. The two schools that did not meet their TBVP goals were participating in the TBVP Pilot Project for the second year and their TBVP goals had increased from the first year they participated in the project. The school that met its TBVP goals participated in the TBVP Pilot Project for its first year.

Table 31. Roles of the Teacher Teams in TBVP Pilot Project

Richard Dreyfus School: Teaching and Learning Community	Susan Sarandon School: Building Improvement Team	Helen Hunt School: Focus Group
used collaborative teaching model	used collaborative comprehensive school improvement process	used collaborative professional growth and development
shared a common perspective	used multiple perspectives used to create a school- wide perspective	created a school culture committed to student and adult learning
participated in professional growth and development as teachers and leaders	participated in professional growth and development as teachers and leaders	participated in professional growth and development as teachers and leaders
teachers played an active role; principal provided support	teachers, principal, and Dean of Students played an active role	teachers played an active role; principal provided support
served as mentors (teachers as leaders)	served as teachers as leaders	served as teachers as leaders; participated as teacher as professionals

Of the three schools in this case study, the Richard Dreyfus Elementary School served the most diverse population. Twenty-five percent of the student population represented minority populations: 11% percent of the student population was Hispanic, 11% was African American, 3% was Asian, and less than 1% of the student population was Native American. Eleven percent of the student population represents English Language Learners (ELL). More than half of the students qualified for free and reduced food program (57%). There was approximately 25% mobility with more than one hundred students moving in and out during the school year and over the summer.

The school met its student achievement goals in 2001-2002 and 2002-2003. The school also met its Adequate Yearly Progress goals in 2003-2004, but did not meet its TBVP goals. At the fourth grade level, the proficiency level in math and reading (aggregated data) and percentage of students who were proficient (disaggregated data) continued to increase. In reading, students demonstrated a 2% gain on ITBS, but according to the principal and teachers that was not enough. They vowed to continue doing what works, identify what's not working, determine what they need to do, and do it. "Thirty-five (35%) of the students are not at grade level, and that is not acceptable," exclaimed the principal. With proposed budget cuts, the principal knew he would have fewer teachers and did not know how he would be able to structure the TLCs in order to continue to provide the flexible groupings, the "double and triple dipping," and the additional instructional time.

The Susan Sarandon Elementary School served a less diverse student population. Eight percent of the student population represented minority populations: 4% African American, 2% Hispanic, and 2% Asian students. According to the principal, this elementary building had the greatest range of socioeconomic status of any of the buildings in the district with 7% of the students qualifying for the free and reduced food program. There was 12 to 15 percent mobility during the school year and over the summer with 50-60 students moving in and out.

In 2001-2002 and 2002-2003, the school met both its reading and math goals. Prior to that, the school met its math goal but not its reading goal (1999-2000), and met its reading goal but not its math goal (2000-2001). Meeting both goals was important to the

school and represented growth for the students, the staff members, and the school (Case Study II: Interview 2-2004).

In 2003-2004, the school met its school goals, but not its TBVP goals. The teachers and the principal called it “one for the show (adequate yearly progress and annual improvement goals) and two for the money (TBVP goals)” in that they knew they might not meet their TBVP goals even if they meet the building goals and that was okay. The proficiency level (aggregated data) and the percentage of students who were proficient (disaggregated data) continued to increase and student achievement continued to improve.

The Helen Hunt Elementary School served approximately 280 students in fourth and fifth grade, with approximately 140 students at each grade level. There was very little ethnic diversity with approximately 2% minority student population, 1% African American and 1% Asian students.

There had been a marked increase in the student to teacher ratio, with 29 students per class, or 4-5 more students per class, in the last year. The increase in enrollment (approximately 40 students—20 students per grade level) was a bonus for the school and the district. However, it also presented a challenge. The building was a traditional junior high school building with fourth grade on the first floor and fifth grade on the second floor. The two grade levels differed. One grade level had a high number of students with IEPs (20 of the 140 students have IEPs) while the other grade did not. According to the principal, the teachers who needed to provide the differentiated instruction were the least prepared to provide it. The grade level with the greatest student learning needs also had the greatest adult learning needs.

The school met its student achievement goals in 2001-2002 and 2002-2003, but was not a participant in the TBVP pilot program at that time. In 2003-2004, the school met its school goals and TBVP goals. At the fourth grade level, the proficiency level in reading and math (aggregated data) and the percentage of students who were proficient (disaggregated data) continued to increase and student achievement continued to improve.

When asked if the teacher teams impacted student achievement and learning, the teachers and principals at all three schools answered with a resounding yes. The teacher teams pointed to the increases in proficiency levels and the percentages of students who were proficient and attributed the increases to the collaboration on the teacher teams. At the Richard Dreyfus Elementary School, the teachers attributed it to the teacher teaming, the shared students, and the shared planning at the classroom level. At the Helen Hunt Elementary School, the teachers attributed it to the collaboration across grade levels and within grade levels. At the Susan Sarandon Elementary School, the teachers attributed it to the comprehensive school improvement plan and process and the collaboration within grade levels, across grade levels, and school-wide.

Dianne Chadwick initiated a study during the 2003-2004 school year, which compared student achievement data from TBVP pilot project schools with student achievement data from comparable schools. The results were not yet available. Chadwick's study focused on student achievement, but did not consider what strategies were in place to impact student achievement, including what teacher teams were in place or what roles the teams played. This qualitative study focused on teacher teams, but did not compare the student achievement data across schools. The student achievement goals were different for each school. The two schools that had been in the project for multiple years

had more challenging TBVP goals than the Adequate Yearly Progress (AYP) goals and Annual Improvement (AI) goals. Both schools met their AYP and AI goals, but not their TBVP goals. The school that has only been in the project for one year met its AYP, AI, and TBVP goals, which were one and the same.

Strategies the Three Teacher Teams Use to Promote Student Achievement and Learning

In order to answer the research question of what strategies do teacher teams use to promote student achievement (student learning), the researcher used observations of the teacher team meetings. At the Richard Dreyfus Elementary School, the focus of the TLCs was student learning and achievement. The format of the TLC planning meeting was to review where the students were in reading, writing, math, science, and social studies. Probes provided ongoing student assessment data for the team members to discuss. The TLC members planned the week's lessons based on detailed curriculum guides, which had been locally developed and aligned with locally developed assessments.

The TLC members discussed student progress as a group and determined what instructional strategies to use, including new instructional strategies. They also discussed individual student progress, student groupings and additional instruction students need to master skills. Teachers shared sample student work, planned instruction for individuals, small groups of students, and the whole class during team teaching, and asked for suggestions for instruction and groupings during science and social studies when the two classroom teachers collaborated.

At the Susan Sarandon Elementary School, the focus of BIT was comprehensive school improvement, including student and adult learning. The BIT team focused on the

big picture, comprehensive school improvement, and not individual students. BIT team members provided multiple grade level perspectives, which the BIT team used to create the shared school-wide perspective.

At the Helen Hunt Elementary School, the Focus Group concentrated on one component of the big picture—one SMART Goal. It impacted student learning and achievement. It did not focus on individual students, but rather group data, which were aggregated and disaggregated. The Focus Group provided a dual grade level perspective and blended the dual grade level team cultures.

The researcher observed that the teacher teams used a variety of strategies to promote student achievement and learning during the teacher team meetings. Table 32 lists the strategies the teacher teams used to promote student achievement and learning

Table 32. Effectiveness of Teacher Teams in Promoting Student Achievement

Richard Dreyfus School: Teaching and Learning Community	Susan Sarandon School: Building Improvement Team	Helen Hunt School: Focus Group
Met goals in 2001-2002 including TBVP Goals	Met goals in 2001-2002 including TBVP Goals	Met goals in 2001-2002 (Did not participate in TBVP)
Met school goals in 2002- 2003	Met school goals in 2002- 2003	Met school goals in 2002- 2003
Met school goals in 2003- 2004; Did not met TBVP Goals	Met school goals in 2003- 2004; Did not met TBVP Goals	Met school goals in 2003- 2004; Met TBVP Goals

Strategy 1: Using Student Achievement Data to Determine Instructional Programs

All three schools used student achievement data to determine student achievement goals. Goals included Adequate Yearly Progress (ITBS trajectory goals), which were consistent from school to school, district to district, and state to state in that all schools must to meet trajectory goals, Annual Improvement, and SMART goals (annual student achievement goals), which were unique to two of the three schools.

At the Susan Sarandon Elementary School, the BIT team members used student achievement data to evaluate programs such as the two-year looping program and the math pilot program. Currently two teachers were looping (1-2 grades). Initially, the teachers said that if the data on looping demonstrated it worked, they would be willing to loop. The BIT team members had been collecting data on looping for several years; it demonstrated looping was effective. The teachers were ready to implement looping at all grade levels. BIT team members decided they would use student achievement data to decide if they should implement the math pilot program at identified grade levels, across grade levels, or school-wide.

At the Helen Hunt Elementary School, the teachers developed probes for making inferences using fiction, nonfiction, poetry and the ITBS format. Collaborating across grade levels provided vertical alignment. The teachers administered the probes to the students and the Focus Group analyzed the results. The fourth grade teachers had the opportunity to see first hand what students can and cannot do at the fifth grade level. The fifth grade teachers had the opportunity to learn what instructional strategies and materials the fourth grade teachers use. The teachers noted they were developing a shared definition

of making inferences and learning to model for students when they, as teachers, were using the reading comprehension strategy and making inferences.

Research supports the use of student achievement to drive curriculum, instructional strategies, and assessment, and to determine professional growth and development. The leading researchers in the Consortium for Policy Research in Education (2002c) synthesized the research of Cohen and Hill (2001), Joyce and Showers (2002), and Supovitz and associates (2000), and concluded student achievement data must drive all decisions regarding student learning, curriculum, instructional strategies, and assessment, and the necessary professional growth and development for teachers to have the knowledge and skills to meet student needs.

Strategy 2: Providing Differentiated and Individualized Instruction

Another strategy utilized by two of the three teacher teams was differentiated and individualized instruction. At the Richard Dreyfus Elementary School, the TLC was designed to provide single, double and triple dipping for students as needed. At the Susan Sarandon Elementary School, the teachers outlined the expectation for differentiated and individualized instruction with the Focus on Four Program and the SMART Goals Program. In the Focus on Four Program, the teachers identified four students who were not proficient in reading and math on ITBS and provided differentiated instruction as needed. In the SMART Goals Program, the teachers identified areas of growth for all students and provided additional and differentiated instruction as needed in identified areas. The BIT team played a key role in identifying areas of growth for all students (aggregated data) and identifying the Focus on Four strategy to serve at risk students (aggregated data). Grade

level teams used student achievement data to identify the “at risk” students and develop the lessons.

At the Susan Sarandon Elementary School, the BIT team analyzed the student assessment data and discussed providing differentiated instruction by extending the teaching day. They currently had an after school program, the Dragon Club, for third, fourth, and fifth grade students. They discussed a before school program, Practice Partners, which partners students with adult mentors. The BIT team decided to start Practice Partners in the fall, to compliment Dragon Club, and continue with Dragon Club in the winter. They agreed both programs would support school climate and culture.

Strategy 3: Extending Professional Growth and Development

All three teacher teams used the team meetings to extend the professional growth and development and impact student achievement and learning. At the Richard Dreyfus Elementary School, professional growth and development began with the weekly literacy and math extensions planned for teachers and students. Professional growth and development continued as the TLCs teachers observed and coached each other as they team taught and as teachers discussed implementation of the new instructional strategies during the shared planning time.

At the Susan Sarandon Elementary School, professional growth and development was planned at multiple levels—the leadership teams, study teams, and the whole staff. Content area teachers were involved in leadership and study teams related to their content area (math, science, technology, and school culture and climate). The principal referred to the process as “divide and conquer,” having some, but not all staff members, developed

expertise in identified areas, while all staff members developed expertise in the identified focus area. The staff members who were developing expertise in math, science, technology, and school climate and culture were responsible for sharing that information with grade level teams and the whole staff. The focus area changed from year to year. Next year, the focus area will be reading and all staff members will be involved in the school-wide study of Mosaic of Thought and participate in heterogeneous study teams. Study teams will include teachers who have never read the book, teachers who have read it and begun to implement it, and teachers who are leaders in reading and have fully implemented the reading strategies. Another year(s), the focus area will be math or science. The process was cyclical, and eventually all of the staff members would develop experience and expertise in all areas.

At the Helen Hunt Elementary School, professional growth and development related to the SMART Goal, making inferences, occurred at two levels—the Focus Group and the grade level teams. The principal used a process similar to the “divide and conquer” process. The principal “divided” the grade level teams and created the Focus Group. The Focus Group members developed expertise and experience in the identified area and shared the information with the grade level teams. In doing so, the principal hoped to “conquer” the “nay sayers” and create a school culture committed to student and adult learning.

Research supports the active involvement of teachers in planning, implementing, and evaluating professional growth and development. Day and associates (1995) noted the importance of involving teachers in the planning process and involving teachers as experts in the presenting process. Danielson (2001) noted the importance of tailoring the professional growth and development to meet the needs of the teachers as a school as well

as the needs of individual teachers. Corcoran (1995) noted professional growth and development is not something that happens to teachers, but with teachers. In order to ensure that professional growth and development results in changes in instructional strategies, teachers must be involved in planning, implementing, and evaluating professional growth and development. When teachers are actively involved in planning professional growth and development, they understand the “what and why.” When teachers are involved in implementing it, they begin to understand the “how.” When teachers are involved in evaluating it, they reflect on the “when and where” and whether or not it made a difference. Dyer (2001), Cruickshank and Haefele (2001), and Painter (2001) noted the importance of learning communities and collaboration in order to share new knowledge and help with the transition from new knowledge to teaching strategies and skills. The researcher concluded the teacher teams provided the learning community in which to share new knowledge, collaborate, and transition the new knowledge to teaching strategies and skills.

Strategy 4: Using Curriculum Mapping

Two of the teacher teams used curriculum mapping to impact student achievement and learning. At the Susan Sarandon Elementary School, it was an ongoing process and the team members discussed the fact that curriculum mapping in reading and math had been more comprehensive than in science. The district recently adopted FOSS science materials and the teachers loved the science kits, but did not know how the new curriculum was aligned with ITBS science tests. The teachers discussed the challenge of adopting new curriculum, becoming familiar with the materials, participating in the curriculum mapping

process so there was horizontal articulation from class to class, and developing meaningful school-wide assessments that were aligned with the curriculum. Classroom teachers led the conversation because they were the most knowledgeable about grade level assessments in science. The Dean of Students facilitated the meeting, but it was the teachers who questioned each other and energized the process. The special education teacher and PE teacher confessed they didn't have "first-hand" knowledge when it came to science, but served as a "check and balance."

Strategy 5: Aligning Curriculum, Instruction, and Assessment

One strategy all three teacher teams used was aligning curriculum, instruction, and assessment. The three teacher teams and schools were looking at the alignment of the locally developed curriculum with ITBS. The Susan Sarandon and Helen Hunt Elementary Schools used ITBS data analysis to create SMART Goals and design instruction to address goal areas; implementation was different. At the Susan Sarandon Elementary School, the BIT team crafted the comprehensive school improvement plan with the SMART Goals and Focus on Four Programs at the heart of the plan. SMART Goals and Focus on Four had become the norm and CSIP outlined the school-wide expectations for teachers and students, but did not include the lessons and probes the grade level teachers used. At the Helen Hunt Elementary School, the Focus Group translated the SMART Goal into lessons and probes the grade level teachers could but were not required to use. The sample lessons and probes did not carry the same weight as the school-wide expectations for teachers and students at the Susan Sarandon Elementary School. The sample lessons and probes were not the norm.

At the Richard Dreyfus Elementary School, the teachers used ongoing informal and formal assessments that were aligned with locally developed curriculum to determine flexible groupings. The reading groups were homogenous and teachers regrouped students as needed so students had the necessary level of support. The math groups were heterogeneous, with math extension in large group for all students, and additional math extension in small groups for students who needed it. Again the small groups were flexible, determined by each math strand and its pretest. The math extensions were comparable to the SMART Goals and Focus on Four Programs at Susan Sarandon Elementary School. The SMART Goals addressed goal areas in math, like math extensions, for all students. The Focus on Four Program extended the math instruction, with additional math extensions for small groups of students who needed it.

At the Susan Sarandon Elementary School, curriculum and assessment alignment was an ongoing process. The Iowa Technical Adequacy Project (ITAP) helped to formalize the process. One challenge the team members faced was determining appropriate school-wide assessments and differentiating individual, grade level, school-wide, and district-wide assessments. The Richard Dreyfus and Helen Hunt Elementary Schools had completed the ITAP process and identified district-wide assessments in reading, math, and science.

At the Helen Hunt Elementary School, the building leadership team and the grade level teams used the curriculum and assessment alignment process to identify student achievement gaps and develop SMART Goals. The Focus Group continued the process by collaborating, creating, collecting, and compiling instructional materials for teachers to use to focus on the SMART Goal—making inferences, a reading comprehension strategy. Before, during, and after the SMART Goal unit of study, the teachers used the informal

probes and formal ITBS assessment to assess the effectiveness of the SMART Goal and making inferences unit.

The research supports the use of collaboration to address curriculum and assessment. Teacher teams, using collaboration, can address student learning. Together, in teams, teachers can make instructional decisions that align curriculum and assessment. The Iowa Professional Development Model (2002) is based on the work of Elmore (2002), Fullan (2001b), Joyce and Showers (2002), Schmoker (1996), and Slavin and associates (1996), and summarizes teachers making instructional decisions independently are not contributing to school improvement, whereas teachers making instructional decisions interdependently do contribute to school improvement.

Strategy 6: Comprehensive School Improvement Process

All three teams used the comprehensive school improvement process. At the Richard Dreyfus and Helen Hunt Elementary Schools, the TLCs and the Focus Group served as tools to implement CSIP and its action plans. The TLCs used the math extensions to impact student and adult learning. The Focus Group created “extension like” lessons and probes to share with the grade level teams.

At the Susan Sarandon Elementary School, the BIT team was in the process of writing the new Comprehensive School Improvement Plan. At the April meeting, the BIT teachers had completed the process with reading and math and were repeating it with science. The team members discussed the role of professional growth and development and how they would assess its effectiveness. They noted that they needed quality assessment tools for teachers to demonstrate learning just as they needed quality assessment for

students to demonstrate learning in reading, math, and science. Team members talked about the two levels of assessment—teacher use of strategy and how it impacts the classroom, and student use of strategy and how it impacts student achievement. They agreed they needed to give the development of quality assessment for teacher learning some thought. They could use study groups and implementation logs, which would assess how teachers were using the strategy in the classroom; they could also administer probes, which would assess how use of a particular strategy impacted student learning. BIT team members concluded that in order for professional growth and development to impact student learning, it had to be aligned with curriculum and assessment and it had to be assessed.

Teacher teams, using collaboration, can address student and adult learning. Teacher teams can form the nucleus of learning communities. In turn, teacher teams serving as learning communities can support organizations as learning communities. Barnett and associates (2000) contend learning communities contribute to organizations that learn and teacher teams can be an effective form of learning communities. Norris and associates (1996d) concluded individual learning contributes to individual effectiveness; when individual learning is shared within a learning community, that learning contributes to the effectiveness of the individual teacher, the teacher team as a learning community, and the school as a learning organization. Baitland (1992), Lebsack (1993), and Weise (1992) also support the use of collaboration to address student and adult learning. In order for professional growth and development to lead to student learning, adult learning must take place. Participation in professional growth and development does not necessarily lead to

adult learning, but collaboration and coaching in a teacher team can contribute to changes in instructional practices, which is adult learning.

Strategies the Principals Use to Promote Student Achievement

In order to answer the research question of what strategies do principals use to promote student achievement (student learning), the researcher asked the teacher teams to describe what the principals do and Table 33 summarizes the strategies the principals use to promote student achievement. In addition, the researcher concluded the principals' use of teacher teams was a strategy to promote student achievement. The principals and teachers were in agreement that teacher teams impacted student achievement and learning, but did not list the use of teacher teams as a strategy. Teachers referred to schools where they taught or a time when they taught and did not participate in teacher teams as lacking in professional autonomy. As "teamless" teachers, they did their thing, they taught, but they had no idea what other teachers were doing or how students were performing. As team members, they knew what their teacher members were doing and how their students were performing. The teacher teams were the source of that knowledge and information.

Strategy 1: Active Involvement in Professional Growth and Development

According to the teachers, the principals in each school were learning all the time. They, too, participated in the professional growth and development and the learning teams as adult learners. Then, the principals tried their hand at using the instructional strategies. The principals also benefited from administrative study teams. Helen Hunt observed that the district's administrative team struggled with the same issues as the school's grade level, learning, and leadership teams.

Table 33. Strategies Teacher Teams Use to Promote Student Achievement (Student Learning)

Richard Dreyfus School: Teaching and Learning Community	Susan Sarandon School: Building Improvement Team	Helen Hunt School: Focus Group
collaborating	collaborating	collaborating across grade levels
using ongoing assessment and student achievement data to make instructional decisions	using pilot projects and student achievement data from projects to evaluate them	using student achievement data to determine SMART Goal, developing probes to assess effectiveness of instructional strategies and materials and progress toward SMART Goal
	developing student achievement goals using student achievement data	using student achievement data to determine SMART Goal—making inferences (reading comprehension strategies)
providing differentiated and individualized instruction	providing differentiated and individualized instruction with the Focus on Four and the SMART Goals Programs	
using flexible grouping	using flexible groupings with Focus on Four Program	
using TLC to provide differentiated and individualized instruction	using extended day with Dragon Club and Practice Partners to provide differentiated and individualized instruction	
extending professional growth and development	extending professional growth and development	extending professional growth and development

Table 33. (continued)

Richard Dreyfus School: Teaching and Learning Community	Susan Sarandon School: Building Improvement Team	Helen Hunt School: Focus Group
using new instructional strategies such as models (visual representations)		using new instructional strategies such as models (visual representations)
implementing instructional strategies and materials developed by Literacy and Math teams and shared with TLCs during Literacy and Math Extension		creating, collecting, and compiling instructional materials for teachers to use to focus on SMART Goal
	using curriculum mapping	using curriculum mapping
aligning assessment with curriculum and instruction	aligning assessment with curriculum and instruction	aligning assessment with curriculum and instruction
implementing CSIP	developing and evaluating comprehensive school improvement process and plan	implementing CSIP

Table 34. Strategies Principals Use to Promote Student Achievement (Student Learning)

Richard Dreyfus School: Teaching and Learning Community	Susan Sarandon School: Building Improvement Team	Helen Hunt School: Focus Group
actively involved in teaching and learning (adult learning) at the school level and the district level	actively involved in learning (adult learning) at the school level and the district level	actively involved in learning (adult learning) at the school level and the district level
development of collaborative teaching model courses for teachers		
use of student achievement data to evaluate professional growth and development		
use of gradual release of responsibility	use of modeling	
		willingness to explore new team structure

At the Helen Hunt Elementary School, the teachers noted the principal served as principal as well as the curriculum and professional growth and development coordinator for the district, so she had a great deal of curriculum knowledge and was an instructional leader. The principal noted she was eager to go and had to remind herself that her eagerness could slow teachers' growth. They may not have been as eager as she was, but they were ready to go and they were learning.

At the Richard Dreyfus Elementary School, the teachers reported the principal was actively involved in working with students, teachers, parents, and community members. He modeled professionalism and set a high standard for students and teachers. At the

Susan Sarandon Elementary School, the principal actively participated in all professional growth and development.

Strategy 2: Development of Collaborative Teaching Model Courses

At the Richard Dreyfus Elementary School, the principal designed a course to introduce the collaborative teaching model to teachers in order to provide them with the skills to team teach and function as a team working with students and with each other. He designed additional courses to help teachers use the student assessment data to drive instruction and help teachers learn to be instructional coaches.

Strategy 3: Use of Student Achievement Data to Evaluate Professional Growth and Development

At the Richard Dreyfus Elementary School, all the teachers completed the introductory collaborative teaching model course. The principal and the teachers analyzed the data. The Teaching and Learning Communities were making a difference and the school continued to see student achievement gains. The principal stated he would like to compare the student achievement results for the TLCs where teachers have completed the additional courses with TLCs where teachers did not to see if the additional professional growth and development made a measurable difference on student achievement.

Strategy 4: Use of Gradual Release of Responsibility

According to the teachers at the Susan Sarandon Elementary School, all of the staff members provided leadership. The principal concurred. The teachers recognized the principal is a leader and modeled themselves after the principal; in doing so, they recognized they provided leadership for each other and the school. The principal saw her

role as modeling, developing teachers as teachers and leaders, and guiding teachers and teams. The BIT team was writing the CSIP, which included problem solving, identifying areas to address, researching best practices, and providing professional growth and development for adult learning focused on student learning.

At the Richard Dreyfus Elementary School, according to the principal and teachers, the teachers provided strong leadership in the building. Some teams functioned independently while the principal worked with the teams that were not yet independent and needed additional one-on-one support. Two of the TLC members, who served on the literacy and math teams, noted the principal had been an active member, but it was the teachers who planned and presented the new strategies. The principal implemented the new instructional strategies in classrooms and modeled life long learning.

Strategy 5: Willingness to Explore New Team Structure

At the Helen Hunt Elementary School, the teachers noted the principal's willingness to try new ideas when old ideas, such as the grade level teams, weren't working. The principal felt the fifth grade team was an effective team, but the fourth grade team was not. The fifth grade teachers focused on the instructional needs of students and tailored their instruction to the instructional needs of students. The fourth grade teachers focused on their needs and were maintaining the status quo. The principal felt focus groups would help blend the two grade level cultures and be a possible solution.

The Focus Group teachers did not evaluate the grade level teams as such, but did indicate that working with two teachers from each grade level had been effective; it would work with other focus groups. Initially being invited to serve on a focus group was

considered an additional obligation; now it was considered an honor. The Focus Group had been so successful that other staff members would like to serve on a focus group. The Focus Group evaluated the effectiveness of the team structure and recommended its future and further use. The principal was going to ask the building leadership team (core staff) to explore future topics.

Impact on Professional Growth and Development

In order to answer the research question of how do teacher teams function as a learning community and support teacher learning, the researcher used observations of teacher team meetings and interviews to ask the teacher teams what strategies they used. The teachers, teacher teams, and principals used a variety of strategies to promote professional growth and development. Table 35 lists the strategies observed during the teacher team meetings.

Strategy 1: Collaborating

At the Richard Dreyfus Elementary School, The TLC functioned as a learning community and supported teacher learning. While the TLC teachers collaboratively reviewed student-demonstrated progress and planned the week's lessons, they discussed instructional strategies and materials. The teachers asked each other for help. One teacher would ask for suggestions, another teacher would share an idea, and then all the teachers would collaborate and contribute to how the idea could be extended. Sometimes, the ideas included instructional strategies and materials for the students as a whole group; other times, they were geared toward individuals or small groups of students.

Table 35. Strategies Teacher Teams Used to Impact Professional Growth and Development

Richard Dreyfus School: Teaching and Learning Community	Susan Sarandon School: Building Improvement Team	Helen Hunt School: Focus Group
collaborated on whole group instruction and individual interventions	collaborated on SMART Goals and Focus on Four Programs	collaborated across grade levels
collaborated on instructional strategies to implement math extensions	collaborated on instructional strategies to implement SMART Goals and Focus on Four Programs	created, collected, compiled, and collaborated on instructional materials for teachers to use to focus on SMART Goal
used student achievement data to drive professional growth and development	used student achievement data to drive professional growth and development	used student achievement data to drive professional growth and development
developed teachers as professionals and researchers	developed teachers as professionals and researchers	developed teachers as professionals and researchers
developed teachers as leaders; math and literacy teams planned and presented professional growth and development	developed teachers as leaders; BIT team planned and presented professional growth and development	developed teachers as leaders
used action research; developed teachers as researchers	used action research; developed teachers as researchers	used action research; developed teachers as researchers
grade level expectations	SMART Goals	SMART Goals
math and literacy teams implementation logs	learning teams	probes developed probes; aligned curriculum and instruction with probes

At the Susan Sarandon Elementary School, the BIT team members used a variety of learning teams with varying sizes, membership, and purposes to implement the planned professional growth and development and provide ongoing opportunities for professional collaboration. The BIT team members used the results to evaluate and planned next year's professional growth and development. One type of learning team, the study team, couples research-based practices with implementation logs. The BIT team discussed the use of homogeneous vs. heterogeneous groups for study teams and decided to use multilevel groups for study teams for heightened professional growth and development and vertical articulation, with periodic grade level team meetings for horizontal articulation. Team members felt confident they knew what would work and were willing to try different structures with different themes.

At the Helen Hunt Elementary School, the principal had tried a building leadership team, learning teams, and the Focus Group, with varying degrees of success. The teams differed in size, composition, structure, and context. The Focus Group was the most successful, with its heterogeneous group, and the principal felt the cross grade level group heightened student and adult learning. The Focus Group team members felt confident it worked and recommend it. The building leadership team was going to discuss topics for future focus groups.

Strategy 2: Using Student Achievement Data to Drive Professional Growth and Development

At the Susan Sarandon Elementary School, the BIT team's focus was comprehensive school improvement, which included both student and adult learning. BIT team members analyzed student needs and aligned professional growth and development

with student needs. The BIT team members used student achievement data to determine the direction of the professional growth and development.

At the Helen Hunt Elementary School, the building leadership team used the ITBS item analysis to determine SMART Goals. SMART Goals drove student and adult learning. The team identified a need for students to have a better understanding of making inferences. The principal pounced on the opportunity to create a new team structure to address that student need while also providing adult learning and helping to mold the school climate into one committed to student and adult learning.

At the Susan Sarandon Elementary School, teachers used SMART Goals and Focus on Four to differentiate instruction. Use of differentiated instruction was becoming the norm. Collectively, the teachers identified instructional strategies and materials to help students develop skills. Teachers utilized the strategies and then assessed student progress to see if students demonstrate mastery. The BIT team members used the action plans to spell “once a month, or as needed” for SMART Goals and “once a week, or as needed” for Focus on Four as parameters for using a particular instructional strategy. The goal determined what students needed to achieve; it was the teacher’s professional responsibility to determine how much instruction the students needed. The norm was that students needed to demonstrate proficiency; the assessments enabled teachers to demonstrate students were proficient. Team members noted they were getting better at developing SMART Goals and identifying instructional strategies for the SMART Goals.

At the Richard Dreyfus Elementary School, the TLC team members used the locally developed curriculum and assessment and worked backwards in planning what to teach and

when. They outlined the grade level expectations. The goal was for all students to be proficient.

Strategy 3: Developing Teachers as Professionals and Leaders

At all three schools, developing teachers as leaders was an important component of professional growth and development and teacher teams. At the Richard Dreyfus Elementary School, the literacy and math teams planned the professional growth and development for all teachers and two of the TLC teachers served on those teams. Those teachers participated in district and state professional growth and development opportunities. The expectation was that they shared the knowledge they gained with the school staff. The school-wide teachers followed up with the teachers in the TLC. The classroom teachers on the TLC felt they had an added bonus with the literacy and math experts on their team.

At the Helen Hunt Elementary School, the Focus Group team members were responsible for developing instructional materials and sharing them with their grade level teams. The Focus Group teachers admitted they not only had a better understanding of making inferences themselves, they also had the confidence to share what they had learned with students, teachers, and parents.

Like the principals, the teachers used the strategy of gradual release of responsibility with teachers. At the Richard Dreyfus Elementary School, the lead teachers modeled teaching strategies and skills, collaborated with teachers as they developed their teaching strategies and skills, team taught using the teaching strategies and skills, and eventually released responsibility as all teachers developed and demonstrated them. The lead teachers

changed as the content area changed. At the Helen Hunt Elementary School, the teachers developed and shared teaching strategies and skills. As a new focus was identified, a new focus group would be established and the leadership would be shared.

Strategy 4: Developing Teachers as Researchers

At the Susan Sarandon and Helen Hunt Elementary Schools, the BIT and the Focus Group provided opportunities for teachers as researchers. With the importance of research-based instruction, teachers were learning how to read and evaluate research. The BIT team members noted SMART Goals was a research-based instructional strategy, but it would be challenging to research the instructional strategies for SMART Goals. They decided the process would require more time, but agreed it would be worthwhile. At the Richard Dreyfus Elementary School, the literacy and math teams researched best practices and shared research-based strategies and materials with teachers during extensions.

Strategy 5: Developing and Aligning Assessment with Curriculum and Instruction

At the Helen Hunt Elementary School, the Focus Group participated in curriculum development, which contributed to a better understanding of the reading comprehension strategy, making inferences. The Focus Group continued the curriculum development process, aligning the informal probes with the curriculum and formal assessment. The team noted the rich curriculum connections in the content areas and discussed using the content areas to assess making inferences.

Effectiveness of the Principals in Promoting Professional Growth and Development

In order to answer the research question of what strategies do the teacher teams and the principals use to impact professional growth and development (teacher learning), the researcher used interviews of teacher teams. Table 36 outlines the strategies the principals use to impact professional growth and development.

Strategy 1: Providing Extended Time for Adult and Student Learning

At all three schools, the teacher team time provided extended time for adult learning. At the Richard Dreyfus Elementary School, the teachers used math and reading extensions, which coupled extended student and adult learning time. The school-wide math extension time was 8:50-9:20 daily, with a weekly common planning time for K-2 and 3-5 grade teachers to collaborate on math extensions, which the lead math teachers developed and shared. Individual teachers were responsible for their learning and the learning of their students. They implemented the sample lessons in their classrooms. They assumed

Table 36. Strategies Principals Use to Impact Professional Growth and Development

Richard Dreyfus School: Teaching and Learning Community	Susan Sarandon School: Building Improvement Team	Helen Hunt School: Focus Group
extended time for adult and student learning	extended time for adult and student learning	extended time for adult and student learning
use of action research	use of action research	use of action research
gradual release of responsibility	gradual release of responsibility	gradual release of responsibility
professional growth and development for principals	professional growth and development for principals	professional growth and development for principals

responsibility as they developed the expertise the lead math teachers were sharing. At the Susan Sarandon Elementary School, the teachers used study teams to extend the adult learning time and SMART Goals and Focus on Four to extend the student learning time. They also used Dragon Club and Practice Partners to extend the student learning time.

Strategy 2: Using Action Research

All three schools used action research. At the Richard Dreyfus Elementary School, the teachers used math and reading extensions. The school-wide literacy extension time block was 8:00-8:20 daily. The teachers focused on selected reading strategies during that time. There was also a weekly common planning time to develop extensions. The teachers had assumed complete responsibility for literacy and the principal participated periodically. The implementation logs documented the use of instructional strategies and the probes documented their effectiveness. Combined, the implementation logs and probes demonstrated the effectiveness of the extended literacy time for student and adult learning.

Strategy 3: Practicing Gradual Release of Responsibility

At all three schools, the principals, like the teachers as leaders, used the strategy of gradual release of responsibility. At the Richard Dreyfus Elementary School, every staff member, including the principal, was responsible for implementing professional growth and development. The principal did not attend team meetings and planning sessions where teams had taken an active leadership role. Many times, he taught a class so a teacher could be a part of the team. The TLCs were responsible for helping teachers apply their new learning in the classroom setting.

At the Susan Sarandon Elementary School, the principal assumed an active role in presenting professional growth and development, if the teachers asked her, but as often as not, the teachers did not ask. They felt comfortable leading the professional growth and development. The principal began the BIT team meetings with “I have a question for you” and the teachers were ready to provide thoughtful input. The principal listened to the BIT team members and was willing to try different structures with different themes and demonstrated confidence in the teachers—they knew what worked for teachers. The principal brought the BIT team meetings to closure by summarizing and stating consensus.

At the Helen Hunt Elementary School, the principal actively sought opportunities to provide meaningful team structures for team teachers. The principal toyed with learning teams, with less success, and the Focus Group, with more success, to create a school culture committed to student and adult learning.

Strategy 4: Participating in Professional Growth and Development for Principals

In addition to actively participating on the leadership and learning teams, all three principals actively participated in administrative study groups. At the Susan Sarandon Elementary School, the administrative team was currently reading “Leadership Capacity for Lasting School Improvement” and the principal credited the administrative study team with her development as a leader and the development of her teachers as leaders. She employed the strategies she discussed in the study team with her teachers.

Characteristics of Teamness

In order to answer the research question of what characteristics of teamness do the teacher teams demonstrate, the researcher used observations (three observations of each

teacher team). As they collaborated, communicated, and successfully completed the tasks involved in school improvement, the three teacher teams demonstrated the characteristics of teamness. All three teams were focused on student learning and used student achievement data to demonstrate student learning. Team members assumed a leadership role within the team and within the school, and their leadership contributed to student achievement. They actively participated in their professional growth and development during team meetings.

At the Richard Dreyfus Elementary School, the teachers had been members of the TLC for many years and their responses reflected their comfort level with teaming and working together as a team. They demonstrated open communication and conflict, and the mutual trust that contributed to direct communication. Team teaching and planning created a common identity and shared tenets. The TLC structure provided opportunities for risk taking that contributed to the development of teachers as professionals (adult learning) and leaders, which in turn contributed to and reconfirmed the common identity and shared tenets. The teachers took the team structure and its task for granted. The common task was student learning and achievement. Weekly, the teachers looked at the detailed picture, the daily work and ongoing, informal assessments, as well as the big picture, the formal assessments and what students need to be able to do by the end of the year (quarter, semester) to be successful. In order to have an impact on student learning and achievement, the task included adult learning.

At the Susan Sarandon Elementary School, the teachers had served on BIT for one year. They demonstrated open communication and conflict, and mutual trust, which contributed to direct communication. They also demonstrated risk taking as they discussed issues. Their roles as team members on BIT and team leaders on grade level teams

provided opportunities to develop as professionals (adult learning) and leaders. The focus on comprehensive school improvement contributed to the common identity and shared tenets; the development of the new Comprehensive School Improvement Plan, including the action plans and the professional growth and development plan, was one of many tasks. The goal of comprehensive school improvement was student and adult learning, and it created a shared school-wide identity and a common set of tasks. The BIT team members focused on the comprehensive picture, while the grade level teams looked at the detailed grade level pictures. During the team meetings, the members utilized a formal team structure with a designated facilitator and recorder. The agenda and the minutes were distributed electronically to BIT team members and all teachers. The open communication and conflict BIT team members demonstrated supported the team structure.

At the Helen Hunt Elementary School, the teachers had worked together as a Focus Group for approximately one quarter and their responses reflected their namesake. They were focused on the common task. The Focus Group provided opportunities for developing teachers as professionals (adult learning) and leaders. They took a risk in agreeing to serve on the Focus Group. Developing the probes, compiling the instructional materials, and collaborating with new team members required risk taking, as did sharing the developed materials with their grade level teams. To function effectively, they used open communication and conflict. They had a role and a focus, and within that role and focus, they demonstrated mutual respect. Being a part of the Focus Group contributed to a common identity and tenets. Table 37 is a compilation of the characteristics of teamness the teacher teams demonstrated.

Table 37. Teacher Teams Demonstrated Characteristics of Teamness

Open Communication and Conflict	<ul style="list-style-type: none"> * Used group structure and ground rules for collaborating * Encouraged even participation * Expected, encouraged, and elicited differences of opinions * Shared differences of opinions openly during the discussion; actively supported decision once decision was made * Served as communicators and liaisons with grade level teams; took role seriously * Modeled interpersonal processes and "The Seven Norms of Collaborative Work" * Valued conflict and constructive feedback
Mutual Trust	<ul style="list-style-type: none"> * Expected, encouraged, and elicited differences of opinions * Used group structure and ground rules * Asked for help from team members * Encouraged active problem solving when team members asked for help * Encouraged even participation during brainstorming * Modeled "The Seven Norms of Collaborative Work" * Utilized suggestions made by team members * Shared materials * Asked for and provided constructive feedback
Risk Taking	<ul style="list-style-type: none"> * Encouraged and applauded risk taking * Discussed challenges, including risk taking * Shared risk taking experiences related to developing teachers as professionals * Used student achievement data and implementation of teaching strategies as tools to inform * Provided constructive feedback * Viewed developing teachers as professionals and trying new teaching strategies as the norm * Discussed risk taking related to developing teachers as leaders

Table 37. (continued)

Common Task, Common Identity, and Shared Tenets	* Shared commitment to accomplishing the task
	* Viewed accomplishing the task as students and teachers demonstrating success
	* Shouldered and shared responsibility
	* Shared commitment to teaching
Awareness and Acceptance of Group Structure	* Shared excitement and enthusiasm for teaching, providing leadership, and professional growth and development
	* Combined formal and informal structure (agenda, minutes, shared leadership)
	* Assumed a variety of roles to accomplish the task
	* Accepted roles are dynamic and changed as the task changes and the experience and expertise required changed
	* Actively participated
	* Expected, encouraged, and elicited even participation
	* Served as communicators and liaisons
	* Valued collaboration

In order to answer the research question of what characteristics of teamness do the teacher teams demonstrate, the researcher gave the teacher teams a list of the characteristics of teamness, which included developing teacher as professionals and teachers as leaders. The researcher asked the teacher teams to identify the characteristics of teamness they valued as teacher teams. The three teacher teams not only named the characteristics of teamness they value, they demonstrated the characteristics they named.

Table 38 demonstrates the order in which the teacher team prioritized the characteristics of teamness. The most mature teacher team listed open, direct communication and conflict coupled with mutual trust as the most critical characteristics. The youngest team listed common task as the most critical characteristic. The team with the most principal involvement also listed open, direct communication and conflict coupled with mutual trust as the most critical characteristics. They also included risk taking as a critical characteristic, which reflected the role they served as communicators on the BIT team and the grade level teams.

At the Richard Dreyfus and Susan Sarandon Elementary Schools, the TLC and the BIT team members listed open communication as the most important characteristic. According to one TLC team member, "If you don't have open communication, you do not have a team." Another TLC team member added open communication and constructive feedback were essential. All four TLC members agreed open communication, direct conflict, and constructive feedback were critical.

Table 38. Teachers Rate Hall's (1995) Characteristics of Teamness

Teamness	TLC	BIT	Focus Group
Open, Direct Communication and Conflict	Important (#1)	Important (#1)	Important (#3)
Mutual Trust	Important (#1)	Important (#1)	Important (#3)
Common Identity and Tenets	Important (#2)	Important (#3)	Important (#3)
Risk Taking	Important (#2)	Important (#1)	Important (#2)
Developing Teachers as Professionals (Adult Learning)*	Important (#2)	Important (#2)	Important (#2)
Developing Teachers as Leaders**	Important (#2)	Important (#2)	Important (#2)
Awareness and Acceptance of Group Structure	Important (#3)	Important (#3)	Important (#3)
Common Tasks	Important (#3)	Important (#3)	Important (#1)

* Numbers reflect Teacher Team Ratings;

** Constructs the researcher included.

Open, Direct Communication and Conflict

Teamness	Richard Dreyfus: TLC	Susan Sarandon: BIT	Helen Hunt: Focus Group
Open, Direct Communication and Conflict	Important (#1)	Important (#1)	Important (#3)

All eight BIT team members rated open communication and conflict as important, and linked it with risk taking. The lead teacher pointed out, "We have to be good communicators and communicate well with each other and with our grade level teams. Good communication includes listening to each other and being open to ideas from teams

and team members.” Team members shared ideas and discussed the merits of each idea in a professional, respectful manner. They valued conflict as well as consensus. They’re comfortable raising difficult questions and didn’t feel they must agree with everything everyone said. When team members discussed conflicting ideas, they considered the research, discussed it as a team, and shared the research with their grade level teams. They valued being well informed and agreed conflict was appropriate and informative.

At the Richard Dreyfus Elementary School, the team members referred to open communication and conflict within the TLC. At the Susan Sarandon Elementary School, the BIT team members represented both the grade level and leadership teams and shared ideas back and forth; they referred to open communication and conflict within the school. Grade level teachers noted, “We understand the role we as BIT team member play within the school team structure and its multiple levels of teams. We are responsible for sharing the information and input with grade level and learning teams.” BIT team members played an active role as members on multiple teams. The BIT team members transported information back and forth keeping everybody informed and involved. They employed open communication and conflict, in order to keep the communication lines open when people agreed and disagreed. The grade level teachers noted, “Our role as communicators makes us risk takers as we articulate the common identity and tenets of the school community within the teams and across the school.” BIT team members felt that teachers and grade level teams were very accepting of the work they did. Grade level teams had opportunities for input and were involved in the process, but did not need to be responsible for the details. BIT team members needed to maintain trust amongst themselves and with

their grade level team members. Open communication and conflict allowed them to maintain that trust.

At the Helen Hunt Elementary School, the Focus Group team members rated common task as the most important characteristic. The team members talked about their role as grade level representatives. They, too, were responsible for communicating with their grade level teams with individual team members handling that responsibility differently. Fifth grade teachers shared the pre- and post-test and told their peers they had to administer it. Fourth grade teachers shared the packet of materials and told their peers they could use the materials as they found them useful. One approach contributed to conflict on the grade level team that was considered to be more collaborative and student friendly, while the other approach contributed to the status quo on the team that was considered to be more collegial and teacher friendly. The four teachers agreed, "We've learned from each other how to communicate more effectively with our grade level teams."

Risk Taking

Teamness	Richard Dreyfus: TLC	Susan Sarandon: BIT	Helen Hunt: Focus Group
Risk Taking	Important (#2)	Important (#1)	Important (#2)

At the Susan Sarandon Elementary School, the BIT team members rated risk taking as important as open communication and conflict. One team member stated, "We must support the BIT team decisions, not only within the BIT team but also within our grade level teams and in the building, and that active support requires risk taking." The team members concurred their peers might not agree with the BIT team decision. Depending on

the context and audience, it would be easy for a BIT team member to appear to support or not support the decision. If the individual did not actively support a BIT team decision, he/she would not be true to the BIT team, the grade level teams, or him/herself. The Dean of Students summarized, "Actively supporting BIT team decisions requires teachers to be leaders. Leaders take risks and responsibilities, and these teachers are willing to shoulder the responsibilities and the risks."

At the Richard Dreyfus Elementary School, the TLC team members did not link risk taking with open communication and conflict, but linked it with developing teachers as professionals. One TLC team member stated, "It's a teacher's job to grow professionally, that's what it's all about. And the TLC gives us the opportunity to grow professionally, working together, teaming, serving as mentors." The TLC team members agreed professional growth and development involved risk taking. It's risky to try new, unperfected skills with students while teachers were team teaching, but it's worth the risk because it led to real professional growth and development and learning.

At the Helen Hunt Elementary School, the Focus Group members linked risk taking with developing teachers as learners and leaders. All four teachers admitted, "It was a risk to accept the invitation to serve on the Focus Group, to proclaim ourselves teachers as professionals, but it was worth it." The common task, the SMART Goal, gave the Focus Group team members the courage to accept the invitation. It was evident that neither grade level team supports teachers as learners. The fourth grade teachers were afraid to share their ideas with their grade level peers, and the fifth grade teachers felt their peers wouldn't listen. The principal knew the grade level teams did not support a school climate committed to adult learning. The common task legitimized the adult learning and the Focus

Group team members willingly accepted responsibility for sharing what they developed with their grade level teams. According to the Focus Group team members, their grade level teams were receptive to what they developed.

Mutual Trust

Teamness	Richard Dreyfus: TLC	Susan Sarandon: BIT	Helen Hunt: Focus Group
Mutual Trust	Important (#1)	Important (#1)	Important (#3)

At the Richard Dreyfus and the Susan Sarandon Elementary Schools, the TLC and BIT team members listed mutual trust as critical. At the Richard Dreyfus Elementary School, the TLC team members joked that food helps! Food builds mutual trust. On a serious note, they added if it's good for the kids, it's worth considering. "What's good for the kids keeps us focused on why we're here, what we're doing, and why it's important." One of the team members pointed to the table tent, with "The Seven Norms of Collaborative Work" and added, "Presuming positive presuppositions demonstrates mutual trust." All four teachers agreed mutual trust was important for them as individuals and as an effective team. One member added, "One of us shares an idea and it may need refining, lots of refining, but we know we have the best interests of the students in mind."

The TLC team members felt mutual trust led to open communication. When team members had mutual trust, they had open communication. If they didn't have mutual trust, they would not have open communication. TLC team members talked about their first years as teachers and members of the TLC. They learned to listen and learned a lot from the team. Each had expertise and ideas to share and team members could learn from each

other's expertise. They learned to respect and trust each other. A classroom teacher said, "I realized I had some expertise to share with my team and my team members would want to hear it. If I had not learned to trust my team members, I would not have shared." All four members concluded mutual trust was a necessary requirement for open communication.

At the Susan Sarandon Elementary School, the BIT teachers believed they had mutual trust. The lead teacher concluded, "We know what we say will be respected and the decisions we make as a team will be supported. We know we will support each other and model support in the grade level teams." The team members agreed they had a great deal of respect for each other. The respect was based on what they represented, what they stood for as professionals, and how they comported themselves as professionals. They had a shared role as leaders, in addition to common identity and tenets. They believed in students, in teachers, and in providing leadership to support students and teachers. Mutual respect led to mutual trust.

At the Helen Hunt Elementary School, Focus Group members listened to each other as team members shared their ideas and provided grade level team input. One of the fourth grade teachers pointed out, "As a new Focus Group, we hardly knew each other, but as we worked together we developed mutual respect." They did not list mutual trust as a priority, but demonstrated mutual respect. It would seem mutual respect would lead to mutual trust.

Developing Teachers as Professionals (Adult Learning)

Teamness	Richard Dreyfus: TLC	Susan Sarandon: BIT	Helen Hunt: Focus Group
Developing Teachers as Professionals (Adult Learning)	Important (#2)	Important (#2)	Important (#2)

All three principals noted that the teacher teams were ideal for developing teachers as professionals. Teachers agreed. At the Susan Sarandon Elementary School, the related arts teacher stated that BIT team developed teachers as professionals (adult learning). Teachers had the opportunity to learn what's going on school-wide. Related arts teachers tended to be in their own world, unaware of what went on in the school, and wouldn't know what was going on if they weren't team members. Being part of a team helped teachers grow as teachers. They had a better understanding of the school as a whole, and the roles the various teams and teachers played in the school. The teacher summed it up, "I know what's going on in the school. If anyone asks about the school, I can give an informed answer. I'm a well-rounded teacher when I serve on a team. Every teacher should have the opportunity to serve on a leadership team."

At the Richard Dreyfus Elementary School, the TLC team members viewed professional growth and development as an ongoing process. During one weekly planning meeting, the teacher was recording feedback on the use of nonverbal representations. One teacher shared, "I am getting the hang of it with the materials that were provided, but once I've used the lessons I'm struggling with creating my own lessons that were true to the strategy. The other three teachers agreed they tended to fall back on direct instruction when

they didn't have more sample lessons to use and decided they needed additional sample lessons.

According to the TLC team members, professional growth and development led to student learning and achievement. One teacher concluded, "The school has the tools—the district developed curriculum, the locally developed assessments, ongoing assessments, and the Teaching and Learning Communities. And they have the model—teachers leading teachers." The team members agreed.

At the Helen Hunt Elementary School, the Focus Group members were quick to add that developing teachers as professionals (adult learning) and leaders were equally important. One of the fifth grade teachers noted, "With the common task, we're sharing our experience and expertise and furthering it. We pooled our resources and created something I would not have been able to create individually." All four members agreed they were responsible for working together, one level of professional growth and development, and responsible for sharing what they developed with their grade level teams, another level of professional growth and development.

At the Richard Dreyfus Elementary School, the TLC teachers noted, "The principal has high expectations for all of us, including new teachers, but he provides the support we need." The team members explained when the school was transitioning to the collaborative teaching model, the teachers had lots of professional growth and development on collaborative teaching and learning. Now that they have been working in TLCs for several years, the professional growth and development was focused on the curriculum, the instructional strategies to improve the instruction, and the assessment. The principal created the original master plan for TLCs, juggled the schedule to create team teaching time

for single, double, and triple dipping to support student learning and TLC planning time to support adult learning. The reading teacher concluded, "It's all about student learning. As the students change from year to year, the TLCs change, but our principal continues to find a way to make the TLCs work and work more effectively."

At the Richard Dreyfus Elementary School, as the teachers pondered the characteristics of teamness, they focused on what they needed to work on to be a more effective team. They talked about what they did when they got started as a team and what they did when they had new team members. They agreed, "Having continuity as a team has helped them. With most TLCs, the regular classroom teachers provide the continuity from year to year, while the school-wide teachers change. With this TLC, it is the school-wide teachers who have provided the continuity, while the classroom teachers have changed." The teachers were comfortable working together, they respected each other as professionals committed to student learning and adult learning, and together they felt they could do more for students than they could individually.

The TLC team members explained, "A new team member is not the same thing as a new team." A core team was a continuing a team, not a new team, and they gave the example of the new special education teacher. "A new teacher has a lot to learn the first couple of months, and a lot to continue learning because all of the teachers are involved in ongoing professional development. And a new teacher has the luxury of being a part of a TLC." The principal conducted a class at the beginning of the year for all new teachers and every teacher completed it. The teachers also took the collaborative teaching courses, which provided a great deal of support for teachers.

All four TLC teachers were experienced teachers and they preferred the TLC model. The classroom teacher concluded, "It is a learning community. We have people we trust, we know we can ask questions and get the answers we need." The four teachers team taught and had a shared sense of responsibility for the students. They knew how each student functioned in multiple settings. According to the Title 1 teachers, "It used to be I saw what happened in the Title 1 small group and the classroom teacher saw what happened in the regular classroom, but I did not see what happened in the other teacher's setting." All four teachers agreed they liked the team teaching structure. "Now we see each other, we see the students, and we have a shared understanding of each student's and teacher's strengths and needs."

At the Richard Dreyfus Elementary School, the principal and the teachers gave the use of nonverbal representations as one example of professional growth and development. The principal noted, "The students are learning how to use verbal representations as the teachers are learning." The teachers met once a week and the lead math teacher modeled the instructional strategy and shared a packet with sample lessons. During the week, the teachers used the samples and talked about them during TLC planning time. They implemented the strategies and had opportunities to peer coach. According to team members, "This TLC has an advantage because the math teacher is a member of the team, so they have "built in" professional growth and development as she models and coaches." The teachers had extended math once a week devoted to teachers, and the students had extended math once a day devoted to students. The teachers implemented the strategies with the whole group, small groups and individuals. The single, double, and triple dipping provided multiple learning opportunities for students and teachers. The principal referred

to the whole group time as single dipping, the team teaching time as double dipping and the extension time as triple dipping.

Developing Teachers as Leaders

Teamness	Richard Dreyfus: TLC	Susan Sarandon: BIT	Helen Hunt: Focus Group
Developing Teachers as Leaders	Important (#2)	Important (#2)	Important (#2)

All three teacher teams listed developing teachers as leaders as critical. At the Richard Dreyfus Elementary School, the TLC teachers viewed developing teachers as leaders as cyclical, starting with student learning. The school had the district-developed curriculum, with locally developed assessments, and the classrooms for students and teachers to learn. The teachers summed it up, "With teachers leading teachers at every level, every teacher is a leader. Teachers are teachers; why not have teachers becoming leaders through teaching teachers as well as students."

At the Helen Hunt Elementary School, the four Focus Group members professed they had learned as much about themselves as teachers and professionals (adult learning) as they were learning about leading and, "It was empowering!" The common task gave the Focus Group team members the freedom to develop as learners and leaders.

At the Susan Sarandon Elementary School, the principal asked the BIT team members to be part of the leadership team because they utilized open communication and conflict within the BIT team and within their grade level teams. They were well respected by their peers because they demonstrated mutual trust. They were good communicators,

which developed mutual trust. Because they were good communicators, they're trusted; they represented their grade level teams well. According to the Dean of Students, membership on the BIT team was all about developing teachers as leaders. Leaders took calculated risks and responsibilities. "I don't know where it started, or when, but what I do know is these teachers are leaders!"

Common Task

Teamness	Richard Dreyfus: TLC	Susan Sarandon: BIT	Helen Hunt: Focus Group
Common Tasks	Important (#3)	Important (#3)	Important (#1)

At the Helen Hunt Elementary School, when the Focus Group members were asked which characteristic of teamness contributed most to the Focus Group's effectiveness, they responded immediately with having a common task. The Focus Group had a task and that's what they enjoyed about it—the focus. "The task with its focus made us effective." The teachers recognized the grade level teams did not always have a task and the "tasklessness" made them ineffective. The task provided the direction and grade level teams floundered when they were directionless.

At the Richard Dreyfus and Susan Sarandon Elementary Schools, the TLC and BIT team members recognized they had a common task, but felt other characteristics of teamness contributed to their effectiveness. At the Richard Dreyfus Elementary School, the TLC team used the planning time to make the best use of the teaching time. According to the two classroom teachers, "We plan the reading and math weekly lessons, so the school-wide teachers know what is going on a daily basis when they come in to team teach reading

and math for half the day.” The TLC teachers also articulated the science and social studies themes, so the school-wide teachers were aware of the extension opportunities for reading and math and made the best use of the teaming and the teaching.

The TLC meetings were focused on students and their progress, and teachers and their implementation of instructional strategies (which include teacher progress with new instructional strategies and skills). The instructional strategies provided a focus. Weekly, they talked about the new math strategies they had been learning and maintained an implementation log with student probes to document if the strategies made a difference with students learning. According to one TLC member, “It’s all about using what you know as a teacher to help students, using what you learn, and becoming a more effective teacher.”

At the Susan Sarandon Elementary School, the principal and the Dean of Students helped the teachers keep track of where they’re at in the Comprehensive School Improvement plan and process, what they had accomplished, and what they needed to complete. The BIT team members had the agenda and the materials prior to each meeting and they came prepared to discuss the agenda items and complete the tasks. The teachers were willing and eager to accomplish the task.

Common Identity and Shared Tenets

Teamness	Richard Dreyfus: TLC	Susan Sarandon: BIT	Helen Hunt: Focus Group
Common Identity and Tenets	Important (#2)	Important (#3)	Important (#3)

At the Richard Dreyfus Elementary School, the TLC team members noted it was important to know the curriculum. One teacher concluded, "It plays a critical role and it gives the TLC a common identity and shared tenets." All four teachers agreed that every teacher in every TLC knows the district performance goals (which include district goals, school goals, grade level goals, TLC goals, and TBVP goals), the curriculum, and how the curriculum supports the goals.

The BIT team members did not list common identity and shared tenets as an important characteristic of their team. Neither did the Focus Group team members, although the SMART Goals had contributed to a common identity and shared tenets. According to the teachers, they no longer thought about the SMART Goals, they just "did them."

Awareness and Acceptance of Group Structure

Teamness	Richard Dreyfus: TLC	Susan Sarandon: BIT	Helen Hunt: Focus Group
Awareness and Acceptance of Group Structure	Important (#3)	Important (#3)	Important (#3)

None of the teacher teams listed awareness and acceptance of group structure as a critical characteristic of teamness though they all acknowledged a team structure. At the Helen Hunt Elementary School, the Focus Group members adopted an informal team structure, but did not list it as critical to teamness. The teachers created an agenda. One teacher served as facilitator and followed the agenda. For each agenda item, they took turns

sharing by grade levels. The agenda and the team structure reflected the commitment to cross-grade level collaboration.

At the Susan Sarandon Elementary School, the BIT team adopted a formal team structure but did not list it as critical to teamness. The principal and the Dean of Students served as facilitators. They electronically shared the agenda and supporting materials prior to the meeting. During the meeting, the teachers took turns soliciting input from all team members. One teacher served as recorder and the minutes and materials were shared electronically with all staff members.

At the Richard Dreyfus Elementary School, TLC members thought the informal team structure made team members comfortable. One member elaborated, "Every one has to be comfortable. People need to know what is expected of them and what they expect of others in the group. The structure for one TLC may be different from the next TLC, but each TLC has a structure that works for the teachers involved."

Summary of Teacher Teams

The three teacher teams in the TBVP Pilot Project valued the characteristics of teamness and used their teamness to impact student learning and achievement. All three teacher teams claimed, "We focus on student learning." The teams were aware of student achievement goals and actively planned, implemented, and evaluated strategies to meet the school's student achievement goals. All three teams noted, "We use student achievement data to demonstrate student learning." The teachers believed the teacher teams had a positive impact on student and adult learning. The teacher teams used student achievement data to plan, implement, and evaluate interventions. All three teams made the connection

between student achievement and teacher and team performance. The TLC team noted, “The student achievement data provides the necessary feedback from the work itself; the team provides feedback from others about the work itself.” The researcher concluded the use of student achievement data and teacher teams to analyze, interpret, and implement curriculum and instructional changes based on these data were linked. Kelley and Finnigan (2003) also found the use of student achievement data is critical, but did not outline the context in which teachers would use this critical information. The researcher concluded that teacher teams provide the organizational context in which to use the student achievement data to improve student achievement.

The researcher found the teacher teams engendered a sense of collective responsibility and the three teacher teams contend they had had an impact on student achievement. The teachers attributed the impact to the teacher teams and the ongoing professional growth and development. The purpose of this qualitative project was not to determine the statistical relationship between teacher teams and student achievement, but the teachers believed it’s a positive one. Lee and Smith (1996) and Pounder (1999) found a statistical relationship between teacher teams and student achievement.

The teacher teams used the team meetings to extend the professional growth and development opportunities and believed their participation in their respective teams contributed to their professional growth and development. The teachers demonstrated a commitment to taking new teaching strategies and owning them, becoming confident and competent with the new teaching strategies. They viewed making the new teaching strategies part of their repertoire of teaching skills a professional responsibility. All three teacher teams felt their teaching methods had changed. The TLC teachers were using math

and literacy extensions that had changed their teaching practices. The BIT team members discussed the SMART Goal (focused instruction using research-based strategies) and the Focus on Four (differentiated instruction using research-based strategies) programs, which at one time they shared, “felt like new and uncomfortable teaching strategies, but which had become the norm.”

The Focus Group team discussed the shared definition of making inferences, the use of poetry, nonfiction, and fiction to teach making inferences, and the use of modeling the reading strategy and thinking aloud as they read as new teaching methods. The team members felt developing the teaching unit changed the Focus Group team member’s practices. The Focus Group concluded, “Sharing the teaching unit with grade level teams informed teachers, but did not necessarily change the grade level teachers’ practices.” This qualitative project did not assess teachers’ teaching methods, but the teachers believed being team members on teacher teams contributed to professional growth and development and changed their teaching practices. Pounder (1999) and Stout (1998) found teachers’ teaching methods do did not necessarily change and concluded if teachers’ teaching methods do not change along with teacher teams and teaming, there is little impact on student achievement.

The length of time the teachers had been active members of these teacher teams ranged from less than a year to more than three years, but all three teacher teams felt their individual and collective teaching practices had changed. The teachers attributed the changes to active participation in teacher teams. The researcher would conclude that teacher teams provided opportunities for ongoing professional growth and development, which was necessary for teachers to continue to improve as professionals. Teacher teams

provided an opportunity for schools to develop a school culture committed to collaboration, communication, ongoing professional growth and development, and change. The new teachers on all three teacher teams were acculturated and accustomed to working together on teacher teams. The experienced teachers on all three teacher teams preferred the team setting to the traditional setting. The three teacher teams seemed to contradict Barott and Raybould's (1998) findings, which indicated schools are slow to change and teachers' instructional methods are most particularly slow to change. Teachers continue to use tried and true teaching methods and are resistant to change. The three teacher teams also seemed to contradict Evan-Stout's (1998) findings, which indicated teaching methods, which become teaching habits, are persistent and difficult to change.

The researcher concluded that schools with effective teacher teams provided a school culture which supported change. New and experienced teachers were socialized in ways that contributed to collaboration, communication, ongoing professional growth and development, and change. Hart (1998), Johnson (1998), and Matthews (1998) would agree that schools must provide the school culture which supports change. Pounder (1998c) would agree teacher teams are one way to socialize in ways that contribute to collaboration, communication, ongoing professional growth and development, and change though not all teacher teams contribute to change. This is inconsistent with research on teacher teams by Barott and Raybould (1998) and Evans-Stout (1998) who contend the teaching profession norms of individual teacher autonomy or independence run counter to the norms of collaboration and shared professional autonomy. This researcher did not explore schools with ineffective teams. Pounder (1998c) did and concluded schools without effective teacher teams continue the socialization of teachers, which supports the status quo.

The three teacher team members assumed a leadership role within the team and within the school, and they believed their leadership contributed to student and adult learning. The teachers were aware and appreciated the power inherent in the teacher teams relative to student and adult learning. In all three schools, the teacher teams attributed increases in student achievement to the teacher teams, with the focus on student achievement goals and the collaboration among teachers to meet and exceed student achievement goals. This finding was unique.

Hall (1995) found that teacher teams demonstrated characteristics of teamness as they collaborated, communicated, and successfully completed tasks they identified, but the teacher teams did not attribute student achievement gains to the teacher teams (Hall, 1995). According to Hall, the teacher teams did not appear to be aware and appreciate the power inherent in teacher teams relative to student and adult learning.

The perceptions of Hall's teachers and the perceptions of the teachers in the TBVP Pilot Project may be attributed to the TBVP Pilot Project itself. Individual schools applied to participate in the project. One criteria was student achievement goals. Schools that chose to apply would receive variable pay only if the schools met the student achievement goals. Therefore, the teachers were aware of the student achievement goals. Crow (1998) concluded the literature on teacher teams has focused on the value of shared work and leadership in schools, but not addressed the need for team accountability. Pounder (1998c) concluded the literature makes little mention of reward systems designed to reward "team" work or monitoring of "team" work. Schools have notoriously limited performance monitoring and reward systems and have seldom based rewards on the attainment of team objectives (Crow, 1998; Pounder, 1998c). Hall's (1995) teams were not recognized for

meeting student achievement goals. The TBVP Pilot Project was an exception; it provided a performance monitoring and reward system and the reward was dependent on the attainment of the team's student achievement goals.

Strategies Principals Use to Promote Teamness

In order to answer the research question of what strategies do principals use to develop teamness, the researcher used observations and interviews. The three principals not only valued teacher teams, and the necessary characteristics of teamness, which contribute to effective teams, they consciously used teacher teams to impact student and adult learning. The principals were aware and appreciated the power inherent in teacher teams relative to student and adult learning and utilized their leadership skills to develop the teacher teams. When teacher teams were not functioning as effective teams demonstrating the characteristics of teamness, the principals played with purpose, composition, and context to structure and restructure the teacher teams and provided professional growth and development to contribute to effective interaction.

When the teacher teams were established, the principals modeled the characteristics of teamness. As the teacher teams became independent, the teachers continued to use the characteristics of teamness. They became the norm. The principal at Richard Dreyfus Elementary School established "The Seven Norms of Collaboration" which the teachers referred to as they discussed the characteristics of teamness. The teachers demonstrated the seven norms, which mirrored the characteristics of teamness. Johnson and Johnson (1987) and Norris and associates (2002) noted it is important for teacher teams to establish a group identity, with set norms for behavior for team members, and function independently. The

norms contribute to team interdependence. These three teacher teams functioned independently and team members were interdependent on one another.

Table 39 lists the strategies the researcher observed the principals use to promote teamness and the strategies the teachers on the teacher teams listed. The list mirrors the list of strategies the researcher observed the teachers on the teacher teams use, which would suggest that the strategies the principals used have become the norm.

Open Communication and Conflict

Active listening was a critical factor in cultivating teamness (Bass & Avolio, 1994; Francis & Young, 1979). Establishing a collaborative work environment, which utilized and valued open communication and conflict, was another strategy that supported teacher teams and contributed to teamness (Varney, 1991). Expecting and encouraging active participation of team members and balanced participation also contributed to open communication and conflict (Larson & LaFasto, 1989).

The approach to problem solving principals and teachers took was another critical factor in cultivating teamness and creating effective teams. The principals modeled and the teacher teams demonstrated using a problem solving approach, which was embedded in the team structure. The Focus Group took turns sharing grade level input and allowed time to discuss the similarities and differences. The BIT team also took turns providing and soliciting input from team members. The TLC used the content areas to structure the meetings and asked and answered question, which included discovering differences. Using a problem solving approach to outline and address differences allowed conflict to be a

Table 39. Strategies Principals use to Promote Teamness and Effective Teams

Open Communication and Conflict	<ul style="list-style-type: none"> * Created time to collaborate * Provided time and necessary resources (information) * Provided a common, well defined task * Facilitated team meetings (taking a back seat during discussions); encouraged teachers to facilitate team meetings * Practiced active listening * Expected, encouraged, and elicited even participation and differences of opinions * Valued open communication, direct conflict, and constructive feedback * Modeled being open to new ideas and teachers' ideas * Encouraged sharing ideas and collaboration * Allowed time for sharing ideas and collaboration * Valued teacher team contributions that promoted student and adult learning * Actively involved team members in decision-making * Actively supported solutions teachers propose * Modeled being open to change without needing to lead the change; shared the leadership * Modeled "The Seven Norms of Collaborative Work" * Modeled effective interpersonal processes, including open communication and conflict * Modeled using humor * Served as communicator and liaison with teacher teams
Mutual Trust	<ul style="list-style-type: none"> * Used group structure and ground rules * Shared information * Promoted shared leadership * Practiced active listening * Modeled being open to different points of view * Valued the team's contributions * Expected, encouraged, and elicited even participation and differences of opinions * Asked team members for help * Asked for and provided constructive feedback * Asked the team for answers; modeled not having all the answers

Table 39. (continued)

	<ul style="list-style-type: none"> * Encouraged active problem solving and even participation during problem solving * Encouraged and supported team members' ideas and proposed solutions * Utilized suggestions made by team members * Modeled "The Seven Norms of Collaborative Work" * Modeled being flexible * Modeled being trustworthy
Risk Taking	<ul style="list-style-type: none"> * Used student achievement data and implementation of teaching strategies as tools to inform, celebrated successes, and refined "not proficient yet" successes * Provided opportunities for teachers to model, observe, and coach each other * Encouraged teaming and collaboration * Practiced active listening * Modeled and shared risk taking * Asked for and provided constructive feedback * Modeled "go for it," took risks; shared "go for it" successes and "back to the drawing board" successes * Encouraged, recognized, discussed, and applauded risk taking * Viewed developing professionals and trying new teaching strategies as the norm * Encouraged and supported new ideas and the implementation of new ideas * Recognized accomplishments, including individual and team * Stretched team members * Viewed developing teachers as leaders as the principal's responsibility
Common Task, Common Identity, and Shared Tenets	<ul style="list-style-type: none"> * Shared commitment to accomplishing the task * Provided a common, well defined task * Provided necessary resources * Allowed time for sharing ideas and collaboration * Collaborated * Shared responsibility * Modeled being open to new ideas and teachers' ideas * Encouraged sharing ideas and collaboration

Table 39. (continued)

	<ul style="list-style-type: none"> * Actively involved team members in decision-making * Viewed accomplishing the task as students and teachers demonstrating success as learners and leaders * Shared commitment to school climate committed to student and adult learning * Shared excitement and enthusiasm for shared leadership * Actively participated in professional growth and development
Awareness and Acceptance of Group Structure	<ul style="list-style-type: none"> * Provided time for teachers to collaborate * Created a collaborative environment * Supported team structure, including balance of formal and informal (agenda, minutes, shared leadership) * Modeled being prepared * Encouraged risk taking, reflected on results, modeled celebrating successes and reflecting and refining * Shared roles to accomplish the task * Encouraged changing roles as the task changes and the experience and expertise required changed * Validated team work * Recognized team accomplishments, including team and individual

contributing factor to team effectiveness (Francis & Young, 1979; Varney, 1991).

Providing the time to collaborate, share ideas, communicate, and build consensus also contributed to teamness (Bass & Avolio, 1994). On the BIT team, the principal facilitated the problem solving process, which included encouraging active participation, defining differences, stating and restating consensus as it developed, and summarizing the meeting with a defining statement that included the decision and how it related to the immediate task and the big picture, the school-wide identity and shared tenets (Bass & Avolio, 1994). The TLC and the Focus Group demonstrated the same openness to problem solving and used the problem solving approach independently. Problem solving involved a number of critical skills which principals and teachers demonstrated.

The principals provided the team structure and the time to collaborate, which contributed to open communication, conflict, and constructive feedback. The principals outlined the purpose, which kept the communication, collaboration, and conflict purposeful. Team members were actively involved in decision-making, which also contributed to open communication and conflict (Varney, 1991). Actively participating in sharing ideas, pondering and questioning them, and being open to new ideas encouraged constructive conflict. Using the problem solving approach and sharing the leadership, including the decision-making, and actively supporting the team's decisions also supported open communication and conflict.

Mutual Trust

The principals and teachers utilized the strategies outlined by Robbins and Finley (1995) for developing trust during team meetings, including active listening, being open to

different points of view, encouraging even participation, and asking team members for help, which included brainstorming different ideas and providing constructive feedback. The principals and teachers also utilized strategies for developing trust before, during, and following team meetings, which included using a problem solving approach and making a decision (Robbins & Finley, 1995). The principals and teachers took turns asking the team for answers and modeling not having all the answers. The meetings were productive; the principals and teachers made decisions and acted on decisions. Once the decisions were made, the principals and teachers actively supported the decisions, giving credit to team members for their input, their participation in the process, and their implementation. According to Robbins & Finley (1995), leaders need to take responsibility for decisions when they backfire and give credit to the team and its members when the decisions become the perfect solutions. The researcher did not observe this strategy, but heard teachers refer to decisions that backfired. The teachers noted the principals took the "heat." The principals and teachers were sensitive to the needs of team members and used the team structure and the established ground rules. The principals and teachers utilized active listening. These strategies indicated team members valued the input of the individual team members and the decisions of the team.

The principals and teachers empowered team members by encouraging active participation in both the problem solving approach and the decision-making. At no time did individual members appear to be there for the sake of being present. They actively participated in discussions and each meeting culminated with making a decision, whether it be large or small. Principals provided teacher teams with the tools, including time, information, and resources (Marinaccio & Marinaccio, 1974). Principals also empowered

teachers with the responsibility; the work the teacher teams did was real and it was utilized (Larson & LaFasto, 1989).

The principals and teachers recognized the strengths of the team members, deferring to individuals when it was a perceived strength and openly sharing perceived limitations. Principals and teachers led by example, which included sharing the leadership. Principals entrusted teachers to lead. All of the teachers and principals were passionate about student and adult learning. These strategies mirror the strategies Kouzes and Posner (1987) outlined as strategies for effective team leadership.

Risk Taking

Encouraging team members to take risks was another critical skill which principals and teachers demonstrated (Larson & LaFasto, 1989). Once team members made a decision, principals and teachers encouraged team members to 'go for it.' The three teacher teams allowed time to reflect on the 'go for it' and share successes and surprises (Robbins & Finley, 1995). Principals provided the resources for teacher teams to function effectively, including time, needed information, instructional strategies, instructional materials, "know how," and professional growth and development necessary for success (Bass & Avolio, 1994). Principals also provided the support network, which included a variety of teacher teams. All three teacher teams referred to the other teacher teams in the building and recognized that each team supported the overall team structure.

Demonstrating sensitivity was another critical skill. The principals demonstrated sensitivity in actively listening to ideas, as teachers modeled risk taking in sharing an idea and as teachers implemented ideas. The teachers in turn demonstrated sensitivity in

actively listening as teams members engaged in risk taking through sharing and implementing ideas. Not every good idea would be successfully implemented the first time it was tried. Principals were sensitive to “failure” in the implementation of a new strategy as an integral part of professional growth and development. Meeting time was devoted to reflecting on the ‘go for it’ and sharing both successes and surprises (Bass & Avolio, 1994).

Principals provided opportunities for teachers to model, observe, and coach each other teach and opportunities for teacher to collaborate and communicate, which contributed to a school culture committed to student and adult learning (Belasco, 1990; Varney, 1991). The teams had a central purpose, and the purpose was challenging. Using student achievement data to make instructional decisions provided a critical and challenging purpose; implementing the instructional strategies was equally challenging (Schrage, 1989). The three schools used collaboration to address student and adult learning (Larson & LaFasto, 1989). The principals and the teachers formally and informally recognized the efforts and positive effects of collaboration. The TBVP Pilot Project formally recognized the efforts and positive effects of collaboration. According to Bass and Avolio (1994), Hackman (1990), and Sergiovanni (1990b), recognition and reward reinforce collaboration and it becomes the norm. Principals and teachers shared examples of personal risk taking, and encouraged, recognized, and celebrated risk taking in others, which eliminated or eased the fear of failure that accompanied risk taking. Principals and teachers reflected on the success and “near” success stories, which contributed to risk taking and learning as individuals and as a team (Senge, 1990). The teams used student achievement data to provide feedback from the work itself, embedding the process in action research, and the collaborative structure and context of the teacher team to provide

feedback from others, which contributed to “safe” risk taking (Eddy, 1985; Larson & LaFasto, 1989; Senge, 1990). By sharing information, reflecting on successes and “near” successes, and learning from both kinds of successes, the open communication and constructive feedback contributed to and supported risk taking. Providing a challenging purpose, sharing responsibility for student and adult learning, collaborating collectively in a structure and context, which supported teachers needs, principals and teachers contributed to a learning community where students and teachers met achievement goals for students and adults (Reitzug & Burrello, 1995).

Common Task, Common Identity, and Shared Tenets

The principals and teachers created a shared commitment to accomplishing the task and welded the commitment to the task with the commitment to the school-wide identity and shared tenets (Senge, 1990). The principals and teachers understood the relationship between the individual tasks and the school identity and tenets, which fueled the commitment. The principals provided the necessary resources, including time to collaborate and communicate, which fostered commitment to the common task, the school-wide identity and shared tenets. The principals and teachers understood the relationship between the immediate task and the big picture, which made the tasks meaningful (Bass & Avolio, 1994). The principals and teachers valued active participation, which increased active participation. The team members demonstrated a commitment to the task, the school-wide identity, and shared tenets, and invested time, resources, energy, and work hard (Kinlaw, 1989; Larson & LaFasto, 1989; Schlechty, 1990). New perspectives were valued and shared, like time and energy, and team members were encouraged to share

differences of opinions (Alexander, 1985). Principals were willing to share the leadership and accepted the work of the team (Francis & Young, 1979; Katzenbach & Smith, 1993). Sharing leadership fostered team and individual team member development (Katzenbach & Smith, 1993).

The TBVP Pilot Project recognized and rewarded student achievement results. The principals recognized and rewarded the teacher teams by providing the time and the resources to collaborate. The TBVP Pilot Project provided the extrinsic motivation to meet student achievement goals; the teacher teams provided the structure and the context and the intrinsic motivation to improve not only student achievement, but also to improve teaching practices. Kouzes and Posner (1987) contend what is recognized and rewarded is what gets accomplished. Hackman (1990) contends excellent team performance, not individual performance, should be rewarded.

The principals created team structures and teacher teams which were focused on student and adult learning and contributed to the professional growth and development that was necessary to experience student achievement gains. The principals and teachers understood the importance of creating a school culture committed to student and adult learning, which included examining the school setting as a whole (Senge, 1990).

Awareness and Acceptance of Group Structure

The principals modeled and demonstrated confidence in each teacher team, its team members, and its decisions. Team composition was critical (Hackman & Oldham, 1980). According to Bass and Avolio (1994), leaders must know the individual team members have an understanding of their individual strengths in order to capitalize on and make the

most of the team. The principals and teachers recognized individual strengths and capitalized on those strengths. Using the team structure allowed the principals to share information with the team, which in turn contributed to open communication and conflict (Hackman, 1990; Nurick, 1993). Principals utilized the team structure in order to develop confidence in the process and the decisions resulting from the process (Maeroff, 1993b). The principals and teachers also cultivated a collaborative environment. The principals and teachers demonstrated respect for each other and the team by encouraging risk taking, reflecting on results, celebrating successes and reflecting and refining and near successes (Hackman, 1990; Nurick, 1993). The principals demonstrated confidence in the team and its team members by sharing the leadership, encouraging active participation, and supporting team decisions (Maeroff, 1993b). The principals were aware and understood the leadership skills the team members had developed, some of which were developed informally and formally in other team settings (Bass & Avolio, 1994); principals and teachers cultivated the strengths of the team members, including the leadership skills. The principals allowed the teachers to act decisively and, when appropriate, acted decisively. The principals at Susan Sarandon and Helen Hunt changed the team structure when it wasn't working.

The principals demonstrated the "know how" to build a learning organization (Vogt & Murrell, 1990). According to the three principals, building a learning organization was an ongoing effort. The teacher teams were learning, which contributed to a learning organization, but they would never be "there." Building an effective learning organization was a process and a journey, not a destination. All three principals shared it had been a trial and error process with as many surprises as successes, but they shared the process openly

with the teacher teams so teachers could see the principals taking risks and learning from them. All three principals indicated that they would continue to use the process to learn how to meet the needs of all students and teachers.

The three principals not only demonstrated strategies to develop teamness in the teacher teams; the principals demonstrated strategies to promote teamness in the school as a community. The three principals promoted cooperation and provided ongoing opportunities for collaboration among team members. The ongoing opportunities led to a shared understanding of purpose and a vision of what the school community could be like for all students and adults. The three principals ensured that teachers had the necessary resources to teach and team, including instructional materials, instructional time, collaborative teacher team time, and professional growth and development to meet the needs of all students and adults. As a school, the teachers, parents, students, and principals developed high expectations and concrete goals and collaborated to make sure all students meet them. The building leadership teams used the student achievement data, feedback from the work itself, to set student achievement goals (student learning) and plan professional growth and development (adult learning). The teacher teams used the student achievement data, feedback from the work itself, and the teacher teams, which included feedback from others about the work itself, to make curriculum and instructional changes.

The student achievement data documented the work and the principals, the teacher teams, and the schools used the student achievement data to determine rewards and recognition. The TBVP Pilot Project provided one reward. The principals and the teacher teams also provided the recognition.

The three principals involved the teacher teams in developing and implementing the comprehensive school improvement plan, including student achievement goals and professional growth and development goals. Involvement in the comprehensive school improvement process included decision making related to curriculum, instruction, and assessment. The three principals used the teacher teams as a structure to challenge the status quo and support teachers as they learned new instructional strategies and leadership skills. As TBVP Pilot Project school, the teacher teams were challenged to set student achievement goals that exceeded state and federal requirements.

The three principals were the driving force behind the school improvement initiative. When the principal left Richard Dreyfus Elementary School, the school declined to participate in the TBVP Pilot Project. At the Susan Sarandon Elementary School, the principal was reassigned in the fall and the teachers chose not to participate in the TBVP Pilot Project. At the Helen Hunt Elementary School, the principal encouraged all the schools in the district to participate in the TBVP Pilot Project. Only one of the three schools continued to be a TBVP Pilot Project school, but all three schools continued to use the team structure and the teacher teams to impact student and adult learning.

The three principals were comfortable with the unknown, open to change, and flexible. The principals were able to adapt their leadership style to the needs of the individual teacher teams and be as directive as needed. They were comfortable encouraging teacher to communicate openly, voice conflict, and express opinions contrary to those on the teacher teams, including the principals. The principals were aware of issues that would create tension and openly addressed the issues. The principals actively engaged in professional growth and development with teacher teams, keeping the teacher teams on

the cutting edge of school improvement. These were strategies demonstrated by principals leading second order change (Waters *et al.*, 2003). The researcher concluded that the principals encouraged teacher teams because they were aware of the significance of teacher teams and teamness and used the strategies they were aware worked to promote teacher teams and teamness. This finding differs from Hall's (1995) finding. Hall (1995) found that principals encouraged teacher teams, but did not seem to be aware of either the strategies they used or the significance of those strategies to promote teamness.

The researcher found teacher "team" work enhanced teachers' professional interaction and problem solving. Teachers grouped students and provided differentiated instruction as needed. Team members used student achievement data as feedback from the work itself and constructive feedback from team members as feedback from others. Teachers expressed and shared a sense of collective responsibility for student learning; they also expressed a shared sense of collective responsibility for adult learning. Teachers were interdependent and valued that interdependence. Teachers were knowledgeable of their content areas and others; they were also knowledgeable of their grade level and others. Teacher utilized both tried and true instructional strategies and new instructional strategies, which demonstrated a range of strategies. The teacher teams used implementation logs and student achievement data to assess teacher use of instructional strategies. In the TLC, teachers shared students and knowledge of the students, which contributed student learning; in the BIT and the Focus Group, the teachers shared knowledge of students, which contributed to student achievement goals. The teachers on the teacher teams expressed an increased sense of satisfaction, professional autonomy, teacher and organization efficacy, and professional commitment. It would be hoped that these factors would contribute to

student learning, and in fact, the three schools met their Adequate Yearly Progress goals, though two of the schools did not meet their TBVP goals. Pounder (1999) found teachers believe teacher “team” work is more enriched than traditional teacher work and teacher “team” work enhanced teachers’ work, but she did not assess the impact on student achievement.

Teacher teams were not a panacea. The three teacher teams strongly agreed that their teacher teams contributed to student and adult learning. They expressed no concerns regarding their teacher teams. The principals strongly agreed that the contributions of the teacher teams outweighed the challenges and used teacher teams to combat the challenges. The three principals craved collaborative change. They sought and fought for the resources to provide opportunities for teachers to collaborate and agreed the benefits far outweighed the costs of collaboration. The principals found the professional interdependence contributed to a shared professional autonomy and challenged individual teacher autonomy. Teacher teams shared accountability for student achievement goals. Teacher teams not only used their resources, but they also used their influence and input to more effectively meet student achievement goals. The principals found as experienced teachers retired and new teachers joined the school staff, principals had to continue to assess the balance of input and influence of team members to avoid over-control and under-involvement. The principals agreed that communication and collaboration necessary in teacher teams required that teachers utilized effective interpersonal process skills. This finding was similar to Pounder’s (1999) finding that collaboration increases the need for healthy interpersonal processes. According to the principals, the students, parents, teachers benefited from the improved communication and collaboration skills. The principals acknowledged the

complexity of creating and coordinating teacher teams and scheduling team time. However, they noted these complexities were the responsibility of the principals and teacher teams experienced decreased complexity. The team structure reduced the complexity of schools for teachers on teacher teams and made the job of student and teacher learning more manageable for teachers and students. The complexity and challenges of creating and coordinating teacher teams and scheduling team time initially contributed to work overload for principals as they tried to think outside the traditional school model of individual teachers teaching in individual classrooms. Once initiated, however, teacher teams contributed to a remarkable decrease in work load. Principals and teachers were able to concentrate on student and adult learning. Galvin (1998) noted the requisite communication and coordination needed to create opportunities to collaborate increase the complexity in an environment noted for its complexity and Johnson (1998) noted the added complexity contributes to work overload (Johnson, 1998). The principals in the three schools were willing to work hard to overcome the challenges teacher teams, with the requisite collaboration and communication skills needed, in order to reap the benefits of teacher teams.

CHAPTER V: CONCLUSIONS

The researcher concluded the team structure and the teacher teams played a number of roles in the TBVP Pilot Project schools: 1) The teacher teams functioned as a learning community and supported student learning; 2) The teacher teams impacted student learning and student achievement; and 3) The teacher teams also functioned as a learning community and supported teacher learning (adult learning).

Importance of the Team in Team Based Variable Pay Pilot Project

There has been much research on alternative teacher compensation, which included the use of alternative teacher compensation to recognize and reward teachers as a team, not as individuals, but the research has not focused on the importance of teacher teams in alternative teacher compensation. Iowa recognized the importance of teacher teams and included the term in its title, Team-Based Variable Pay. No other alternative teacher compensation plan has recognized the importance of teacher teams.

Dianne Chadwick (2002), the Department of Education TBVP consultant, found student and staff achievement were key to the success of TBVP; “variable pay” was not (IDE, 2003e). The present researcher conducted a preliminary qualitative study and found the principals believed the team structure to be the key to the success of TBVP Pilot Project (Binder, 2003). The principals highlighted the importance of the team structure as the vehicle to build the capacity of the schools in order to meet the needs of all students and teachers. The principals recognized the importance of quality use of teachers and their time, including their instructional, collaborative planning, and professional growth and development time, and made effective use of this valuable resource (Binder, 2003).

Chadwick's (2002) research on Iowa's TBVP Pilot Project found teachers valued the increased cooperation, collaboration, communication, and shared commitment.

Binder's (2003) study found principals credited the increased cooperation, collaboration, communication, and shared commitment to teacher teams. This commitment to teacher teams led the researcher to ask how important are the teams in Team-Based Variable Pay Pilot Project schools.

The researcher concluded that the teacher teams were very important in the TBVP Pilot Project schools. The name, "Team-Based Variable Pay," given to the alternative teacher compensation component of the Iowa Teacher Quality legislation (HF and SF, 2001) was more than just a name. It represented the heart of the TBVP Pilot Project and was one of the most effective strategies to improve student and teacher learning. The researcher also concluded the teacher teams were important in the schools regardless of the schools' participation in the TBVP Pilot Project. The teacher teams existed prior to participation in the TBVP Pilot Project and, in fact, were one of many reasons why the schools in the TBVP Pilot Project elected to apply and participate in the project.

Types of Teacher Teams in TBVP Pilot Project Schools

This study explored the importance of the "team" in TBVP Pilot Project schools. The first phase of the study revealed the twelve types of teacher teams cited in the literature existed in the TBVP Pilot Project schools. Typical teacher teams included departments (subject area teams), interdisciplinary teams, grade level teams, and leadership teams, including building and district leadership teams. In addition, there were unique teams such

as the Teaching and Learning Communities, grade level cluster teams, and teaching teams, where students were shared and teaching responsibilities were clustered.

With the focus on professional growth and development for Iowa's teachers, the overall team structure also included leadership teams, which focused on professional growth and development. The mini-teams within the school-wide team included learning and study teams, with a subject matter or pedagogy focus, or subject matter and pedagogy teams with a learning or study team component. One school utilized a task force, calling the team a Focus Group, to address unique challenges. Schools also had mentors (new teacher buddy teams), technology teams, multidisciplinary teams, and education associations. The teams served multiple purposes and provided collegial support.

Of particular interest were the teacher teams the schools created to overcome challenges the individual schools faced, whether they were a large school trying to create schools within a school, a small school trying to provide opportunities for meaningful collaboration across grade levels, a school that was trying to create a school culture committed to student learning and adult learning, but which was divided due to restructuring, or a school striving to meet the diverse needs of its students and teachers.

Many of the teams, including leadership teams, mentors, and multidisciplinary teams, were required by law, but these teacher teams represented more than a requirement. The teacher teams represented a commitment to teacher teams. They were teacher teams developed to steer the comprehensive school improvement process and plan and impact student and adult learning.

Roles of Teacher Teams in TBVP Pilot Project Schools

Using purpose, composition, structure and context, and interaction (Crow & Pounder, 2000) to define roles, the first phase of the study explored the roles the teacher teams played in the schools in the TBVP Pilot Project. Of particular interest was the principals' awareness and deliberate use of purpose, composition, structure, and context to create effective teacher teams when the current teacher team structure, and its interaction, were not effective. The principals did not use the terms purpose, composition, structure, and context, but their decisions were based on these unnamed constructs. The principals inherited departments (subject area teams), grade level teams, and interdisciplinary teams with rich possibilities, but team composition, an informal structure, a lack of specific purpose, and no scheduled time to meet limited the possibilities. The departments, grade level teams, and interdisciplinary teams had become a "forever kind of thing," according to one teacher team, and provided opportunities for teachers to manage students—discuss fieldtrips, schedule parent-teacher conferences, and plan school-wide celebrations for reading minutes. The traditional teacher teams did not provide opportunities for in-depth discussions involving student and adult learning. The principals took a proactive role, like their schools did in applying for the TBVP Pilot Project, and created leadership teams, learning teams, and subject matter teams with a school-wide focus to address some of the limitations inherent in the "forever kind of thing" departments (subject area teams), grade level teams, interdisciplinary teams. The principals used the nontraditional teacher teams to mine the rich promise of teacher teams and provide opportunities for meaningful collaboration, communication, and professional growth and development to promote student and adult learning.

Teacher Teams Function as a Learning Community and Support Student Learning

The researcher concluded the three teacher teams, with carefully constructed composition, structure, and context, and clearly outlined purpose, provided a setting for professional interaction related to student and adult learning and served to develop teachers as professionals, which in turn contributed to student achievement and learning. The three teacher teams were recommended as exemplary teams. The principals had designed the teacher teams, with consideration to composition, structure, and context, and outlined the purpose. The exemplary teams were not run of the mill departments, grade level, or interdisciplinary teams. They were exemplary teacher teams, which included: teaching teams, learning teams (focus student learning), Teaching and Learning Community teams, grade level cluster teams, task force teams such as the Focus Group and the Tech Cadre, learning teams (focus adult learning), leadership teams (learning teams), building leadership teams, and professional development teams. Not one traditional department, grade level or interdisciplinary team was recommended as an exemplary team. In fact, principals listed concerns with the composition, structure, context, and interaction of the traditional department, grade level, and interdisciplinary teams, which lead the principals to explore alternative teacher teams. With intent given to purpose, composition, structure, context, and interaction, the principals created teacher teams to address the unique challenges.

The researcher concluded that a teacher team, per se, would not necessarily contribute to developing teachers as professionals if careful consideration were not given to purpose, composition, structure, and context. Teacher teams, designed for institutional

convenience such as departments, grade level teams, and interdisciplinary teams, and in place year after year, but without special consideration given to purpose, composition, structure, and context, would not provide the appropriate setting for professional interaction. The interaction might be adult friendly, but not necessarily related to adult learning. The interaction might not be focused on student learning; it might go so far as to include interaction that was not student friendly. Interaction that was not focused on adult and student learning would not contribute to adult and student learning.

Teacher Teams Impact Student Learning and Student Achievement

The three elementary teams demonstrated the importance of teacher teams in promoting student achievement (student learning). All three elementary teams met their Adequate Yearly Progress (AYP) student achievement goals (student learning) though two of the schools did not meet their TBVP student achievement goals, which were higher than their AYP goals. As the Susan Sarandon Elementary School, the teachers and the principal noted the two levels of goals, “One for the show and two for the money!” The “one for the show” was meeting Adequate Yearly Progress and Annual Improvement goals and the “two for the money” was meeting the TBVP Pilot Project goals. The teachers and principal were disappointed they did not meet the TBVP Pilot Project goals, but the TBVP goals were deliberately set high. The goals were a challenge, not a given. As the Richard Dreyfus Elementary School, the teachers and the principal concluded, “Back to the drawing board!” The students and teachers met the Adequate Yearly Progress (AYP) and Annual Improvement (AI) goals, but did not meet the TBVP Pilot Project goals. They were disappointed, but determined to go back to the drawing board and use the student

achievement data to drive decisions regarding instructional programs and determine professional growth and development. The teachers and principal compared themselves to their students. They related what they tell their students, "If at first you don't get it, we'll keep working together and you will." They reported to the researcher they would apply the same strategy to teachers and students "getting it." That was before the principal was reassigned to another school. At the Helen Hunt Elementary School, the teachers and principal were ecstatic. According to the principal, it reinforced the necessity for restructuring the grade level teams into Focus Groups, learning teams, and a leadership team in order to continue to build a school climate committed to student and adult learning. "This was one step in the right direction, but it would take many more for student and adult learning to become the focus for all teachers." The teachers in the Focus Group and the principal realized the TBVP Pilot Project goals would be higher the next year, but they were willing to take the risk and test themselves as professionals and leaders. In all three schools, the principals and the teachers felt strongly the teacher teams promoted student achievement and they recognized the power inherent in teacher teams relative to student achievement.

Strategies Teacher Teams and Principals Use to Promote Student Achievement (Student Learning)

The three elementary teams used a variety of strategies to promote student achievement, including using student achievement data to determine instructional programs, providing differentiated and individualized instruction, professional growth and development, curriculum mapping, aligning curriculum, instruction, and assessment, and the comprehensive school improvement process. The researcher observed the teachers used

teacher teams as a strategy to promote student achievement. These strategies focused on student learning. The teacher teams did not focus on “managing” students, they focused on teaching and learning.

The three elementary principals also used a variety of strategies to promote student achievement, including active involvement in professional growth and development at the school level and the district level, development of collaborative teaching model courses for teachers, use of student achievement data to evaluate professional growth and development, use of modeling and gradual release of responsibility, and willingness to explore new team structures. The principals did not list the use of teacher teams as a strategy to address student achievement, but the researcher concluded it was a strategy, if not the most effective strategy, to promote student achievement. The schools functioned smoothly; the principals had strategies in place to manage schools. The teacher teams did not spend their carefully created and constructed time managing. The teacher teams may have contributed to the smooth management, in that the teacher teams had a purpose, structure, and context in which to interact and proactively address student and adult learning. With the teacher teams focusing on student and adult learning, the purpose of schools, the principals were able to utilize other resources and strategies to manage the schools. For example, all three schools had before and after school programs, which contributed to a safe, secure environment for students, a management strategy principals, families, and community members employed. One school coupled the before and after school programs with instructional programs integrating Dragon Club and Practice Partners with before and after school programs. They provided additional opportunities to individualize and differentiate instruction with students when they were also being managed.

Teacher Teams Function as a Learning Community and Support Teacher Learning

In the educational setting, research conducted on the effective use of teams as learning communities has noted a difference between learning teams and true learning teams, namely that learning teams were meeting the structural needs of institutions, whereas true learning teams were meeting the needs of students as learners (Baitland, 1992; Barnett *et al.*, 2000; Lebsack, 1993; Norris *et al.*, 1996a, 1996c; Norris *et al.*, 2002; Weise, 1992). The departments (subject area teams), grade level teams, and interdisciplinary teams may have served the structural needs of the schools, but not the needs of the students and teachers. However, the Teaching and Learning Community, the Building Leadership Team, and Focus Group appeared to serve the needs of the students as learners, the teachers as adult learners, and the school as a learning community.

The researcher concluded the three teacher teams, with carefully constructed purpose, composition, structure, and context, provided a setting for professional interaction related to adult learning and served to develop teachers as professionals and leaders. The purpose of the teacher teams was multifaceted, but included collaboration, communication, and professional growth and development related to improving adult learning to impact student learning. Each meeting extended the ongoing professional growth and development, which helped teachers transition new information and knowledge from the theoretical level to the implementation level. The teachers were practicing the new skills and becoming comfortable with the new instructional strategies. In time, the new skills and instructional strategies would become the norm and be a part of every teacher's repertoire of instructional skills and strategies. The composition included teachers representing

different grade levels and content areas. The structure ranged from informal to formal, but every teacher team had a scheduled time block to meet. The context included producing results—the TLC focused on student achievement, the BIT focused on developing the Comprehensive School Improvement Plan with actions and professional growth and development to support teachers, the Focus Group produced a teaching unit related to the SMART goal, making inferences, which included informal and formal probes. All three teacher teams used student achievement data to determine the focus. The expectation was all three teacher teams would continue to look at student achievement data and evaluate the effectiveness of the team structure and the teacher teams. The interaction revolved around student and adult learning.

All three teacher teams prioritized the characteristics of teamness they valued and elaborated on the importance of those characteristics of teamness. All three teacher teams demonstrated the characteristics of teamness they valued. The researcher concluded the characteristics of teamness, including open communication and conflict, mutual trust, risk taking, common purpose, common identity, and shared tenets, and awareness of acceptance of group structure, supported developing teacher as professionals and leaders.

Theoretically, teacher teams could demonstrate the characteristics of teamness without focusing on student and adult learning, but they would not be a learning community to support student and adult learners. On the other hand, without demonstrating the characteristics of teamness, teacher teams could not effectively focus on student and adult learning. Open communication and conflict, mutual trust, risk taking, common purpose, common identity, and shared tenets, and awareness of acceptance of group structure were interlinked with developing teachers as professionals and leaders.

Developing Teachers as Professionals

The three elementary teams listed developing teachers as professionals as a priority. They did not list it as the top priority, but listed the characteristics of teamness, which support developing teachers as professionals and leaders as the top priorities. The Richard Dreyfus Elementary School teacher team listed open community and conflict and mutual trust as characteristics, which contributed to developing teachers as professionals and leaders. They equated developing teachers as professionals and leaders with risk taking. The Susan Sarandon Elementary School teacher team listed open community and conflict, mutual trust, and risk taking as characteristics, which contributed to developing teachers as leaders. The Helen Hunt Elementary School teacher team listed common purpose as the most important characteristic, which also contributed to developing teachers as professionals. They equated both developing teachers as professionals and leaders with risk taking, but for different reasons.

The researcher concluded the teacher teams served to meet the needs of individual teachers from comradeship and support, to the acquisition of new knowledge, and the realization of a teacher's dream—to be a teacher and a life-long learner (developing teachers as professionals and leaders). These needs were identified in the research on learning communities (Norris *et al.*, 2002). The teacher teams also served to meet the needs of teacher teams—providing a purpose, professional interaction, and professional interdependence. These needs were also identified in the research on learning communities (Cartwright, 1968; Hare, 1952; McGrath & Altman, 1966, Norris *et al.*, 2002; Zander, 1982).

Purpose

The teacher teams had a purpose. The sense of purpose was cemented as teachers interacted and collaborated. The focus on student achievement provided the purpose for teacher teams. Professional interaction took place among teacher team members during the team meetings. The composition, structure, and context of the teacher teams contributed to professional interaction. Frequent, scheduled interaction among team members also contributed to the professional interaction. Active involvement and accountability intensified the professional interaction. Norris and associates (2002) found similar results in learning communities at the post secondary level, though the learning communities did not have student achievement and learning to focus on; they focused on adult learning.

Mutual Respect and Interaction

The team members developed and demonstrated mutual respect for one another and an appreciation and acknowledgement of their individual strengths. There was a sense of security within the teacher teams, which promoted risk taking and an open exchange of ideas among individuals. Individuals received feedback from the work itself and constructive feedback from team members, becoming more self-aware, and developing greater knowledge and understanding through dialogue with others. The recognition of individual strengths contributed to risk taking. The teachers and principals noted as teachers grew as individuals, their contributions to the teacher team strengthened the effectiveness of the team. Norris and associates (2002) found interaction contributed to increased interaction. Teacher teams that had opportunities to interact developed an awareness of individual strengths and recognized individual strengths. This researcher

concluded the team process was cyclical: individual contributions strengthened the teacher team, which in turn, strengthened the individual teachers, which in turn, strengthened the team. The researcher concluded that at some point the teacher teams would need an infusion of new teachers and new ideas in order to continue the process of strengthening the teacher teams. Otherwise, the individual teachers and teacher teams would almost become as one. The researcher concluded the teacher teams of Norris and her associates were short-term teams, not long-term teams, and did not run the risk of becoming “forever” teams. Whereas, the teacher teams in schools would run the risk of becoming “forever” teams and the process, which initially was cycling upwards, would turn and cycle down if there were not an infusion of new teacher members and ideas.

Interdependence

The teachers on the teacher teams experienced interdependence. The ongoing interaction and collaboration promoted a teacher team identity—“we are teachers, we’re here for students, and we’re learners and leaders focused on student and adult learning.” According to the teachers, the professional interaction, communication, and collaboration increased teacher satisfaction. This teacher satisfaction included satisfaction with teachers as professionals (student learning), teachers as learners, and teachers as leaders. Norris and her associates (2002) found opportunities for interaction, communication, and collaboration increased post secondary student satisfaction. Interaction, communication, and collaboration were intertwined, and the group participation contributed to the team. The satisfaction was limited to teachers as learners (Norris *et al.*, 2002).

Strategies Teacher Teams and Principals Use to Impact Professional Growth and Development (Teacher Learning)

The teachers demonstrated the importance of teacher teams in developing teachers as professionals (adult learning) and leaders. Strategies the teacher teams used to impact professional growth and development included collaborating, using student achievement data to drive professional growth and development, developing teachers as professionals and leaders, developing teachers as researchers, developing and aligning assessment with curriculum and instruction. The researcher observed the teachers used teacher teams as a strategy to impact professional growth and development. The strategies contributed to developing teachers as professionals (adult learning) and leaders because they were focused on students and teachers as learners. The teacher teams allowed the teachers to take the “theory” of professional growth and development from the abstract level to the concrete level and make it real. The teacher teams provided ongoing opportunities for teachers to apply the professional growth and development until they owned it or until the new instructional strategies became comfortable instructional strategies and the teachers used them on a daily basis as part of the teachers’ repertoire of instructional practices.

Strategies the principals used to impact professional growth and development included providing extended time for adult and student learning, using action research, practicing gradual release of responsibility, and participating in professional growth and development as principals (developing as professionals) and for principals (developing as leaders). The principals did not list the use of teacher teams as a strategy to impact professional growth and development, but the researcher concluded it was a strategy, if not the most effective strategy, to impact professional growth and development. The principals

applied the same strategies to teachers and their professional growth and development as adult learners as the teachers applied to their students, their peers, and themselves. The adult learners shared the same learning needs as student learners. The teachers knew better than to tell students once and think they had mastered the new skills; so did the principals. At times, principals and professional growth and development leaders have operated as though they needed only tell teachers a new instructional strategy once and they would have the new strategy mastered. The three principals and teacher teams recognized teachers needed to “hear it, see it, and do it” many times before the new instructional strategies would be mastered. The principals recognized the support the teacher teams provided extra practice and sped up the learning process. Teachers in teacher teams needed to “hear it, see it, and do it” fewer times than teachers teaching and learning new skills as traditional teachers in isolation, but they still needed to “hear it, see it, and do it” multiple times. There were very few “talented and gifted teachers” who mastered it after one time just like there were very few “talented and gifted students” who mastered it after one time. The traditional professional growth and development model acted on the premise that all teachers were “talented and gifted teachers” and needed only “hear it, see it, and do it” once to master it.

Characteristics of Teamness Teacher Teams Exhibit

The three elementary teacher teams demonstrated the characteristics of teamness that Hall (1995) found: a) open communication and conflict; b) mutual trust; c) risk taking; d) common task; and e) awareness and acceptance of group structure. In addition, the three

elementary teacher teams demonstrated common identity and shared tenets, the characteristic Hall (1995) found to be embedded in common task

All three teacher teams prioritized the characteristics of teamness they valued and elaborated on the importance of those characteristics of teamness. All three teacher teams demonstrated the characteristics of teamness they valued. The TLC, at Richard Dreyfus Elementary School, was a mature team and existed as a team for more than three years. The teachers listed open communication and conflict and mutual trust as the most important characteristics. According to the teachers, open communication, conflict, and constructive feedback and mutual trust led to risk taking. Without open communication, conflict, and constructive feedback and mutual trust, teachers would not take risks. They equated developing teachers as professionals and leaders with risk taking. The BIT team, at Susan Sarandon Elementary School, was a young team; the team members had served together less than a year, but with teachers who demonstrated mature interpersonal skills, including open communication and conflict, mutual respect and trust, and risk taking. The principal facilitated the BIT teacher team, but the teacher members provided leadership on the team and could have facilitated and led the team. The teachers listed open communication and conflict and risk taking as the most important characteristics, which contributed to developing teachers as leaders. The Focus Group, at the Helen Hunt Elementary School, was a young team; the team members had served together less than a quarter, with teachers who demonstrated interpersonal skills, including open communication and conflict and mutual respect. The lead teacher facilitated the Focus Group, providing and sharing the leadership on the team. Not all of the teachers on the Focus Group would have been able to facilitate the team meetings, but they all had the

opportunity to see a leader facilitating the meetings and develop the skills in context. The teachers listed common purpose as the most important characteristic, which also contributed to developing teachers as professionals. They referred to the risks they took in accepting the invitation to serve on the Focus Group and share the teaching unit they developed with their grade level teams. The common task gave the teachers a legitimate purpose and therefore, the courage, to accept the risk. They equated both developing teacher as professionals and leaders with risk taking, but for different reasons.

The three elementary teacher teams identified developing teachers as professionals and leaders as important attributes of teacher teams. The researcher concluded the characteristics of teamness contributed to developing teachers as professionals and leaders: a) open communication and conflict; b) mutual trust; c) risk taking; d) common task, common identity and shared tenets; and e) awareness acceptance of group structure.

The three elementary teams listed developing teachers as professionals and leaders as a priority. They did not list it as the top priority, but listed the characteristics of teamness which support developing teachers as professionals and leaders as the top priorities. The Richard Dreyfus Elementary School listed open communication and conflict and mutual trust as characteristics, which contributed to developing teachers as professionals and leaders. They equated developing teachers as professionals and leaders with risk taking. The Susan Sarandon Elementary School listed open communication and conflict and risk taking as characteristics, which contributed to developing teachers as leaders. The Helen Hunt Elementary School listed common purpose as the most important characteristic, which also contributed to developing teachers as professionals. They equated both developing teacher as professionals and leaders with risk taking, but for different reasons.

The researcher identified correlations between Hall's characteristics of teamness and Hackman and Oldham's (1980) characteristics of effective teams. Hackman and Oldman's (1980) characteristics complimented Hall's (1995) characteristics of teamness: a) feedback from the work itself and feedback from others supported open communication and conflict; b) dealing with others required mutual trust, c) feedback from the work itself, feedback from others, and professional autonomy supported risk taking, d) task identity, task significance, and skill variety were similar to common task, common identity and shared tenets; and e) dealing with others required an awareness and acceptance of group structure.

According to Hackman and Oldham (1980) teams enriched the work. Enriched work positively influenced critical psychological states, including experienced meaningfulness of work, experienced responsibility for work, and knowledge of the work itself. These critical psychological states influenced work outcomes, including internal work motivation, general satisfaction (satisfaction with teaching), growth satisfaction (satisfaction with professional growth and development), and work effectiveness (Hackman & Oldham, 1980). Using this logic, the researcher concluded Hall's (1995) characteristics of teamness positively affected critical psychological states, which in turn influenced work-related outcomes. Teachers on the teacher teams expressed: a) increased knowledge of students; b) satisfaction with teaching; c) satisfaction with professional growth and development; d) increased professional autonomy; e) increased professional commitment; and f) teacher empowerment.

The teacher teams focused on student learning, which increased knowledge of students. The teacher teams were proactive and systematically addressed student needs,

developing team expectations for academic performance and recognizing students, developing team expectations for student behavior, rewarding students, and increasing student learning (Crow & Pounder, 1997; Erb, 1995, 1987). The teachers on the teacher teams were involved in decision making, including decisions using student achievement data, which contributed to increased professional autonomy (Kruse, 1994).

Teachers' work-related interactions with students, parents, and teachers increased Kruse and Louis (1997) also found teacher teams contributed to increased interactions. This researcher concluded the increased interactions were professional interactions in that teachers on teacher teams spent the majority of the time talking with each other about curricular and extra-curricular issues and developed a shared knowledge of the curriculum beyond the limits of individual classrooms and content areas. The professional interaction contributed to an awareness of one another's work. Erb (1987) also found interaction contributed to knowledge of one another's work. This researcher found teachers referred to the awareness and knowledge as a source of feedback about the work itself in that teachers were knowledgeable of what other teachers did with students to impact student learning. This knowledge of what other teachers did contributed to "ah ha" moments and also impacted adult learning. Team members challenged team members when they had a student or group of students they were not reaching. The team members brainstormed possible instructional strategies. According to the teachers on the TLC team, "Here we were adults and we were still in school." The teacher teams went to school each day to teach, but the teacher teams made it such that the teachers also went to school each day to learn. The teacher teams provided the perfect classroom for teachers. Kruse and Louis (1994) and Louis and associates (1994) also noted teacher teams provided intellectual

stimulation and support of one another. The researcher concluded the teacher teams provided a setting, which rivaled the university setting and may have provided a better teacher education than any graduate course or classroom. The Focus Group referred time and time again to the quality of teacher learning they experienced on the teacher team, going so far as to say, "We've learned more on this team than we've learned in any university class." The researcher drew this conclusion, not to degrade university courses or classes, they serve their purpose, but to note the importance of the ability to translate the intellectual stimulation directly to the classroom and the students in the classroom. Again, the teacher teams referred to the satisfaction they experienced when the purpose was clear and the work of the teacher team was work they were going to use tomorrow in the classroom.

The teachers on the teacher teams referred to the common identity and shared tenets they experienced. Not only did teacher teams make the decisions to schedule instructional time and group students for instruction, like Erb (1995) found, they also developed a shared identity. The teacher teams felt, "We were all on the same track, going the same direction and any decisions we made contributed to the shared purpose." The teachers on the teacher teams expressed satisfaction with teaching. The researcher did not ask the teachers and principals if they experienced satisfaction, but in the interviews the teachers on every teacher team referred to the increased teacher satisfaction they experienced. The researcher concluded the teacher teams contributed to increased teacher satisfaction. Arhar and associates (1989) asked teachers on teacher teams if they experienced teacher satisfaction, and they answered in the affirmative. Teachers who did not serve on teacher teams, when asked if they experienced teacher satisfaction, did not answer in the affirmative (Arhar

et al., 1989). This researcher found teachers on the teacher teams expressed either a commitment to teaching or a renewed commitment to teaching and student learning. Again, the researcher did not ask the teachers and principals if they experienced a commitment to teacher or student learning, but in the interviews the teachers referred to it time and time again. One teacher team was elated with the renewed sense of commitment to teaching and student learning. Louis (1994) directly assessed the commitment to teaching and student learning and teachers on teacher teams expressed a commitment to teaching and student learning that teachers who did not serve on teacher teams did not express. The researcher concluded that every teacher entered the teaching professional with a commitment to teaching. As teachers faced the combined challenges of student and adult learning, the commitment to teaching and student learning would flag if the support structure for teachers were not there. The TLC teacher team noted that the team consisted of two teachers who had initially taught in isolation and two teachers who had never taught in isolation. They contrasted their experiences and concluded the team structure provided the necessary support “when the going got tough.”

Strategies Teachers and Principals Use to Promote Teamness in Teacher Teams

The principals at the three elementary schools promoted teacher teams and were aware and appreciated the power of teacher teams and their individual roles in supporting teacher teams to promote student achievement and professional growth and development.

The strategies the principals used to promote teacher teams and teamness were many. In most cases, the teachers as well as the principals used the strategies to promote teamness. The principals indicated the teachers were leaders. The researcher concluded the

principals contributed to developing the leadership of the teachers. The principals referred to modeling and the gradual release of responsibility related to professional growth and development. The researcher concluded the principals applied the same strategy to promoting teamness. The teachers modeled the examples the principals provided. The strategies the principals used to promote teacher teams and teamness were supported in the literature and research.

Open Communication and Conflict

The strategies to promote open communication and conflict included creating time to collaborate, providing the time and necessary resources, outlining a common, well defined task, facilitating team meetings as needed and encouraging teachers to facilitate team meetings. The principals and teachers used effective interpersonal processes and modeled "The Seven Norms of Collaborative Work." The teachers and principals demonstrated active listening by encouraging even participation, sharing ideas, exploring differences of opinions, and valuing open communication, direct conflict, and constructive feedback. The principals and teachers were actively involved in the problem solving process and receptive to new ideas, including teachers' ideas. The principals and teachers actively collaborated, allowing time for collaboration. The principals and teachers made decisions and actively supported the decisions. The principals shared the leadership, modeling being receptive to change without having to lead the change. The principals and teachers recognized teacher team contributions that promoted student and adult learning. The principals modeled open communication and conflict and used a variety of strategies to develop open communication and conflict, but they did not name the strategies. Nor were

they asked to identify the characteristics of teamness. The researcher provided the list of the characteristics of teamness. The researcher concluded principals needed to be aware of this characteristic of teamness and the strategies to promote open communication and conflict. Some of the strategies were intuitive, but some of them needed to be directly taught and modeled by professors in principal academies and district administrators such as superintendents.

Mutual Trust

The strategies to promote mutual trust included using the group structure and the ground rules to share information, encourage even participation, share ideas, explore differences of opinions, and actively participate in problem solving. The principals and teachers used effective interpersonal processes and modeled “The Seven Norms of Collaborative Work.” The teachers and principals demonstrated active listening by asking the team for help, asking for and providing constructive feedback, modeling not having all the answers, and valuing the team’s ideas, suggestions, and solutions. The principals and teachers utilized suggestions and actively supported decisions. The principals shared the leadership, modeling being flexible and open to different points of view and perspectives. The researcher concluded principals needed to be aware of this characteristic of teamness and the strategies to promote mutual trust. As importantly, principals needed to be aware of strategies or actions that appeared to undermine strategies to promote mutual trust. If teacher teams perceived the principals were not trustworthy, the principals would need to know what strategies and actions led to this perception.

Risk Taking

The strategies to promote risk taking included using student achievement data and implementation of teaching strategies as tools to inform and provide feedback from the work itself and feedback from others about the work itself, celebrating successes and “near” successes, and refining “near” successes. Principals viewed developing teachers as professionals as the principal’s responsibility and provided opportunities for teachers to model, observe, and coach each other. The principals and teachers used effective interpersonal processes and modeled “The Seven Norms of Collaborative Work.” The teachers and principals modeled “go for it” by taking risks, sharing success stories as well as “not” success stories, and asking for suggestions. Principals and teachers viewed developing teachers as professionals and trying new teaching strategies as the norm. Principals and teachers stretched each other. Principals provided opportunities for risk taking by encouraging teaming and collaboration and applauded risk taking. Principals and teachers encouraged new ideas and the implementation of new ideas, recognizing the accomplishments, including individual and team accomplishments, and the attempts. The researcher concluded principals needed to be aware of this characteristic of teamness and the strategies to encourage taking risks. Modeling taking risks as principals and reflecting with teacher teams on the risks taken would seem to encourage risk taking.

Common Task, Common Identity, and Shared Tenets

The strategies to develop common task, common identity, and shared tenets included providing a common, well-defined task, sharing a commitment to accomplishing the task, and providing the resources to accomplish the task, including time to collaborate.

Principals and teachers viewed accomplishing the task as students and teachers demonstrating success as learners and leaders. Principals and teachers shared a commitment to creating a school culture committed to student and adult learning and actively participated in professional growth and development. The principals and teachers used effective interpersonal processes and modeled “The Seven Norms of Collaborative Work.” The teachers and principals modeled active involvement in the decision-making process, encouraging even participation, sharing ideas, collaborating, discussing different opinions, and being open to new ideas including teachers’ ideas. The principals and teachers modeled an enthusiasm for shared leadership and shared responsibility. The researcher concluded principals needed to be aware of this characteristic of teamness and the strategies to cultivate common task, common identity, and shared tenets. While it would seem that common task was the easiest characteristic of teamness to develop, common identity and shared tenets would be more difficult to nurture.

Awareness and Acceptance of Group Structure

The strategies to promote awareness and acceptance of group structure included using the team structure, ranging from informal to formal, to create a collaborative environment and providing the team time to collaborate. Principals and teachers modeled using the team’s time effectively including being prepared, communicating before during and after the meetings, and focusing on student and adult learning. Principals and teachers modeled sharing roles to accomplish tasks and changing roles as needed to utilize the experiences and expertise of the team. Principals validated the team’s work, encouraging risk taking, reflecting on results, celebrating successes, reflecting and refining “near”

successes, recognizing team accomplishments including individual and team accomplishments, and attempts. The researcher concluded principals needed to be aware of this characteristic of teamness and the strategies to promote an awareness and acceptance of group structure. It would seem that group structure, like common task, was one of the easier characteristics of teamness to develop, yet group structure was linked with professional interaction, which incorporated open communication and conflict, mutual trust, risk taking, and common identity and shared tenets, and may be the most difficult construct to develop.

Recommendations

Based on the conclusions in this study, the researcher proposed a number of recommendations. These recommendations addressed: 1) types of teacher teams; 2) roles of teacher teams; 3) characteristics of teamness; 4) strategies principals use to promote teamness; 5) teacher teams and their role in student achievement; and 6) teacher teams and their role in professional growth and development. These recommendations also addressed findings related to the traditional teacher teams, nontraditional teacher teams, the challenges teacher teams presented, and the commitment to teacher teams needed to create teacher teams that impact student and adult learning.

Types of Teacher Teams

The researcher recommends that this information, and information like it, be made available to principals to help them design team structures and teacher teams that include careful consideration of purpose, composition, structure, and context, in order to provide a setting with professional interaction focused on student and adult learning. Principals, like

teachers, do what they know best. Principals who taught in schools with typical departments, grade level teams, and interdisciplinary teams may, as principals, experience schools with ineffective departments, grade level teams, and interdisciplinary teams and not know what other teacher teams exist or what considerations to make in creating new teams. None of the principals referred to the constructs of purpose, composition, structure, and context by name. They learned, by trial and error, what purposes supported student and adult learning, which groups of teachers worked well together and which groups of teachers didn't, and how to find the time to create the structure and context for meaningful collaboration. In addition they learned, by trial and error, that meaningful collaboration didn't just happen; it, too, took professional growth and development in order for traditional teachers to become collaborating teachers. Principals were faced with addressing unique challenges such as large schools trying to create schools within a school, small schools trying to provide opportunities for meaningful collaboration across grade levels, and schools trying to create a school culture committed to student learning and adult learning. These principals worked in schools with a number of administrators. In Iowa, there are many districts and schools with a limited number of administrators, and in some cases, a lone administrator. A resource such as this would be beneficial as principals and teachers try to address the diverse needs of students and teachers.

Twelve types of teacher teams have been identified in the literature and all twelve types of teacher teams were present in the TBVP Pilot Project schools. The case study was limited to elementary schools. It is unknown how the teacher teams at the middle and high school levels impact student achievement (student learning) and professional growth and development (adult learning). A similar case study needs to be conducted with teacher

teams in the TBVP Pilot Project from the middle and high school levels to explore the teacher teams in-depth.

It is also unknown what types of teacher teams exist in schools, which did not participate in the Team-Based Variable Pay Pilot Project. This type of study needs to be conducted with a representative sample of elementary, middle, and high schools, which are not in the TBVP Pilot Project, to determine which teacher teams exist and what roles they play in schools.

Roles of Teacher Teams

This study included an overview of the types of teacher teams in the TBVP Pilot Project schools, including elementary, middle school and high schools, and the roles they played. In addition, this study included an in-depth case study of three elementary teacher teams. The three teacher teams may be unique to the three schools. A similar case study should be conducted with teams from the middle and high school levels to determine what roles the various teams play. Also, a case study should be conducted with teams from the elementary, middle and high schools, which are not in the Team-Based Variable Pay Pilot Project, to determine what teacher teams exist and if the teacher teams impact student achievement (student learning) and professional growth and development (adult learning).

Of particular interest was the principals' awareness and deliberate use of purpose, composition, structure, and context to create effective teacher teams when the current teacher team structure, and its interaction, were not effective even though the principals did not use the terms. When the principals discussed their concerns related to departments, grade level, and interdisciplinary teams they referred to interaction, which they referred to

by name. They were professional in that they attributed the limitations with interaction to the lack of a specific purpose, the current mix of teachers in the department or on the team, the formal or informal nature of the team, and the lack of time to collaborate. The principals did not refer to personal attributes of teacher team members, but concrete attributes of teacher teams, which would include the constructs of purpose, composition, structure, and context. The researcher concluded the constructs of purpose, composition, structure, and context would help principals and teachers involved in the school improvement process as they focus on the concrete attributes that can be more easily managed and changed than the attribute of interaction, which may be more abstract and, therefore, more difficult to manage and change.

When the principals discussed the factors they considered when they created the nontraditional teacher teams, they used without knowing so or naming, the purpose, composition, structure and context. These principals, by a process of trial and error, found the traditional teams of departments, grade level, and interdisciplinary teams had limitations in their purpose, composition, structure and context. Their limitations in purpose, composition, structure and context contributed to interaction that was not focused on student and adult learning. Therefore, the researcher recommends that this information, and information like it, be made available to principals in order to help principals design team structures that include careful consideration of purpose, composition, structure, and context, in order to provide a setting with professional interaction focused on student and adult. The constructs of purpose, composition, structure, and context would help principals and teachers see the professional considerations in creating teacher teams, and the rationale for making decisions in constructing, reconstructing, and deconstructing teacher teams. The

constructs would help the principals and teachers see the process is professional, not personal. With appropriate professional growth and development, principals and teachers would be able to use the constructs and be actively involved in the process of mantling and dismantling teacher teams as needed.

The researcher recommends that this information, and information like it, be compiled in order to help principals audit current team structures in order to determine if current teacher teams provide the focus needed on student and adult learning. The teachers on the teacher teams and the principals gave examples of the effective use of teacher teams and teacher time and ineffective use. Not all the teacher teams were equally effective.

Also, it would be helpful to develop an “audit” that teachers and principals could use as they are working in teacher teams to determine if the actual use of their time is consistent with the purpose, common identity, and shared tenets of the teacher team and the school. The “audit” could help to articulate the purpose, composition, structure, and context of the teacher teams. It could be used to trace the patterns of interaction, including the quantity and quality of professional interaction, on the teacher teams. It could include the characteristics of teamness that contribute to developing teacher teams and teachers as professionals and leaders. Initially, the “audit” could be developed and piloted with exemplary teacher teams. As teachers and principals became comfortable and competent with the “audit,” it could be used in professional growth and development related to developing teams. Principals, lead teachers, and exemplary teams could model using the “audit.” Principals, lead teachers, and exemplary teacher teams could use the strategy of gradual release of responsibility and as teacher teams become comfortable and competent

with the “audit,” teacher teams could use it to monitor their teacher teams and use of team and teacher time.

Characteristics of Teamness

This research project provided information relative to the characteristics of teamness and three teacher teams in elementary schools. The researcher recommends that this information be made available to principals as they seek to establish an effective team structure to support a variety of teacher teams to promote school improvement, student learning, and adult learning. The principal at Richard Dreyfus developed a series of collaborative teaching model courses. This information, and information like it, would be helpful to principals as they struggle with creating teacher teams, the mechanics of creating teacher teams including purpose, composition, structure, and context, and creating collaborative teacher teams, the meat of teacher teams including professional interaction. If it were easy, principals and teachers would have formed effective teacher teams to begin with. If it were evident, principals and teachers would be working effectively on teacher teams. The “easy and evident” team structure includes the traditional departments, grade level, and interdisciplinary teams, but the principals listed concerns regarding the purpose, composition, structure, and context of departments, grade level, and interdisciplinary teams, which contributed to interaction that was not always professional nor focused on student and adult learning.

The researcher recommends that courses such as the series of collaborative teaching model courses be required coursework for principals and teachers. With the Quality Teacher legislation, the state required principals take courses in professional growth and

development related to beginning teachers. It was also required that beginning teachers and mentors (career teachers paired with beginning teachers) take courses in mentoring and the Iowa Teaching Standards. Districts and Area Education Agencies are offering courses in using student achievement data to make decision. Equally important is the ability to collaborate and communicate in a teacher team. The two sets of skills are intertwined and interrelated. It doesn't do much good for a teacher to be able to use the student achievement data to make decisions, but do so independently in a school. Nor does it do much good for a teacher to be able to interact with teachers in a teacher team, but not be able to focus on student and adult learning. This would be an important series of courses for principals and teachers currently working in schools to take in order to develop and apply the interpersonal skills needed to collaborate and communicate. This would also be an important series of courses for teacher and principal candidates alike to take at the university level.

Too many principals, like teachers, are working in isolation. The state, the Area Education Agencies, the districts, the schools, and the principals need to create teacher teams for principals in order for principals to continue to grow as professionals. Too many principals are forced to use trial and error to create, construct, and reconstruct teacher teams. Principals who taught in schools with departments, grade level, and interdisciplinary teams may sense the teacher team structure is not working, but may not have the tools to recreate new teams. Being familiar with the constructs of purpose, composition, structure, context, and interaction would be helpful. Participating in professional growth and development related to proactively mining teacher teams would also be helpful.

Strategies Principals Use to Promote Teamness

The strategies principals used to promote teamness in teacher teams should be part of administrative programs. The strategies required leadership skills on the part of administrators. Teacher preparation programs need to include components for developing teachers as team members. If teachers are prepared to work as part of a teacher team, collaborating and communication and using the characteristics of teamness, then the teachers will develop as professionals and leaders. Principals have many career teachers who will not have completed teacher preparation programs that included components for developing teachers as team members, and the principals will need skills specifically designed to develop those career teachers who have not had that training. Principals also have beginning teachers who will not have completed teacher preparation programs that included components for developing teachers as team members, and will need skills specifically designed to develop those career teachers who have not had that training.

Many teacher meetings, including teacher meetings in the case study schools, involve too much “do this and do that” and managing and not enough communicating and collaborating. Principals themselves, for the most part, will not have completed teacher or principal preparation programs that included components for developing teachers as team members, and will need skills specifically designed to develop teacher teams, working with the career teachers and beginning teachers who may or may not have had team training. Much time is devoted to developing teachers and principals as professionals, but time must also be devoted to developing teachers and principals as team members. Teacher teams can contribute to developing teachers as professionals and leaders. If principals are able to

create, and recreate as needed, effective teacher teams, they will be able to feel confident teachers will continue to grow and mature as professionals and leaders. If principals do not have effective teams, they will question whether or not the teacher teams will be able to impact student and adult learning. If principals do not know how to create and recreate effective teams, they will question whether or not the teacher teams will be able to impact student and adult learning. Ineffective teacher teams will not impact student and adult learning, but effective teacher teams will.

Teacher Teams and Student Achievement

The three elementary teams identified the importance of teacher teams in promoting student achievement (student learning). The teachers recognized the power inherent in teacher teams relative to student achievement. The principals at the three elementary schools echoed the sentiments of the teachers. The principals felt that teacher teams promoted student achievement and professional growth and development. They were aware and appreciated the power of teacher teams and their roles in supporting teacher teams to promote student achievement and professional growth and development. The principals utilized strategies to promote teacher teams that were supported in the literature and research.

The researcher recommends that this type of study be conducted with a representative sample of middle schools and high schools in the TBVP Pilot Project to determine if the teacher teams have an impact on student achievement at those levels. It is also recommended that principals and teacher teams in the TBVP Pilot Project schools disaggregate data to determine which teacher teams are most effective and concentrate

resources on creating teacher teams that are equally effective. Principals need help designing team structures that address purpose, composition, structure and context. Principals also need help developing the setting for and the professional interaction skills necessary for effective teams. Principals need help in determining when a teacher team, with its current purpose, composition, structure, and context, is no longer interacting professionally, no longer effective, or needed. It would not be appropriate for principals to create new teacher teams and then have the teacher teams become “forever” teacher teams. Principals and teacher teams need to know how to determine if the teacher team is effective, what factors contribute to its effectiveness, and what factors can be managed and changed. The principals used intuition; intuition is “not enough,” to quote the principal and teacher team at one of the case study schools.

The researcher recommends that professional growth and development continue to include curriculum, instructional strategies and assessment, addressing student needs and collaborative teaching and teaming. These three teacher teams had professional growth and development relative to collaborative teaching and teaming and it was apparent. These three teacher teams also had professional growth and development relative to addressing student needs, curriculum, instructional strategies and assessment, and it too was apparent. The key component was the teacher teams had the professional growth and development coupled with the opportunity to extend the professional growth and development using the teacher teams. The teacher teams provided opportunities for modeling, coaching, taking risks, and reflecting, opportunities, which increased the probability of the new instructional strategies and the new professional interaction skills becoming the norm.

Teacher teams have the potential to build the capacity of the individuals, the teacher teams, and the school. If the teachers on the teacher teams had to choose between school-wide professional growth and development and the teacher teams, which provide their own professional growth and development, the teacher teams would choose teacher teams. They would do so hesitantly, because it is the school-wide professional growth and development, which contributed to the school-wide increase in student achievement, and teacher teams without the school-wide common identity and shared tenets, could be “leaderless and directionless” teacher teams. But, they would do so.

The three teacher teams utilized data to demonstrate student achievement. Dianne Chadwick initiated a study to determine if the schools in the Team-Based Variable Pay Pilot Project performed better than comparable schools, which were not in the TBVP Pilot Project. The results were not yet available. It will be important to determine what teacher teams are in place and what roles they play in the comparable schools.

The Importance of Teachers Teams and Professional Growth and Development

The three elementary teams demonstrated the importance of teacher teams in developing teachers as professionals (adult learning) and leaders. The principals echoed the sentiments of the teachers on the teacher teams.

The research on the effective use of teams as learning communities noted the difference between learning teams and true learning teams. The research also has noted the importance of developing in future school leaders an understanding of the value of learning communities through experiencing the learning that can take place as a learner so that future leaders can effectively develop learning communities in their schools that develop

teachers as professionals and leaders (Baitland, 1992; Barnett *et al.*, 2000; Lebsack, 1993; Norris *et al.*, 1996a, 1996c; Norris *et al.*, 2002; Weise, 1992).

The researcher recommends that all professional growth and development be collaborative. Districts, schools, Area Education Agencies, and universities alike continue to offer ongoing professional growth and development and coursework that are not collaborative. If all professional growth and development and courses were designed in a meaningful collaborative setting, with teams from schools participating in the professional growth and development and coursework, individual teachers would benefit, teacher teams would benefit, and students would benefit.

Other Findings

These recommendations also addressed findings related to the traditional teacher teams, nontraditional teacher teams, the challenges teacher teams presented, and the commitment to teacher teams needed to create teacher teams that impact student and adult learning.

Study Limited to Exemplary Teacher Teams

In the current research project, the ten schools were exemplary in that they had challenged themselves to apply for and participate in the TBVP Pilot Project (6 districts were represented in the TBVP Pilot Project from more than 350 districts in the state of Iowa). The researcher asked the principals to identify exemplary teacher teams and then asked lead teachers on the exemplary teams, if indeed, the teacher teams were exemplary. The researcher observed and interviewed the exemplary teacher teams. The ten principals acknowledged that not all their teacher teams were equally effective, and when they

identified teacher teams that were not as effective as the exemplary teacher teams, they referred to departments, grade level, and interdisciplinary teacher teams.

Exemplary Teacher Teams Did Not Include Traditional Teacher Teams

The researcher concluded the principals did not recommend the traditional teams because the exemplary teacher teams are not the traditional “tried and true” teacher teams. The traditional teacher teams have become, using the words of one exemplary teacher team, “forever” kinds of teams and they have lost their power to challenge the status quo. If teacher teams do not challenge the status quo, teacher teams will not continue to impact student achievement and student learning. Teacher teams will not provide the learning community needed for professional growth and development to transition new knowledge and skills from an inspiring presenter to teaching practices. Teacher teams will not provide the support needed for all teachers to develop the necessary teaching skills to serve all students equally well. Professional growth and development that changes the teaching practices of one or two inspired teachers is not satisfactory; it must be professional growth and development that challenges and changes the teacher practices of every single teacher in the school. The traditional teams, the departments, the grade level teams, and the interdisciplinary teams, which have been in place for decades (departments—early 1990s, grade level teams—early 1990s, and the interdisciplinary teams—the early 1980s), may have become “forever” kinds of teams. Principals also face the challenge of the nontraditional teams, the exemplary teams, becoming “forever” kinds of teams. The principals referred to the need to continue to “mix up” teacher teams as teachers retire and new teachers join the teaching staff.

Team Structure and Teacher Teams Must Be Fluid

The researcher concluded that the team structure must be fluid. The perfect solution for today, such as the Focus Group, may not be the perfect solution for tomorrow. The departments, grade level, and interdisciplinary teacher teams may have been the perfect solution at one time, and all ten principals continued to use them, but alone they are not the perfect solution for today. The nontraditional teams may seem to be the perfect structure for today, but in the future, may not be the solution. Principals must continue to explore new teacher teams, considering purpose, composition, structure and context, and developing the characteristics of teamness to provide the professional interaction teacher teams need to impact student and adult learning.

Traditional Team Structure May Be Stuck and Need “Unsticking”

The researcher concluded schools may appear to have the team structure in place that will support student and adult learning. That team structure may consist of traditional teams—the departments, the grade level teams, and the interdisciplinary teacher teams—but that team structure alone may have become the status quo and may not contribute to the collaborative change needed to increase student achievement and improve student and staff performance. The researcher found the principals in the case study schools, as well as the TBVP Pilot Project schools, used teacher teams to challenge the status quo. The status quo included the traditional departments, grade level, and interdisciplinary teacher teams. The principals were not satisfied with the traditional teacher teams and questioned the contributions of the traditional teams. The principals referred to the imbalance of input and influence of teacher team members in the departments, grade level, and interdisciplinary

teacher teams. The principals also referred to the status quo of the departments, grade level, and interdisciplinary teacher teams. According to the principals, it is the departments, grade level, and interdisciplinary teacher teams that seem to think teachers are doing “enough.” In the departments, grade level, and interdisciplinary teacher teams, the teacher teams may be doing all they “know how to do” with that particular set of constructs—purpose, composition, structure and context. The interaction, determined by the purpose, composition, structure and context, may be “stuck.” By creating new teacher teams, which changes the purpose, composition, structure and context of the teacher teams, the principals are “unsticking” the stuck teams. In fact, the new teacher teams support the traditional teacher teams. When the Focus Group team members returned to work with their grade level teams, they were no longer the same teachers. They had participated in professional growth and development as teachers and leaders, and they were no longer satisfied, like the principal, with the status quo of the grade level teams. The principals invested additional resources in the nontraditional teacher teams and the collaboration in and contributions of the nontraditional teachers outweighed the additional costs. The principals did not abandon the traditional teams, but used other teams such as the Focus Group, the Teaching and Learning Community, and the Building Leadership Team to support the traditional team structure and traditional teacher teams. The principals used nontraditional teacher teams to challenge the professional autonomy of individual teachers and traditional teacher teams. The principals valued the contributions of the nontraditional teacher teams. The researcher did not observe the traditional teams, but from the observations and the interviews of the nontraditional teams, concluded the nontraditional teams exert a great deal of influence on school-wide decisions. The Focus Group created the teaching unit, but also influenced the

decision to continue to use focus groups in the future. The Building Leadership Team created the plan that would steer the instructional programs for students and the professional growth and development of teachers. The Teaching and Learning Community, coupled with the literacy and math leadership teams, implemented the CSIP plan. The leadership teams designed the professional growth and development of teachers and developed new instructional programs for students.

“Cake and Frosting” Team Structure

Model 5B: A Model of the “Cake and Frosting” Team Structure in the TBVP Pilot Project Schools

Cake

Schools (Elementary, Middle, and High School)

Leadership Teams

Department, Interdisciplinary, and/or Grade Level Teams	Department, Interdisciplinary, and/or Grade Level Teams	Department, Interdisciplinary, and/or Grade Level Teams	Department, Interdisciplinary, and/or Grade Level Teams	Department, Interdisciplinary, and/or Grade Level Teams
---	---	---	---	---

Frosting

Grade Level Cluster Teams (teaching teams, Teaching and Learning Community teams)

Pedagogy Teams	Content Area Teams	Subject Matter Teams
----------------	--------------------	----------------------

Learning Teams	Study Teams
----------------	-------------

Focus Groups	School Improvement Teams
--------------	--------------------------

The leadership teams and the appropriate teams for the level (elementary, middle, or high school) above the dotted line represent the basic “bare bones” team structure and there is a hierarchy to the team structure with the appropriate teams for the level reporting to the leadership team; the leadership and the appropriate teams for the level could be referred to as the cake. The teams below the dotted line represent the teacher teams principals have created to address and align professional growth and development with student achievement goals. They represent the frosting on the cake. The researcher concluded that all schools may have the leadership and departments, grade level, and interdisciplinary teams in place, but not all schools have the teams created to address and align professional growth and development with student achievement goals in place. The researcher concluded that all schools should have teacher teams, such as focus groups, learning teams, Teaching and Learning Communities, and School Improvement Teams in place to address and align professional growth and development with student achievement goals. The current study only focused on exemplary schools with exemplary teams, so it would be expected that exemplary schools would have the “cake and the frosting” team structure in place. It would be assumed that not all schools have the “cake and frosting” team structure in place, and the “cake” team structure may not be enough.

The team structure is somewhat hierarchical and therefore it might be useful to think of the cake and frosting structure as an upside-down pineapple cake with the leadership team, which steers the school, and the traditional teacher teams, the departments, grade level, and interdisciplinary teams, which continue to provide vertical articulation and opportunities for communication, as the upside-down portion of the cake, and the nontraditional teams, which provide the opportunities for extended professional growth and

development, as the sticky, delicious, gooey “frosting” on the bottom of the upside-down pineapple cake.

Principals Mine the Teacher Teams; Mining is Hard Work

The researcher found these three principals worked hard to overcome the challenges teacher teams, with the requisite collaboration and communication skills needed, in order to mine the benefits of teacher teams. The researcher questions whether all principals will be willing to work as hard as these exemplary principals. Pounder (1998a, 1998b), too, found that the teacher teams created challenges for teachers and principals alike. Some principals, as well as teachers, in Pounder’s (1998a, 1998b) study were unable or unwilling to accept the challenges.

Teacher Teams Create Challenges; Contributions Outweigh Challenges

The researcher concluded that teacher teams were good for students and teachers alike, but they were a lot of work for teachers and principals. The challenges included 1) collaborative change versus maintaining status quo in schools, 2) resource gains versus costs of collaboration, 3) professional interdependence versus individual teacher independence, 4) shared influence versus shared accountability, and 5) balance of input and influence of work group members ranging from over-control to under-involvement. Pounder (1998a, 1998b) identified similar challenges.

In the current study, the researcher found the principals and the teachers believed the teacher teams outweighed the challenges. In fact, the principals used the teacher teams to combat and counteract the challenges. The teacher teams provided opportunities for collaborative change and principals sought and fought for the resources to provide the

opportunities for teachers to collaborate. The benefits outweighed the costs of collaboration. For example, the TLC met once a week while the students were involved in an interdisciplinary activity. The benefits from the team teaching and the team planning far outweighed the loss of homeroom teacher time for students. The Focus Group met during the student day and the principals arranged for substitutes to release the teachers.

Sometimes, the principal was the sole substitute. The benefits of the teaching unit and professional growth and development the teachers experienced as professionals and leaders far outweighed the costs of collaboration.

The researcher found the principals and teachers believed the professional interdependence contributed to a shared identity and challenged individual teacher autonomy. Once the team made a decision, an individual teacher could not continue to “do as he or she pleases.” The teacher team held the individual teacher accountable.

Teacher teams shared accountability for student achievement goals. Teacher teams used their resources, including their influence and input, to make decisions within the teacher teams and the school to meet student achievement goals. Communication and collaboration were necessary interpersonal process skills that teachers and their teacher teams needed to develop. The students, parents, and teachers benefited from the improved communication and collaboration skills.

Creating and coordinating teacher teams and scheduling team time were the responsibility of the principals. Initially, creating the teacher structure contributed to an increase in the complexity of the lives of principals, teachers, and teacher teams, but as the teacher teams began to function as learning communities, the complexity of the lives of teachers and teacher teams decreased. The team structure actually reduced the complexity

of schools for teachers on teacher teams and made the job of student and teacher learning more manageable for teachers and students. Initially principals were required to think outside the traditional school model of individual teachers teaching in individual classrooms and the traditional teacher teams of departments, grade levels, and interdisciplinary teacher teams. Once initiated, however, the new teacher teams contributed to a decrease in work load. Teachers were able to concentrate on student and adult learning.

Recommendations for Future Research

The researcher identified several future research projects to explore these topics. An in-depth case study of teacher teams at the middle school and high school level in the TBVP Pilot Project would allow researchers to explore teacher teams at the middle and high school level in-depth and see how they impact student achievement (student learning) and professional growth and development (adult learning).

Future research needs to determine the impact TBVP Pilot Project teacher teams have on student achievement and learning at the elementary, middle, and high school level. Dianne Chadwick's project is one such project. Other researcher projects need to address other issues related to the impact TBVP Pilot Project teacher teams have on student achievement and learning. The schools in the TBVP Pilot Project have a unique history, including the history of their involvement in the TBVP Pilot Project. Future research needs to compare schools with comparable student achievement trajectories. Chadwick's project (unpublished) compared comparable schools in size and location. Future research needs to compare schools with comparable student achievement trajectories. The TBVP Pilot

Project required schools in their second year, as opposed to schools in their first year, to increase their student achievement goals. Schools in their third year, as opposed to schools in their second and first year, will have student achievement goals that exceed the trajectory. Future research needs to determine how to find comparable schools and compare not only their teacher team structure, but also compare their effectiveness using comparable measures.

Future research needs to study in-depth teacher teams at the elementary, middle and high school levels, which are not in the TBVP Pilot Project. The schools in the TBVP Pilot Project needed a team to qualify for the pilot project. It is unknown if the team structures are unique to TBVP Pilot Project schools. The Teacher Quality legislation requires certain teams to be in place in all Iowa schools. It is unknown what role these teacher teams play and how they impact student achievement (student learning) and professional growth and development (adult learning). Future research could then determine the impact these teacher teams in schools that are not in the TBVP Pilot Project have on student achievement and learning at the elementary, middle, and high school level.

Future research needs to determine the strategies principals use to promote teacher teams at the middle school and high school levels in the TBVP Pilot Project schools. It is unknown if the strategies of the principals in the elementary schools are unique to elementary schools or if they are strategies principals use at all three levels. In addition, future research needs to determine the strategies principals use to promote teacher teams at the elementary school, middle schools and high school levels in schools, which are not in the TBVP Pilot Project.

Future research needs to compare the strategies principals use to promote teacher teams to see what strategies are used at all three levels and what strategies are unique to levels. From there, future research would need to determine which strategies that are used are effective and which strategies are not effective. If there are strategies that are unique to one level, future research needs to determine if those strategies are effective and if they would translate to other levels.

With a similar case study at the middle school and high school level, researchers would be able to determine the strategies teacher teams use to promote student achievement and professional growth and development at the middle school and high school levels in the TBVP Pilot Project schools to see if they are comparable to the strategies the teacher teams and principals used at the elementary level.

With a similar study at the elementary, middle, and high school levels in schools, not in the TBVP Pilot Project, researchers would be able to determine the strategies teacher teams use to promote student achievement and professional growth and development in the schools at all three levels to see if they are comparable to the strategies the teacher teams and principals used in the TBVP Pilot Project. Researchers would be able to determine which strategies are most effective in promoting student achievement and professional growth and development. Researchers would be able to compare the strategies teacher teams use to promote student achievement and professional growth and development at the three levels to see if there are strategies that are unique to one level and if so are the strategies effective and would they translate to the other levels.

It is assumed that the TBVP Pilot Project schools are high performing schools. The researcher would recommend that future research be conducted to determine which schools

are high performing schools and then conduct an in-depth case study of the teacher teams at the high performing schools with students with diverse needs at the elementary school, middle school, and high school levels. It is unknown if the schools in the TBVP Pilot Project are high performing school, so it would be important to determine which schools are high performing and then see what teacher teams are in place, what roles they play, and how they impact student achievement (student learning) and professional growth and development (adult learning). Three of the schools in the TBVP Pilot Project are suburban schools and may be high performing teams due to factors that do not include teacher teams. It would be important to identify high performing schools in urban areas and rural areas and explore the teacher teams and their relationship with student achievement (student learning) and professional growth and development (adult learning). It would also be important to identify high performing suburban schools and see if teacher teams exist in all the high performing suburban schools or not. Likewise, future research needs to be conducted focusing on low performing schools

Lastly, future research needs to determine the strategies teacher teams use to promote student achievement and professional growth and development at the elementary school, middle school, and high school levels and see if the strategies used to promote student achievement are the same strategies as those used to promote professional growth and development or if the strategies are unique. It would appear that any strategy that supports professional growth and development would, in turn, support student achievement. It is unknown if strategies that support student achievement also support professional growth and development. For example, using student achievement to make instructional decisions supports student achievement. It also supports professional growth and

development in that teachers learn how to use student achievement data to make decisions. It is unknown if this strategy, the use of student achievement to make instructional decisions, is unique or if all strategies that promote student achievement support professional growth and development and if all strategies that support professional growth and development support student achievement.

Iowa's Team-Based Variable Pay Pilot Project was revolutionary in that it recognized the teacher team in its name. The current research confirmed the importance of the team structure and the teacher teams in promoting student achievement (student learning) and professional growth and development (adult learning). Teachers valued the increased cooperation, collaboration, communication, and shared commitment and principals credited the increased cooperation, collaboration, communication, and shared commitment to the teacher teams.

The researcher concluded that the teacher teams were very important in the TBVP Pilot Project schools. Iowa was ingenious in naming its alternative teacher compensation plan "Team-Based Variable Pay." Its name represented more than just a name. Teacher teams were not only the heart and soul of the TBVP Pilot Project, they were one of the most effective strategies to improve student and teacher learning.

Team-Based Variable Pay Pilot Project

Iowa's legislators need to continue to fund the TBVP Pilot Project to continue to explore the role the teacher teams play at all three levels in promoting student achievement and professional growth and development. The principals in the TBVP Pilot Project schools and the non-TBVP Pilot Project schools need to know more about the pilot project.

There is very little information regarding the pilot project and it is not promoted. And more importantly, principals in the TBVP Pilot Project schools and the non-TBVP Pilot Project schools alike need to know more about teacher teams and how to create teacher teams that fulfill the promise of teacher teams. The traditional team structure alone is “not enough;” nor are departments, grade level, and interdisciplinary teams “enough.” Principals need to know more about teacher teams in order to create, and recreate as needed, teacher teams that serve student and adult needs until every child is successful and every teacher is effective.

In order to fulfill the promise of “*No Child Left Behind*” and the Teacher Quality legislation, principals need to know everything there is to know about teacher teams. Principals are scrambling to meet state trajectories and may experience short-term student achievement gains. To sustain those short-term gains and experience long-term gains, principals, teachers, and schools need a team structure in place that contributes to long-term gains and supports student achievement and adult learning.

APPENDIX A: HUMAN SUBJECTS APPROVAL

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institutional Review Board
Office of Research Compliance
Vice Provost for Research and
Advanced Studies
2810 Beardshear Hall
Ames, Iowa 50011-2036
515 294-4566
FAX 515 294-7288

TO: Sarah Sebring Binder

FROM: Ginny Austin, IRB Coordinator

RE: IRB ID # 04-057

DATE REVIEWED: February 3, 2004

The project, *"The Importance of the Team Structure in Iowa Team-Based Variable Pay Pilot Project Schools"* regulations as described in 45 CFR 46.101(b)(2).

(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

To be in compliance with ISU's Federal Wide Assurance through the Office of Human Research Protections (OHRP) all projects involving human subjects, must be reviewed by the Institutional Review Board (IRB). Only the IRB may determine if the project must follow the requirements of 45 CFR 46 or is exempt from the requirements specified in this law. Therefore, all human subject projects must be submitted and reviewed by the IRB.

Because this project is exempt it does not require further IRB review and is exempt from the Department of Health and Human Service (DHHS) regulations for the protection of human subjects.

We do, however, urge you to protect the rights of your participants in the same ways that you would if IRB approval were required. This includes providing relevant information about the research to the participants. Although this project is exempt, you must carry out the research as proposed in the IRB application, including obtaining and documenting (signed) informed consent, if applicable to your project.

Any modification of this research should be submitted to the IRB on a Continuation and/or Modification form to determine if the project still meets the Federal criteria for exemption. If it is determined that exemption is no longer warranted, then an IRB proposal will need to be submitted and approved before proceeding with data collection.

cc: ELPS
Donald Hackman

Do not make the payment an inducement, only a compensation for expenses and inconvenience. If a person is to receive money or another token of appreciation for their participation, explain when it will be given and any conditions of full or partial payment. (E.g., volunteers will \$5.00 for each of the five visits in the study or a total of \$25.00 if he/she completes the study. If the subject withdraws from participation, they will receive \$5.00 for each of the visits completed.) It is considered undue influence to make completion of the study the basis for compensation.

N/A

PART L: CONFIDENTIALITY

- 1) Describe below the methods you will use to ensure the confidentiality of data obtained (e.g., who has access to the data, where the data will be stored, security measures for web-based surveys and computer storage, how long data (specimens) will be retained, etc.)

The participants in the case study will be assigned pseudonyms. The principals, schools, lead teachers, teacher teams, and teacher team members will be referred to by pseudonyms. The data will be reported as group data, not as individual schools/ individual principals/ individual teachers. The principal investigator will be the only person with access to the tapes. The individuals (principals, teachers) will receive a typed copy of the transcripts from participation observations and interviews, with identifying information removed, and be asked to review the transcripts for any inaccuracies. The principal investigator will keep the tapes and the transcripts. The principal investigator will type the transcripts. The individuals (principals, teachers) will have an opportunity to conduct a member check before the final report is submitted.

Checklist for Attachments

The following are attached (please check ones that are applicable):

- ☒ X A copy of the informed consent document OR ☐ Letter of information with elements of consent to subjects
☐ A copy of the assent form if minors will be enrolled
☐ Letter of approval from cooperating organizations or institutions allowing you to conduct research at their facility
☒ X Data-gathering instruments (including surveys)
☒ X Recruitment fliers or any other documents the subjects will see

Two sets of materials should be submitted for each project – the original signed copy of the application form, one copy and two sets of accompanying materials. Federal regulations require that one copy of the grant application or proposal must be submitted for comparison.

FOR IRB USE ONLY:

Initial action by the Institutional Review Board (IRB):

- ☒ Project approved. Date: 2/3/04 04-057
☐ Pending further review. Date: _____
☐ Project not approved. Date: _____

Follow-up action by the IRB:

Rich Sharp
 IRB Approval Signature

2/3/04
 Date

Review Date: _____	IRB ID: _____
Approval Date: _____	Length of Approval: _____
Approval Expiration Date: _____	FULL Committee Review: _____
EXEMPT per 45 CFR 46.101(b): _____ Date: _____	Minimal Risk: _____
EXPEDITED per 45 CFR 46.110(b) _____	More than Minimal Risk: _____
Category _____, Letter _____	Project Closed Date: _____

ISU NEW HUMAN SUBJECTS RESEARCH FORM

SECTION I: GENERAL INFORMATION

Principal Investigator (PI): Sarah Sebring Binder		Phone: (515) 292-6343	Fax: (515) 838-1938
Degrees: BA, MA	Correspondence Address: 1427 Kentucky Avenue Ames, IA 50014		
Department: ELPS	Email Address: bfbinder@isunet.net		
Center/Institute:	College:		
PI Level: <input type="checkbox"/> Faculty <input type="checkbox"/> Staff <input type="checkbox"/> Postdoctoral <input checked="" type="checkbox"/> Graduate Student <input type="checkbox"/> Undergraduate Student			

Title of Project: The Importance of the Team Structure in Iowa Team-Based Variable Pay Pilot Project Schools
Project Period (Include Start and End Date): [mm/dd/yy][02/14/04] to [mm/yy/dd][02/14/05]

FOR STUDENT PROJECTS	
Name of Major Professor/Supervising Faculty: Dr. Donald Hackmann	Signature of Major Professor/Supervising Faculty:
Phone: (515)294-4871	Campus Address: N229d L'Marcino
Department: ELPS	Email Address: dhackmann@iastate.edu
Type of Project: (check all that apply)	
<input type="checkbox"/> Research <input type="checkbox"/> Thesis <input checked="" type="checkbox"/> Dissertation <input type="checkbox"/> Class project	
<input type="checkbox"/> Independent Study (490, 590, Honors project) <input type="checkbox"/> Other. Please specify:	

KEY PERSONNEL

List all members of the research team including the principal investigator, his/her degrees, their position at ISU (or other organization) and role on the project, their training and most recent date of their training if known. Please use additional space as necessary. For projects involving animals, please include the veterinary, animal caretakers and technical staff. For projects involving human subjects, please include anyone who will have contact with the subjects.

NAME & DEGREE(S)	POSITION AT ISU & ROLE/SPECIFIC DUTIES ON PROJECT	TRAINING & DATE OF TRAINING
<i>e.g., John Jones, MD, PHD</i>	<i>M.D. at Mary Greeley Medical Center, Co-Principal Investigator. For animal studies please list specific duties, e.g. will perform surgery, will perform blood draws, responsible for animal care, will perform biopsies, daily monitoring. etc.</i>	<i>ISU Human Subject Training, 10/15/02; Radiation Safety Training, 10/01/02; Blood Borne Pathogen Training, 11/13/02; Eleven years of laboratory use of blood borne pathogens.</i>
1. Sarah Binder, BA, MA	PhD Student, Principal Investigator	ISU Human Subject Training, 9/30/01
2. Dr. Donald Hackmann	Associate Professor, ISU, Major Professor	

FUNDING INFORMATION

If internally funded, please provide account number: N/A
If externally funded, please provide funding source and account number: N/A.
If funding is pending please provide OSPA Record ID on GoldSheet: N/A
Title on GoldSheet if Different Than Above: N/A
Other: <i>e.g., funding will be applied for later.</i> N/A

SCIENTIFIC REVIEW

Although the compliance committees are not intended to conduct peer review of research proposals, the federal regulations include language such as "consistent with sound research design," "rationale for involving animals or humans" and "scientifically valuable research," which requires that the committees consider in their review the general scientific relevance of a research study. Proposals that do not meet these basic tests are not justifiable and cannot be approved. If a compliance review committee(s) has concerns about the scientific merit of a project and the project was not competitively funded by peer review or was funded by corporate sponsors, the project may be referred to a scientific review committee. The scientific review committee will be ad hoc and will consist of your ISU peers and outside experts as needed. If this situation arises, the PI will be contacted and given the option of agreeing that a consultant may be contacted or withdrawing the proposal from consideration.

☒X Yes ☐ No Has or will this project receive peer review?

If the answer is "yes," please indicate who did or will conduct the review: Program of Studies Committee Participants, Dianne Chadwick, Iowa Department of Education

If a review was conducted, please indicate the outcome of the review:

NOTE: RESPONSE CELLS WILL EXPAND AS YOU TYPE AND PROVIDE SUFFICIENT SPACE FOR YOUR RESPONSE.

COLLECTION OR RECEIPT OF SAMPLES

Will you be: (Please check all the apply.)

☐ Yes ☒X No Receiving samples from outside of ISU? See examples below.
☐ Yes ☒X No Sending samples outside of ISU? See examples below.

Examples include: genetically modified organisms, body fluids, tissue samples, blood samples, pathogens.

If you will be receiving samples from or sending samples outside of ISU, please identify the name of the outside organization(s) and the identity of the samples you will be sending or receiving outside of ISU:

--

Please note that some samples may require a USDA Animal Plant Health Inspection Service (APHIS) permit, a USPHS Centers for Disease Control and Prevention (CDC) Import Permit for Etiologic Agents, a Registration for Select Agents, High Consequence Livestock Pathogens and Toxins or Listed Plant Pathogens, or a Material Transfer Agreement (MTA) (<http://www.ehs.iastate.edu/bs/shipping.htm>).

STUDY OBJECTIVES

Briefly explain in language understandable to a layperson the specific aim(s) of the study.

Research Compliance 04/10/03

The study will explore the importance and the quality of teacher participating in the team structure in Iowa Team-Based Variable Pay (TBVP) Pilot Project schools. A survey will be conducted with the ten principals of the schools participating in the TBVP Pilot Project. The results of the survey will be used to determine a limited number of teacher teams and principals (1-3 schools) that will be asked to participate in the case study. The qualitative case study will consist of three participant observations of the teacher teams on-site. The principals of the participating schools in the case study will be interviewed as members of the teacher teams. The principals will also be individually interviewed on-site.

BENEFIT

Explain in language understandable to a layperson how the information gained in this study will benefit participants or the advancement of knowledge, and/or serve the good of society.

Principals and teachers in public schools will have a better understanding of how to establish teacher teams if they do not exist in their schools, how to utilize existing teaming structures if they do exist, how to use them to promote student achievement, and how to utilize them to promote professional growth and development (adult learning). The Iowa Department of Education will have a better understanding of how to assist principals and teacher teams to meet the state Teacher Quality legislation and the No Child Left Behind federal legislation. Interested researchers will have a better understanding of the importance of team structure in Iowa Team-Based Variable Pay alternative teacher compensation model and similar alternative teacher compensation models.

ASSURANCE

- I certify that the information provided in this application is complete and accurate and consistent with any proposal(s) submitted to external funding agencies.
- I agree to provide proper surveillance of this project to ensure that the rights and welfare of the human subject or welfare of animal subjects are protected. I will report any problems to the appropriate compliance review committee(s).
- I agree that I will not begin this project until receipt of official approval from all appropriate committee(s).
- I agree that modifications to the originally approved project will not take place without prior review and approval by the appropriate committee(s), and that all activities will be performed in accordance with all applicable federal, state, local and Iowa State University policies.

CONFLICT OF INTEREST

A conflict of interest can be defined as a set of conditions in which an investigator's or key personnel's judgment regarding a project (including human or animal subject welfare, integrity of the research) may be influenced by a secondary interest (e.g., the proposed project and/or a relationship with the sponsor). ISU's Conflict of Interest Policy requires that investigators and key personnel disclose any significant financial interests or relationships that may present an actual or potential conflict of interest. By signing this form below, you are certifying that all members of the research team, including yourself, have read and understand ISU's Conflict of Interest policy as addressed by the ISU Faculty Handbook (<http://www.provost.iastate.edu/faculty>.) and have made all required disclosures.

- ☐ Yes ☒ No Do you or any member of your research team have an actual or potential conflict of interest?
☐ Yes ☐ No If yes, have the appropriate disclosure form(s) been completed?

SIGNATURES

Signature of Principal Investigator

Date

Signature of Department Chair

Date

PLEASE NOTE: Any changes to an approved protocol must be submitted to the appropriate committee(s) before the changes may be implemented.

Please proceed to SECTION II.

SECTION II: ENVIRONMENTAL HEALTH AND SAFETY INFORMATION

- ☐ Yes ☒ No Does this project involve human cell or tissue cultures (primary OR immortalized), or human blood components, body fluids or tissues? If the answer is "no", please proceed to SECTION III: APPLICATION FOR IRB APPROVAL. If the answer is "yes," please proceed to Part A: Human Cell Lines.

PART A: HUMAN CELL LINES

- ☐ Yes ☒ No Does this project involve human cell or tissue cultures (primary OR immortalized cell lines/strains) that have been documented to be free of bloodborne pathogens? If the answer is "yes," please attach copies of the documentation. If the answer is "no," please answer question 1 below.

- 1) Please list the specific cell lines/strains to be used, their source and description of use.

CELL LINE	SOURCE	DESCRIPTION OF USE

- 2) Please refer to the ISU "Bloodborne Pathogens Manual," which contains the requirements of the OSHA Bloodborne Pathogens Standard. Please list the specific precautions to be followed for this project below (e.g., retractable needles used for blood draws):

--

Anyone working with human cell lines/strains that have not been documented to be free of bloodborne pathogens is required to have Bloodborne Pathogen Training annually. Current Bloodborne Pathogen Training dates must be listed in Section I for all Key Personnel. Please contact Environmental Health and Safety (294-5359) if you need to sign up for training and/or to get a copy of the Bloodborne Pathogens Manual (<http://www.ehs.iastate.edu/bs/bbp.htm>).

PART B: HUMAN BLOOD COMPONENTS, BODY FLUIDS OR TISSUES

- ☐ Yes ☒ No Does this project involve human blood components, body fluids or tissues? If "yes", please answer all of the questions in the "Human Blood Components, Body Fluids or Tissues" section.

- 1) Please list the specific human substances used, their source, amount and description of use.

SUBSTANCE	SOURCE	AMOUNT	DESCRIPTION OF USE
<i>E.g., Blood</i>	<i>Normal healthy volunteers</i>	<i>2 ml</i>	<i>Approximate quantity, assays to be done.</i>

- 2) Please refer to the ISU "Bloodborne Pathogens Manual," which contains the requirements of the OSHA Bloodborne Pathogens Standard. Specific sections to be followed for this project are:

Anyone working with human blood components, body fluids or tissues is required to have Bloodborne Pathogen Training annually. Current Bloodborne Pathogen Training dates must be listed in Section I for all Key Personnel. Please contact Environmental Health and Safety (294-5359) if you need to sign up for training and/or to get a copy of the Bloodborne Pathogens Manual (<http://www.ehs.iastate.edu/bs/bbp.htm>).

FOR ENVIRONMENTAL HEALTH AND SAFETY USE ONLY

Signature of Biological Safety Officer

Date

Please proceed to Section III.

SECTION III: STUDY SPECIFIC INFORMATION**PART A: PROJECT INVOLVEMENT**

- 1) ☐ Yes ☒ No Is this project part of a Training, Center, Program Project Grant?
 Director Name:
 Overall IRB ID:
- 2) ☐ Yes ☒ No Is the purpose of this project to develop survey instruments?
 3) ☐ Yes ☒ No Does this project involve an investigational new drug (IND)? Number:
 4) ☐ Yes ☒ No Does this project involve an investigational device exemption (IDE)? Number:
 5) ☐ Yes ☒ No Does this project involve existing data or records?
 6) ☐ Yes ☒ No Does this project involve secondary analysis?
 7) ☐ Yes ☒ No Does this project involve pathology or diagnostic specimens?
 8) ☐ Yes ☒ No Does this project require approval from another institution? Please attach letters of approval.

PART B: MEDICAL HEALTH INFORMATION OR RECORDS

- 1) ☐ Yes ☒ No Does your project require the use of a health care provider's records concerning past, present, or future physical, dental, or mental health information about a subject? The Health Insurance Portability and Accountability Act established the conditions under which protected health information may be used or disclosed for research purposes. If your project will involve the use of any past or present clinical information about someone, or if you will add clinical information to someone's treatment record (electronic or paper) during the study you must complete and submit the Application for Use of Protected Health Information.

PART C: ANTICIPATED ENROLLMENT

Number of Subjects Total: <u>40</u> Males: <u>10</u> Females: <u>30</u>	
Check if any enrolled subjects are: <input type="checkbox"/> 0 Minors (Under 18) Age Range of Minors: _____ <input type="checkbox"/> 0 Pregnant Women/Fetuses <input type="checkbox"/> 0 Cognitively Impaired <input type="checkbox"/> 0 Prisoners	Check below if this project involves either: <input checked="" type="checkbox"/> X Adults, non-students <input type="checkbox"/> Minor ISU students <input type="checkbox"/> ISU students 18 and older <input type="checkbox"/> Other (explain) _____
List Estimated Percent of the Anticipated Enrollment that will be Minorities:	
American Indians: <u>5</u>	Alaskan Native: <u>0</u>
Asian or Pacific Islander: <u>5</u>	Black or African American: <u>10</u>
Latino: <u>5</u>	Hispanic: <u>5</u>

PART D: SUBJECT SELECTION

Please use additional space as necessary to adequately answer each question.

- 1) Describe procedures for identifying subjects (e.g., ads, fliers, word of mouth, email list, etc.)

The ten principals and schools are participants in the Team-Based Variable Pay Pilot Project (Iowa Department of Education). The lead teachers teach in the ten schools. The teacher teams exist in the ten schools.

- 2) Attach a copy of any recruitment material such as ad, fliers, e-mail messages, etc.
- 3) How will the subjects be selected? (e.g., where will the names come from?)

All of the ten principals in the Team-Based Variable Pay Pilot Project schools (Iowa Department of Education) will be asked to complete a telephone survey. Upon completion of the survey and identification of a smaller number of 4-5 schools that report the most effective use of a teaming structure, the researcher will contact the lead teachers and confirm the information provided by the principals. Based on the information provided by the principals and the lead teachers, the researcher will select a limited number of teacher teams (purposeful sampling) to participate in the case study (1-3 schools of the ten schools).

- 4) Please list the inclusion/exclusion for subject selection and include an explanation.

The principals, teachers, and teacher teams who are participants in the Team-Based Variable Pay Pilot Project (Iowa Department of Education) will be included. Principals, teachers, and teacher teams who are not participants in the Team-Based Variable Pay Pilot Project (Iowa Department of Education) will not be included. Participants in the qualitative study of 1-3 schools will be selected based upon criteria that indicate characteristics of effective teaming structures within schools.

Please answer each question. If the question does not pertain to this study, please type not applicable (N/A).

PART E: RESEARCH PLAN

Include sufficient detail for IRB review of this project independent of the grant, protocol, or other documents.

- 1) Describe study procedures to which subjects will be exposed (e.g. for blood draws, include frequency and amount, who will be drawing the blood and their training).

The researcher will contact the principals and conduct a telephone survey. The principals will have a copy of the questions the researcher will ask. The principals will be asked to name a lead teacher on an effective teacher team. The researcher will contact the lead teachers by telephone to confirm the responses of the principals. The researcher will use purposeful sampling to select a limited number of teacher teams to participate in the case study (1-3 schools). The case study will consist of three participant observations at teacher team meetings during which time the researcher will record the discussion electronically (verbal) and use field notes to record the interaction among the teachers (nonverbal). The teacher teams and the principals will be asked to participate in a member check to confirm the accuracy of the participant observations. The principals will also be interviewed on-site.

- 2) For studies involving pathology/diagnostic specimens, indicate whether specimens will be collected prospectively and/or already exist "on the shelf" at the time of submission of this review form. If prospective, describe specimen procurement procedures; indicate whether any additional medical information about the subject is being gathered, and whether specimens are linked at any time by code number to the subject's identity.

N/A

- 3) For studies involving deception, please justify the deception and indicate the debriefing procedure, including the timing and information to be presented to subjects.

N/A

PART F: CONSENT PROCESS

- 1) Explain how the subjects will be contacted (*e.g., letter, phone, email, in person, etc.*) If the subjects are under 18, include how the parents or guardians will be approached as well.

The principals will be contacted by telephone. The principals will also receive a follow-up letter outlining the research project with a list of questions for the telephone survey. The researcher will conduct the telephone survey. Principals will be asked to identify lead teachers on teacher teams. The lead teachers will be contact by telephone to confirm the principals' responses. The researcher will use the information provided by the principals and the lead teachers to conduct purposeful sampling to select a limited number of teacher teams for the case study (1-3 schools). The researcher will contact the principals, and the lead teachers on the teacher teams, to arrange the three participant observations. The researcher will also arrange an on-site interview with the principals of the teacher teams in the case study.

- 2) Describe how informed consent will be obtained (*e.g., who will contact the subjects, how many times, etc.*) Describe in detail the entire consent process.

The researcher will contact the principals initially to explain the project and ask for informed consent. The researcher will send the principals a copy of the informed consent form and the questions. The researcher will arrange a time for the telephone survey. The researcher will conduct the telephone survey and ask the principals to provide the names of lead teachers. The researcher will send the lead teachers a copy of the informed consent form and the questions. The researcher will contact the lead teachers by telephone to confirm the responses of the principals. Using purposeful sampling, the researcher will select a limited number of teacher teams to participate in the case study (1-3 schools). The members of the selected teacher teams, the principals and the teachers, will be asked for informed consent to participate in the case study, which will consist of three participation observations of team meetings (approximately one hour per meeting), including a member check. The researcher will also arrange an on-site interview with the principals of the teacher teams in the case study (approximately one hour).

PART G: CONSENT AND ASSENT PROCESS FOR ENROLLING MINORS

- 1) If your study involves minors, please explain how parental consent will be obtained prior to enrollment of the minor(s).

N/A

- 2) Please explain how assent will be obtained from minors, prior to their enrollment. Also, please explain if the assent process will be documented (*e.g., a simplified version of the consent form, combined with the consent document*). "Assent" according to the federal regulations "...means a child's affirmative agreement to participate in research. Mere failure to object should not, absent affirmative agreement, be construed as assent."

N/A

PART H: DATA ANALYSIS

- 1) Describe how the data will be analyzed (*e.g., statistical package, statistical evaluation, statistical measures used to evaluate results*)

This is a qualitative study. The three teacher team meetings and the principal interviews will be audio taped. The meetings and interview data then will be transcribed. The transcriptions will be coded and analyzed for emerging themes based on grounded theory.

- 2) If applicable, please indicate the anticipated date that identifiers will be removed from completed survey instruments and/or audio or visual tapes will be erased:

02/14/05 _____
Month/Day/Year

PART I: BENEFITS

- 1) Describe if there will be a benefit to the subject or if the benefit is to society. Please note that compensation is not a benefit according to the federal regulations.

The benefit to principals, teachers, and teacher teams in the research project and the Iowa Team-Based Variable Pay Pilot Project will be to have a better understanding of how teacher teams can be established if they do not exist in schools, how existing team structure and teacher teams can be utilized, how teacher teams can positively impact student achievement (student learning), and how teacher teams can positively impact professional growth and development (adult learning). The benefit to all interested principals, teacher, and teacher teams, including those who are not involved in the research project and the Iowa Team-Based Variable Pay Pilot Project, will be to have a better understanding of how teacher teams can be established if they do not exist in schools, how existing team structure and teacher teams can be utilized, how teacher teams can positively impact student achievement (student learning), and how teacher teams can positively impact professional growth and development (adult learning). The benefit to the Iowa Department of Education will be to better understand the importance of the team structure and the teacher teams in Team-Based Variable Pay, one model of alternative teacher compensation. The benefit to interested researchers will be to better understand the importance of the team structure and the teacher teams in school wide (team) performance based alternative teacher compensation.

PART J: RISKS

The concept of risk goes beyond physical risk and includes risks to subjects' dignity and self-respect as well as psychological, emotional, legal, social or financial risk.

- 1) ☐ Yes ☒ No Is the *probability* of the harm or discomfort anticipated in the proposed research greater than that encountered ordinarily in daily life or during the performance of routine physical or psychological examinations or tests?
- 2) ☐ Yes ☒ No Is the *magnitude* of the harm or discomfort greater than that encountered ordinarily in daily life, or during the performance of routine physical or psychological examinations or tests?
- 3) Describe any risks or discomforts to the subjects and how they will be minimized and precautions taken.

The participants in the case study will be asked to use pseudonyms. The principals, schools, lead teachers, teacher teams, and teacher team members will be referred to by pseudonyms.

- 4) If this study involves vulnerable populations, including minors, pregnant women, prisoners, educationally or economically disadvantaged, what additional protections will be provided to minimize risks?

This study does not involve vulnerable populations.

PART K: COMPENSATION

- 1) ☒ No ☐ Yes Will subjects receive compensation for their participation? If yes, please explain.
Research Compliance 04/10/03

Do not make the payment an inducement, only a compensation for expenses and inconvenience. If a person is to receive money or another token of appreciation for their participation, explain when it will be given and any conditions of full or partial payment. (E.g., volunteers will \$5.00 for each of the five visits in the study or a total of \$25.00 if he/she completes the study. If the subject withdraws from participation, they will receive \$5.00 for each of the visits completed.) It is considered undue influence to make completion of the study the basis for compensation.

N/A

PART L: CONFIDENTIALITY

- 1) Describe below the methods you will use to ensure the confidentiality of data obtained (e.g., who has access to the data, where the data will be stored, security measures for web-based surveys and computer storage, how long data (specimens) will be retained, etc.)

The participants in the case study will be assigned pseudonyms. The principals, schools, lead teachers, teacher teams, and teacher team members will be referred to by pseudonyms. The data will be reported as group data, not as individual schools/ individual principals/ individual teachers. The principal investigator will be the only person with access to the tapes. The individuals (principals, teachers) will receive a typed copy of the transcripts from participation observations and interviews, with identifying information removed, and be asked to review the transcripts for any inaccuracies. The principal investigator will keep the tapes and the transcripts. The principal investigator will type the transcripts. The individuals (principals, teachers) will have an opportunity to conduct a member check before the final report is submitted.

Checklist for Attachments

The following are attached (please check ones that are applicable):

- ☒ X A copy of the informed consent document OR ☐ Letter of information with elements of consent to subjects
☐ A copy of the assent form if minors will be enrolled
☐ Letter of approval from cooperating organizations or institutions allowing you to conduct research at their facility
☒ X Data-gathering instruments (including surveys)
☒ X Recruitment fliers or any other documents the subjects will see

Two sets of materials should be submitted for each project – the original signed copy of the application form, one copy and two sets of accompanying materials. Federal regulations require that one copy of the grant application or proposal must be submitted for comparison.

FOR IRB USE ONLY:

Initial action by the Institutional Review Board (IRB):

- ☐ Project approved. Date: _____
☐ Pending further review. Date: _____
☐ Project not approved. Date: _____

Follow-up action by the IRB:

IRB Approval Signature _____

Date _____

Research Compliance 04/10/03

Informed Consent Documents—Case Study

INFORMED CONSENT DOCUMENT

Title of Study: The importance of the team structure in Iowa Team-Based Variable Pay Pilot Project Schools

Investigators: Sarah Sebring Binder, BA, MA

This is a research study. Please take your time in deciding if you would like to participate. Please feel free to ask questions at any time.

INTRODUCTION

The purpose of this study is to explore the importance the team structure in Iowa Team-Based Variable Pay (TBVP) Pilot Project schools. A survey will be conducted with the ten principals of the schools in the TBVP Pilot Project. The results of the survey will be used to determine a limited number of teacher teams and principals that will be asked to participate in the case study (1-3 schools). The case study will consist of three participant observations of the teacher teams. The principals of the schools with the teacher teams in the case study will also be interviewed on-site.

You are being invited to participate in this study because your principal identified you as one of the effective teacher teams in your school. A lead teacher on your teacher team confirmed the information the principal provided about your teacher team. Your school is being invited to participate in the study because your school is one of the ten schools in the Team-Based Variable Pay Pilot Project.

DESCRIPTION OF PROCEDURES

If you agree to participate in this study, the time frame will be four months and your participation will involve three visits to your school to conduct participation observations of teacher teams. During the study you may expect the following study procedures to be followed. The information provided by the principal and the lead teacher at your school will be used to conduct purposeful sampling to select a limited number of teacher teams for the case study (1-3 schools). The case study will consist of three participant observations where the researcher will observe three teacher team meeting. As a member of your teacher team, you will be asked to conduct a member check to make sure the transcripts of the teacher team meetings and the interviews are accurate.

Audio recordings will be used during the participant observations and the interviews. The audio recording will be used to transcribe the meetings and interviews. The audio recordings will be erased by February 14, 2006.

During the telephone survey and the on-site interview, you may skip any question that you do not wish to answer or that makes you feel uncomfortable.

RISKS

While participating in this study you may experience the following risks: privacy issues. You will be asked to use a pseudonym. There are no other foreseeable risks at this time from participating in this study.

BENEFITS

If you decide to participate in this study there may be no direct benefit to you. It is hoped that the information gained in this study will benefit society, Principals, teachers, and teacher teams will have a better understanding of how to establish teacher teams if they do not exist, how to utilize existing team structure and teacher teams, how to use them to promote student achievement, and how to use them to promote professional growth and development (adult learning). The Iowa Department of Education will have a better understanding of how to help principals and teacher teams to meet the Teacher Quality state legislation and the No Child Left Behind federal legislation. Interested researchers will have a better understanding of the importance of the team structure in Team-Based Variable Pay Pilot Project schools, the Iowa alternative teacher compensation model, and like alternative teacher compensation models.

ALTERNATIVES TO PARTICIPATION**COSTS AND COMPENSATION**

You will not have any costs from participating in this study except for your time. You will not be compensated for participating in this study.

PARTICIPANT RIGHTS

Your participation in this study is completely voluntary and you may refuse to participate or leave the study at any time. If you decide to not participate in the study or leave the study early, it will not result in any penalty or loss of benefits to which you are otherwise entitled.

RESEARCH INJURY**CONFIDENTIALITY**

Records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. However, federal government regulatory agencies and the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy your records for quality assurance and data analysis. These records may contain private information.

To ensure confidentiality to the extent permitted by law, the following measures will be taken. You will be asked to use a pseudonym and your pseudonym will be used on forms instead of

your name. Identifiers will not be kept with the data. The principal investigator will have access to study records and they will be kept confidential in a locked filing cabinet and on computer disks. The data will be retained until February 14, 2006 before erasure. If the results are published, your identity will remain confidential.

QUESTIONS OR PROBLEMS

You are encouraged to ask questions at any time during this study. For further information about the study contact Sarah Sebring Binder (515-292-6343); Dr. Donald Hackmann (515-294-4871); Diane Chadwick (515-281-3436). If you have any questions about the rights of research subjects or research-related injury, please contact the Human Subjects Research Office, 2810 Beardshear Hall, (515) 294-4566; austingr@iastate.edu or the Research Compliance Officer, Office of Research Compliance, 2810 Beardshear Hall, (515) 294-3115; dament@iastate.edu

SUBJECT SIGNATURE

Your signature indicates that you voluntarily agree to participate in this study, that the study has been explained to you, that you have been given the time to read the document and that your questions have been satisfactorily answered. You will receive a copy of the signed and dated written informed consent prior to your participation in the study.

Subject's Name (printed) _____

(Subject's Signature)

(Date)

INVESTIGATOR STATEMENT

I certify that the participant has been given adequate time to read and learn about the study and all of their questions have been answered. It is my opinion that the participant understands the purpose, risks, benefits and the procedures that will be followed in this study and has voluntarily agreed to participate.

(Signature of Person Obtaining
Informed Consent)

(Date)

Informed Consent Documents—Lead Teacher

INFORMED CONSENT DOCUMENT

Title of Study: The importance of the team structure in Iowa Team-Based Variable Pay Pilot Project Schools

Investigators: Sarah Sebring Binder, BA, MA

This is a research study. Please take your time in deciding if you would like to participate. Please feel free to ask questions at any time.

INTRODUCTION

The purpose of this study is to explore the importance of the team structure in Iowa Team-Based Variable Pay (TBVP) Pilot Project schools. A survey will be conducted with the ten principals of the schools in the TBVP Pilot Project. The results of the survey will be used to determine a limited number of teacher teams and principals that will be asked to participate in the case study. The case study will consist of three participant observations of the teacher teams. The principals of the schools with the teacher teams in the case study will also be interviewed on-site.

You are being invited to participate in this study because you are the teacher your principal at your school identified as one of the lead teachers on your teacher team in your school. Your school is being invited to participate in the study because your school is one of the ten schools in the Team-Based Variable Pay Pilot Project.

DESCRIPTION OF PROCEDURES

If you agree to participate in this study, the time frame will be four months and your participation will involve one telephone interview where you will be asked to describe your teacher team, three visits to your school to conduct participation observations of teacher teams, and one on-site interview with you. During the study you may expect the following study procedures to be followed. You will be asked to complete a telephone survey about your teacher team. The telephone survey will be mailed to you prior to the scheduled telephone survey. The researcher will contact the lead teacher(s) to confirm your responses about teacher teams. The information provided by you and your principal will be used to conduct purposeful sampling to select a limited number of teacher teams for the case study (1-3 schools). The case study will consist of three participant observations where the researcher will observe three teacher team meetings. The case study will also consist of one on-site interview with the principal. You and your teacher team will be asked to conduct a member check to make sure the transcripts of the teacher team meetings and the interviews are accurate.

Audio recordings will be used during the participant observations and the interviews. The audio recording will be used to transcribe the meetings and interviews. The audio recordings will be erased by February 14, 2006.

During the telephone survey and the on-site interview, you may skip any question that you do not wish to answer or that makes you feel uncomfortable.

RISKS

While participating in this study you may experience the following risks: privacy issues. You will be asked to use a pseudonym. There are no other foreseeable risks at this time from participating in this study.

BENEFITS

If you decide to participate in this study there may be no direct benefit to you. It is hoped that the information gained in this study will benefit society. Principals and teacher teams will have a better understanding of how to establish teacher teams if they do not exist, how to utilize existing team structure and teacher teams, how to use them to promote student achievement, and how to use them to promote professional growth and development (adult learning). The Iowa Department of Education will have a better understanding of how to help principals and teacher teams to meet the Teacher Quality state legislation and the No Child Left Behind federal legislation. Interested researchers will have a better understanding of the importance of the team structure and teacher teams in Team-Based Variable Pay Pilot Project schools, the Iowa alternative teacher compensation model, and like alternative teacher compensation models.

ALTERNATIVES TO PARTICIPATION

COSTS AND COMPENSATION

You will not have any costs from participating in this study except for your time. You will not be compensated for participating in this study.

PARTICIPANT RIGHTS

Your participation in this study is completely voluntary and you may refuse to participate or leave the study at any time. If you decide to not participate in the study or leave the study early, it will not result in any penalty or loss of benefits to which you are otherwise entitled.

RESEARCH INJURY

CONFIDENTIALITY

Records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. However, federal government regulatory agencies and the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy your records for quality assurance and data analysis. These records may contain private information.

To ensure confidentiality to the extent permitted by law, the following measures will be taken. You will be asked to use a pseudonym and your pseudonym will be used on forms instead of your name. Identifiers will not be kept with the data. The principal investigator will have access to study records and they will be kept confidential in a locked filing cabinet and on computer disks. The data will be retained February 14, 2006 before erasure. If the results are published, your identity will remain confidential.

QUESTIONS OR PROBLEMS

You are encouraged to ask questions at any time during this study. For further information about the study contact Sarah Sebring Binder (515-292-6343); Dr. Donald Hackmann (515-294-4871); Diane Chadwick (515-281-3436). If you have any questions about the rights of research subjects or research-related injury, please contact the Human Subjects Research Office, 2810 Beardshear Hall, (515) 294-4566; austingr@iastate.edu or the Research Compliance Officer, Office of Research Compliance, 2810 Beardshear Hall, (515) 294-3115; dament@iastate.edu

SUBJECT SIGNATURE

Your signature indicates that you voluntarily agree to participate in this study, that the study has been explained to you, that you have been given the time to read the document and that your questions have been satisfactorily answered. You will receive a copy of the signed and dated written informed consent prior to your participation in the study.

Subject's Name (printed) _____

(Subject's Signature)

(Date)

INVESTIGATOR STATEMENT

I certify that the participant has been given adequate time to read and learn about the study and all of their questions have been answered. It is my opinion that the participant understands the purpose, risks, benefits and the procedures that will be followed in this study and has voluntarily agreed to participate.

(Signature of Person Obtaining
Informed Consent)

(Date)

Informed Consent Documents—Principal

INFORMED CONSENT DOCUMENT

Title of Study: The importance of the team structure in Iowa Team-Based Variable Pay Pilot Project Schools

Investigators: Sarah Sebring Binder, BA, MA

This is a research study. Please take your time in deciding if you would like to participate. Please feel free to ask questions at any time.

INTRODUCTION

The purpose of this study is to explore the importance the team structure in Iowa Team-Based Variable Pay (TBVP) Pilot Project schools. A survey will be conducted with the ten principals of the schools in the TBVP Pilot Project. The results of the survey will be used to determine a limited number of teacher teams and principals that will be asked to participate in the case study (1-3 schools). The case study will consist of three participant observations of the teacher teams on-site. The principals of the schools will be interviewed as members of the teacher teams. The principals of the schools with the teacher teams in the case study will also be interviewed on-site as principals.

You are being invited to participate in this study because you are the principal at one of the ten schools in the Team-Based Variable Pay Pilot Project.

DESCRIPTION OF PROCEDURES

If you agree to participate in this study, the time frame will be four months and your participation will involve one telephone interview where you will be asked question and also asked to identify lead teacher(s) on your teacher teams, three visits to your school to conduct participation observations of teacher teams where you are an active member of the teacher teams, and one on-site interview with you. During the study you may expect the following study procedures to be followed. You will be asked to complete a telephone survey about your school. The telephone survey will be mailed to you prior to the scheduled telephone survey. During the telephone survey, you will be asked to identify lead teacher(s). The researcher will contact the lead teacher(s) by telephone to confirm your responses about teacher teams. The information provided by you and the lead teachers will be used to conduct purposeful sampling to select a limited number of teacher teams for the case study (1-3 schools). The case study will consist of three participant observations where the researcher will observe three teacher team meetings where you are an active member. The case study will also consist of one on-site interview with you the principal. You and the teacher team(s) will be asked to conduct a member check to make sure the transcripts of the teacher team meetings and the interviews are accurate.

Audio recordings will be used during the participant observations and interviews. The audio recording will be used to transcribe the meetings and interviews. The audio recordings will be erased by February 14, 2006.

During the telephone survey and the on-site interview, you may skip any question that you do not wish to answer or that makes you feel uncomfortable.

RISKS

While participating in this study you may experience the following risks: privacy issues. You will be asked to use a pseudonym. There are no other foreseeable risks at this time from participating in this study.

BENEFITS

If you decide to participate in this study there may be no direct benefit to you. It is hoped that the information gained in this study will benefit society. Principals, teachers, and teacher teams will have a better understanding of how to establish teacher teams if they do not exist in schools, how to utilize existing team structure and teacher teams, how to use them to promote student achievement, and how to use them to promote professional growth and development (adult learning). The Iowa Department of Education will have a better understanding of how to help principals, teachers, and teacher teams to meet the Teacher Quality state legislation and the No Child Left Behind federal legislation. Interested researchers will have a better understanding of the importance of team structure in Iowa Team-Based Variable Pay Pilot Project schools, the Iowa alternative teacher compensation model, and like alternative teacher compensation models.

ALTERNATIVES TO PARTICIPATION

COSTS AND COMPENSATION

You will not have any costs from participating in this study except for your time. You will not be compensated for participating in this study.

PARTICIPANT RIGHTS

Your participation in this study is completely voluntary and you may refuse to participate or leave the study at any time. If you decide to not participate in the study or leave the study early, it will not result in any penalty or loss of benefits to which you are otherwise entitled.

RESEARCH INJURY

CONFIDENTIALITY

Records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. However, federal government regulatory agencies and the Institutional Review Board (a committee that reviews and approves

human subject research studies) may inspect and/or copy your records for quality assurance and data analysis. These records may contain private information.

To ensure confidentiality to the extent permitted by law, the following measures will be taken. You will be asked to use a pseudonym and your pseudonym will be used on forms instead of your name. Identifiers will not be kept with the data. The principal investigator will have access to study records and they will be kept confidential in a locked filing cabinet and on computer disks. The data will be retained until February 14, 2006 before erasure. If the results are published, your identity will remain confidential.

QUESTIONS OR PROBLEMS

You are encouraged to ask questions at any time during this study. For further information about the study contact Sarah Sebring Binder (515-292-6343); Dr. Donald Hackmann (515-294-4871); Diane Chadwick (515-281-3436). If you have any questions about the rights of research subjects or research-related injury, please contact the Human Subjects Research Office, 2810 Beardshear Hall, (515) 294-4566; austingr@iastate.edu or the Research Compliance Officer, Office of Research Compliance, 2810 Beardshear Hall, (515) 294-3115; dament@iastate.edu

SUBJECT SIGNATURE

Your signature indicates that you voluntarily agree to participate in this study, that the study has been explained to you, that you have been given the time to read the document and that your questions have been satisfactorily answered. You will receive a copy of the signed and dated written informed consent prior to your participation in the study.

Subject's Name (printed) _____

(Subject's Signature)

(Date)

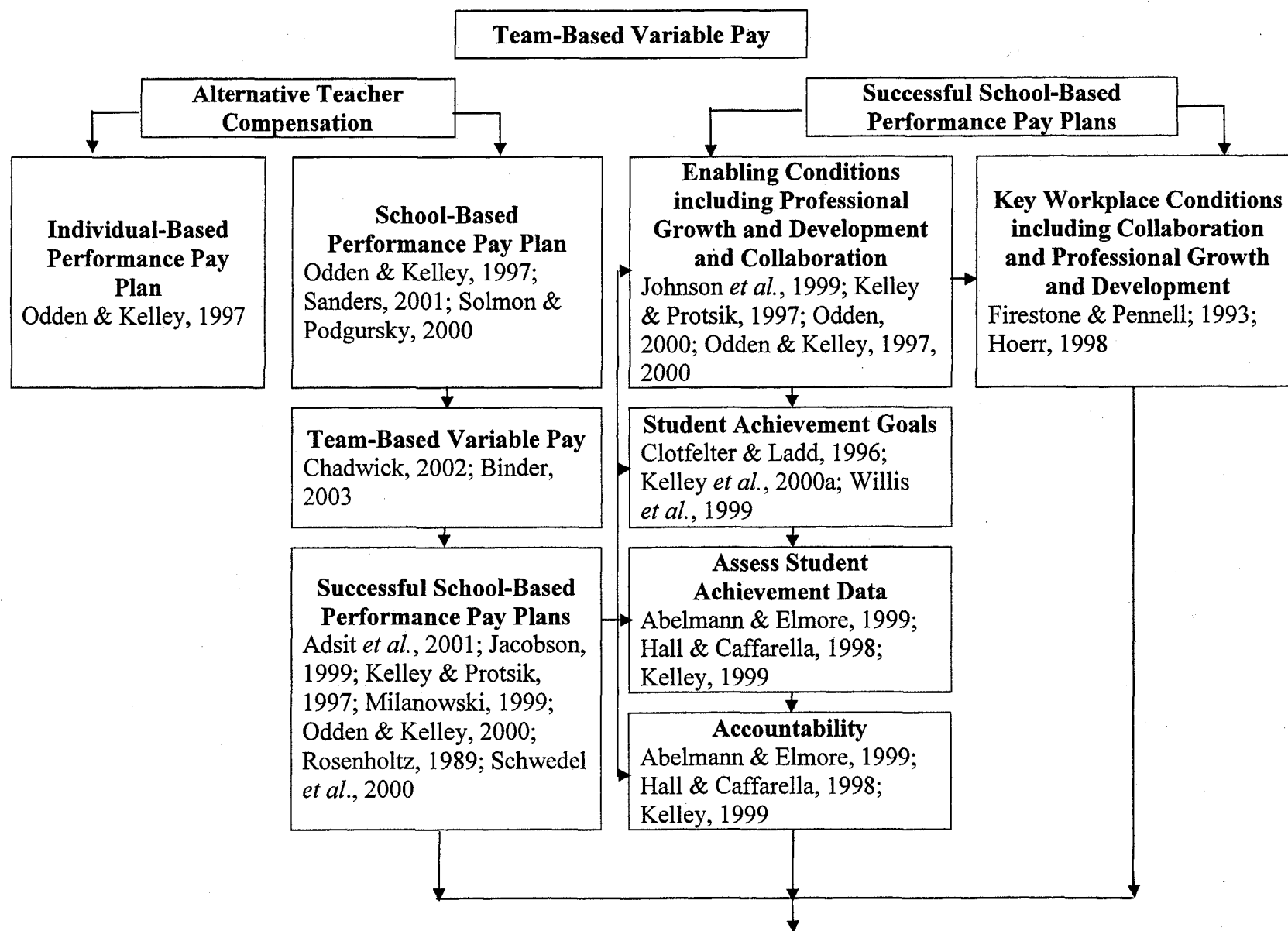
INVESTIGATOR STATEMENT

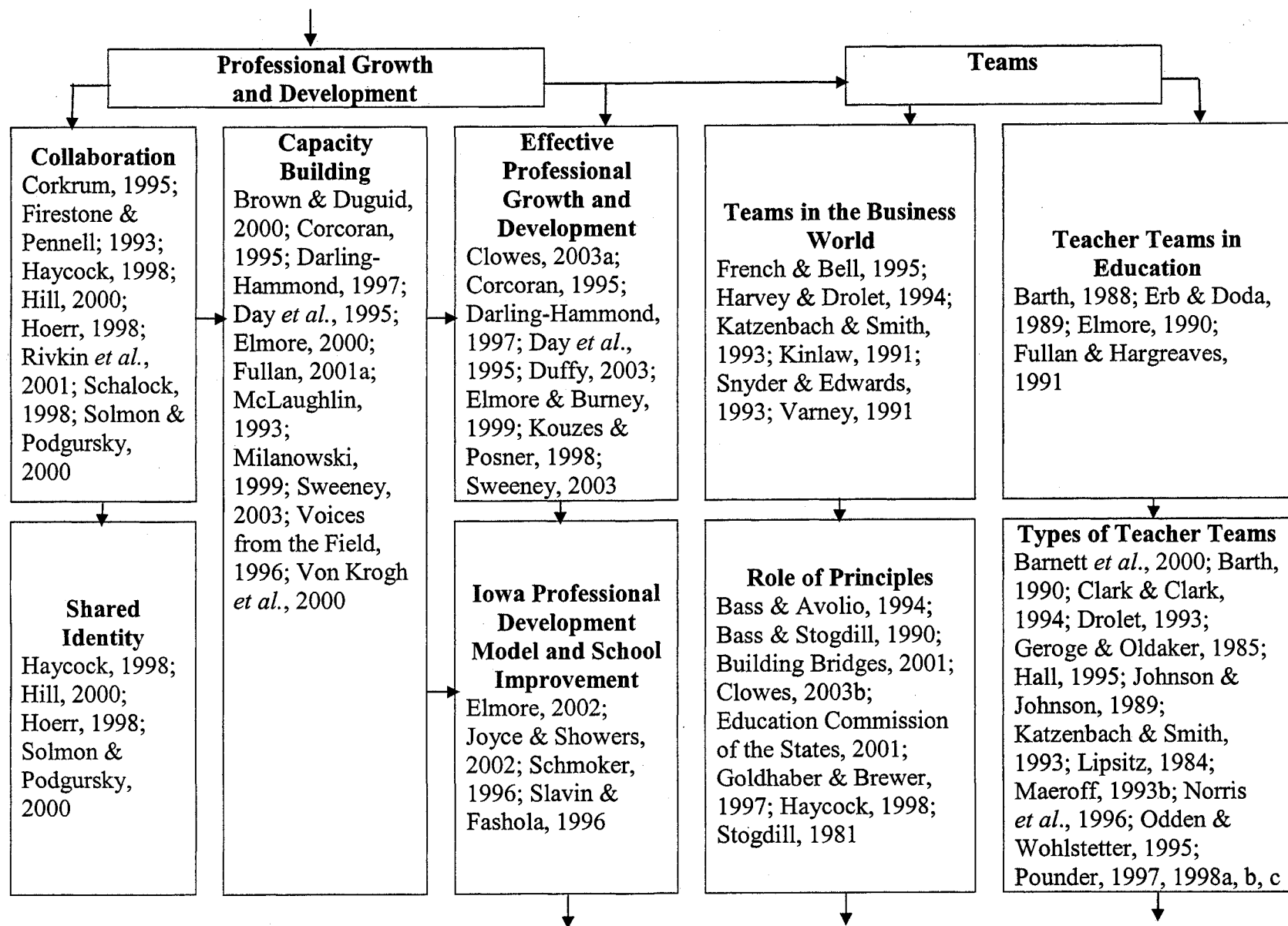
I certify that the participant has been given adequate time to read and learn about the study and all of their questions have been answered. It is my opinion that the participant understands the purpose, risks, benefits and the procedures that will be followed in this study and has voluntarily agreed to participate.

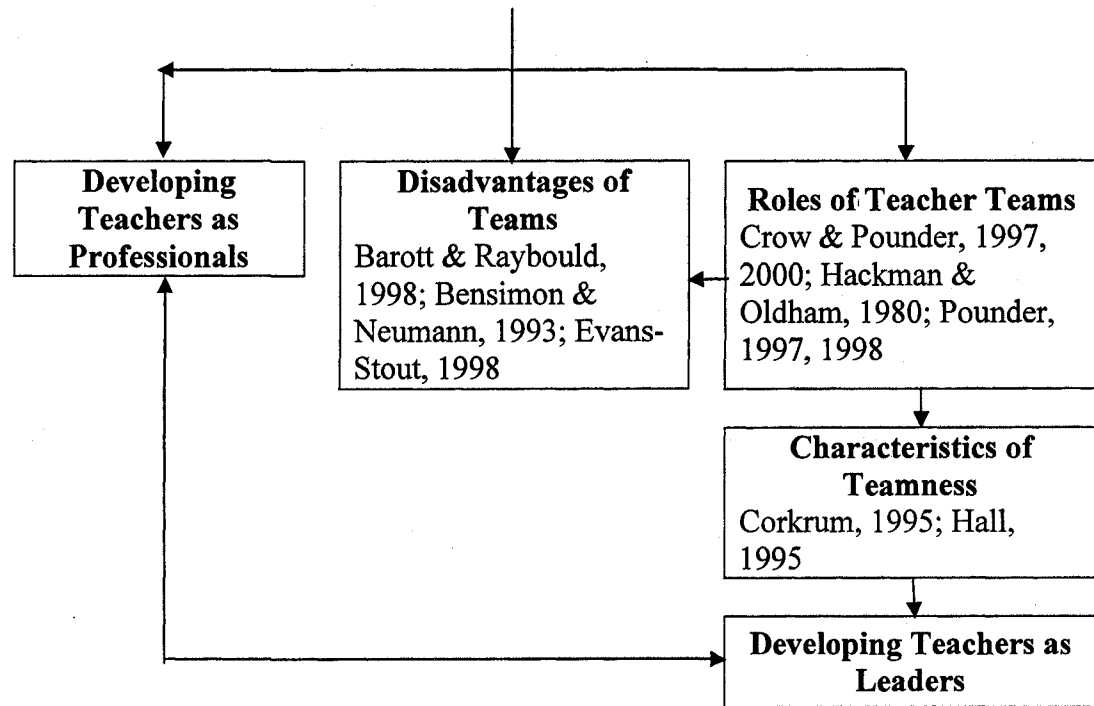
(Signature of Person Obtaining
Informed Consent)

(Date)

APPENDIX B: CONCEPT MAP AND DEFINITION OF TERMS







Team-Based Variable Pay

It compensates the team of teachers when students demonstrate knowledge and skills. Schools identify the knowledge and skills the students need to demonstrate and the performance levels. Also referred to as school-based performance pay (Senate File 476 and House File 672).

Performance-Based Pay

It compensates individual teachers when students demonstrate knowledge and skills. Schools identify the knowledge and skills the students need to demonstrate and the performance levels (Odden & Kelley, 1997).

Knowledge and Skills-Based Pay

It compensates individual teachers when teachers demonstrate knowledge in the content area(s) and skills in the classroom setting. Schools identify the knowledge and skills the teachers need to demonstrate and the performance levels (Odden & Kelley, 1997).

Single Salary Schedule

It compensates teachers for number of years of experience and number of years of education. It is defined in the master contract (Odden & Kelley, 1997).

Enabling conditions

Odden and Kelley (1997) defined enabling conditions as focused staff development component, high levels of teacher knowledge and skills, the ability to assess student achievement data to make instructional decisions and incorporate the decisions into the curriculum development and design, a set of goals, a lack of conflicting

competing goals, principal leadership, and student motivation supported by the school and the community (Odden & Kelley, 1997).

Key Workplace Conditions

Autonomy, collaboration, active participation, professional growth and development, feedback, job design characteristics that support the key workplace conditions, and adequate resources are key workplace conditions (Firestone & Pennell, 1993).

Student Learning

A change in student performance as measured by standardized tests, such as the Iowa Test of Basic Skills (ITBS) and the Iowa Test of Education Development (ITED), locally developed standardized tests, locally developed criterion referenced tests, and anecdotal records.

Student Achievement

One measure of student achievement is proficiency on the Iowa Test of Basic Skills (ITBS) and Iowa Test of Education Development (ITED). While the ITBS and ITED may not be the best measure of student achievement (Popham, 2001), it is Iowa's statewide assessment and Iowa's approved measure of student achievement according to state and federal legislation (IDE, 2002). "Proficient" is defined as performing at or above the 40% percentile, or "at grade level," on ITBS and ITED. Proficiency includes both the medium (40%-95%) and high (above 95%) levels. "Not proficient" is defined as performing below the 40% percentile.

Adult Learning

A change in adult performance measured by formative and summative teacher evaluation, such as the state developed Professional Growth and Development component for beginning teachers (first and second year teachers), and locally developed Professional Growth and Development component for career teachers (not first and second year teachers). The change in adult performance can be measured by an observer. It can also be measured by the individual. Adult learning for teachers includes developing teachers as professionals and as teachers, and developing teachers as leaders (Iowa Professional Development Model, 2002).

Professional Growth and Development

The Teacher Quality legislation to improve the quality of teachers and instruction in Iowa (HF and SF, 2001) refers to teacher evaluation as Professional Growth and Development, which includes the state developed Professional Growth and Development component for beginning teachers (first and second year teachers), and locally developed Professional Growth and Development component for career teachers (not first and second year teachers). The Teacher Quality legislation also refers to staff development as Professional Growth and Development.

Teacher Teams

An identifiable team of teachers who have ongoing face-to-face interactions to address issues in a collaborative and interdependent manner (Hall, 1995; Harvey, 1995). Issues may or may not include student achievement, student learning, and adult learning issues, but may address management issues.

“Teamness”

Corkrum (1995) defined the five predictors of “teamness” as common tasks, mutual trust, open, direct communication and conflict, risk taking, awareness and acceptance of group structure. The five predictors predict team effectiveness. A common task includes the three characteristics of task: the vision, the purpose, and the results. Open, direct communication addresses conflict openly. Risk taking includes risk taking as a team member and risk taking as an adult learner.

Awareness and acceptance of group structure includes: defining roles as members and leaders, sharing expertise, and developing expertise (Corkrum, 1995). Common identity and tenets is an additional predictor of “teamness” and is a product of shared vision, shared purpose, and shared results (Hall, 1995).

APPENDIX C: INTERVIEW PROTOCOLS

Descriptive Survey Questions

In order to answer the overall research question of how important is the team in Team-based Variable Pay Pilot Project schools and conduct purposeful sampling, the research questions for the descriptive survey study are:

- 1) What teacher teams exist in the schools in the Team-Based Variable Pay Pilot Project?
- 2) What roles do the teacher teams play?

Descriptive Survey Questions for the Principal:

- 1) Describe the overall team structure in place at your school.
- 2) What kinds of teacher teams exist in your school?
- 3) How did the teacher teams come to be? How has the teacher teams evolved? How is it different with participation in TBVP? How is it the same?
- 4) What are their:
 - a) Purpose
 - b) Composition
 - c) Structure and Context
 - d) Interaction
- 5) What roles do the teacher teams play in your school?
- 6) What role do you play on the teacher teams?
- 7) Is there a teacher team you recommend for an in-depth case study? Why? Why not?
- 8) Who would you consider the lead teacher(s) on the teacher team(s)? Why?

The survey questions describe the team structure and the teacher teams in the Team-Based Variable Pay Pilot Project schools and the roles the teacher teams play. The survey

data will be triangulated with the quantitative data, including: the Comprehensive School Improvement Plan, the Annual Progress Report, and the Professional Growth and Development Plan (as required by HF and SF, 2001). The principal will also be asked to provide demographic data to complete the descriptive survey data. The demographic data is readily available to the researcher, but the researcher will use the principal's perspective to note which demographic factors the principal highlights, which factors appear to be high priorities or of great concern, and which factors appear to be low priorities or of little or no concern.

Demographics:

1) Describe your school:

Size

Location

Number of staff members

Seniority of staff members (experience)

Qualifications of staff members (education)

2) Describe your student population

Number of students

Needs of students

- 3) Describe your student achievement for the last three years:

2001-2002 (Pilot Project Year I)

2002-2003

2003-2004 (Pilot Project Year II)

- 4) Describe your leadership for the past three years:

Number of years as principal (experience)

Qualifications (education)

Teaching experience (experience and education)

- 5) Describe your professional growth and development for the last three years:

2001-2002 Focus (Pilot Project Year I)

2002-2003 Focus

2003-2004 Focus (Pilot Project Year II)

Descriptive Survey Questions

In order to answer the overall research question of how important is the team in Team-based Variable Pay Pilot Project schools and conduct purposeful sampling, the research questions for the descriptive survey study are:

- 1) What teacher teams exist in the schools in the Team-Based Variable Pay Pilot Project?
- 2) What roles do the teacher teams play?

Descriptive Survey Questions for the Lead Teacher:

- 1) Describe your teacher team and its:
 - a) purpose
 - b) composition
 - c) structure and context
 - d) interaction
- 2) What are the roles of your team, the teacher members on your team, and the principal on your team?
- 3) How did your teacher team come to be? How has your teacher team evolved? How is it different with participation in TBVP? How is it the same?
- 4) What do you think your team does well?
- 5) Would you recommend your team for an in-depth case study? Why? Why not?

Case Study Questions

The research questions for the qualitative study are:

- 1) How important is the “team” in Team-Based Variable Pay Pilot Project schools? The sub-questions will be:
 - a. How do teacher teams impact student learning and student achievement? What strategies do teacher teams, teachers, and principals use to promote student achievement (student learning)?
 - b. How do teacher teams function as a learning community and support teacher learning? What strategies do the teacher teams, teachers as leaders, and the principals use to impact professional growth and development (teacher learning)?
 - c. What characteristics of teamness do the team teachers exhibit?
 - d. What strategies do the principals use to promote teamness in teacher teams?

Case Study Questions for Teachers/Teacher Teams

The qualitative case study questions will explore the importance of the “teacher teams” in Team-Based Variable Pay Pilot Project schools:

- 1) Describe your teacher teams and its:
 - a. purpose
 - b. composition
 - c. structure and context
 - d. interaction
- 2) What are the roles of your teacher team, you as teacher members, and the principal in your school?
- 3) Do what degree does your teacher team exhibit the following characteristics:
 - a. common tasks, common identity and tenets
 - b. mutual trust
 - c. open, direct communication and conflict
 - d. risk taking
 - e. awareness and acceptance of group structure
 - f. developing teachers as professional (adult learning)
 - g. developing teachers as leaders
- 4) What strategies does your principal use to promote your teacher team relative to the following:
 - a. common tasks, common identity and tenets
 - b. mutual trust
 - c. open, direct communication and conflict
 - d. risk taking

- e. awareness and acceptance of group structure
 - f. developing teachers as professional (adult learning)
 - g. developing teachers as leaders
- 5) How does your teacher team promote student achievement? What do you as a team do to promote student achievement? What do you as individual teachers do to promote student achievement? What does the principal do to promote student achievement?
 - 6) How effective do you think your team is in promoting student achievement? How effective do you think the principal thinks teacher teams are?
 - 7) How effective do you think your teacher team is in promoting professional growth and development? How effective do you think the principal thinks teacher teams are?
 - 8) How effective do you think the principal is in providing leadership?

Case Study Questions for the Principal

- 1) To what degree do your teacher teams exhibit the following characteristics:
 - a. common task, common identity and tenets
 - b. mutual trust
 - c. open, direct communication and conflict
 - d. risk taking
 - e. awareness and acceptance of group structure
 - f. developing teachers as professional (adult learning)
 - g. developing teachers as leaders
- 2) What strategies do you the principal use to promote the teacher teams relative to the following:
 - a. common tasks, common identity and tenets
 - b. mutual trust

- c. open, direct communication and conflict
 - d. risk taking
 - e. awareness and acceptance of group structure
 - f. developing teachers as professional (adult learning)
 - g. developing teachers as leaders
- 3) How do your teacher teams promote student achievement? What do the teacher teams do to promote student achievement? What do the individual teachers do to promote student achievement? What do you the principal do to promote student achievement?
 - 4) How effective do you think teachers think the teacher teams are in promoting student achievement? How effective do you as principal think the teacher teams are?
 - 5) How effective do you think teachers think the teacher teams are in promoting professional growth and development? How effective do you the principal think the teacher teams are?
 - 6) How effective do you think teachers think you as the principal are in providing leadership?

APPENDIX D: RICHARD DREYFUS ELEMENTARY SCHOOL CASE STUDY

Case Study I: Richard Dreyfus Elementary School

School	Students	Teachers	Teams
Urban Elementary School	410	40	<ul style="list-style-type: none"> • 12 Teaching and Learning Communities • Literacy and Math Teams • Building Leadership Team

The Teaching and Learning Community

The first case study, which will be referred to as the Richard Dreyfus Elementary School, is an urban elementary school with more than 400 students in grades kindergarten to fifth grade. The underlying team structure consists of Teaching and Learning Communities (TLC). Each TLC has two grade level teachers (regular education) and one or two school-wide teachers. The school-wide teachers include special education teachers, Title 1 teachers (math and reading), and reading and math specialist teachers. The TLCs are based on a collaborative teaching model, which means the teachers are team teaching for half of the day during the core content area times.

The team structure also includes a literacy team and math team. Each team consists of five teachers who receive additional professional growth and development through the district and the state, and then plan the professional growth and development for the staff. They share the new information and provide the expertise. The individual TLCs are responsible for applying the new information in the classroom with students and discussing it in the meetings. The TLC in the case study was unique in that it had a Title 1 Math teacher and a Title 1 reading teacher who served on the math and literacy teams.

The Role of the Teacher Team

In order to clarify the role the teacher team plays and compare teacher team across settings, the researcher used Crow and Pounder's (2000) constructs purpose, composition, structure and context, and interaction. Table A1 outlines the purpose, composition, structure and context, and interaction.

Purpose of the Teaching and Learning Community

The purpose of the TLC is to provide a teaching and learning community for students and staff members. This TLC consists of four teachers, two grade level teachers and two school-wide teachers. The four teachers team teach for half of the school day,

Table A1. Teacher Team: Purpose, Composition, Structure, Context, and Interaction *

Teacher Team	Teaching and Learning Community
Purpose of the Teacher Team	To plan team teaching, to monitor student progress for all students and for individual students, to implement professional growth and development
Composition of the Teacher Team	Two classroom teachers, two school-wide teachers (special education teachers, Title 1 Reading and Math teachers, or reading and math specialists)
Structure and Context and the Teacher Team	Team teach daily, meet weekly, block scheduling for teaching and planning, TLC meeting scheduled every week combining student day and teacher day
Interaction of the Teacher Team Members	Even participation of team members as team plans for each content area at each grade level, schedule pre-test and post-test, discuss previous lessons and plan weekly lessons for language arts (reading and writing), math, science, and social studies, all four teachers actively involved in teaching (student learning) and implementation of professional growth and development (adult learning)

*Based on Crow and Pounder's (2000) Characteristics of Teacher Teams

which allows the teachers to use flexible groupings and provide differentiated instruction, which the teachers refer to as “double and triple dipping.” All students are expected to demonstrate the same skills, and the teachers vary the instruction as needed. Some students have most of their instruction in a large group setting, while other students have additional instruction in small group and one-on-one settings. Instruction, at whatever level, continues until all students demonstrate required skills.

According to the principal, the problem solving process is embedded in the TLC model. According to the teachers, it is an ongoing. The teachers team teach for half the day so they know the students. As a result, the teachers can contribute to discussions regarding student progress. They share responsibility for implementing interventions. At one meeting, the teachers discussed one student’s progress and what they would do so the student continued to receive the help he needed to be successful.

Cindy: I’ve listed each assessment with the specific accommodations and modifications. I’ll write it up and talk to next year’s teachers so they know what he needs.

Jane: If we don’t note what help he needs, it will be the end of the semester before they realize he’s failing. In the large group setting, he gets lost. We won’t let that happen.

Composition of the Teaching and Learning Community

The composition of the TLC is similar to grade level teams. This TLC has two combination classrooms (two grade levels). In other TLCs, the classroom teachers may teach at the same grade, have multiage classrooms (three age levels), or loop (one teacher teaches the same group of students for two years and changes grade levels with the partner teacher as the students loop).

Structure and Context of the Teaching and Learning Community

The TLC has a shared planning time, which is built into the student day, the teacher day, and the week. “At the end of the day, the related arts teachers take the students for interdisciplinary activities. Combined with the additional after school time, the TLC has an extended planning block.” The combined block gives the teachers an hour to meet regularly (once a week) to plan. The Title 1 teachers serve on more than one TLC, so they team teach with one TLC in the morning, the other TLC in the afternoon, and then meet with both TLCs during the shared planning time, one block one afternoon and the other block another afternoon. “It’s complicated, but the principal finds a shared planning time for every TLC.”

The four teachers have worked together in various combinations since the beginning. One of the classroom teachers noted, “There have always been three of us on the team. Usually it’s the school-wide teachers who change, but with us it’s been the classroom teachers.” One year, the classroom teachers were looping, another year they taught the same grade level, and this year they have combination classrooms. The combinations change as the class and grade configurations change

Interaction in the Teaching and Learning Community

The teachers have multiple opportunities to interact. The teachers team teach daily for half the day where they interact with students and teachers as they teach. The teachers have the shared planning time weekly where they interact with the teachers as they plan. The teachers also have weekly professional growth and development where they interact with teachers in their grade level cluster (3-5 grade) or with all teachers in the school (K-5).

The shared planning time is created by utilizing the student and teacher day. The professional growth and development time is created using shortened days, when students are dismissed early, or school-wide activities, when the principal takes several classrooms for special activities such as assemblies.

Different teachers initiated the TLC meeting from week to week. They completed the planning cycle, with the Title 1 Math teacher facilitated the math planning, the Title 1 reading teacher the reading planning, and the classrooms teachers the planning related to social studies and science. If a teacher had questions with a particular content area or concerns regarding an individual student, that teacher facilitated that portion of the meeting. One teacher completed the implementation log each meeting. According to the principal, the school invested time in learning how to facilitate, and the school-wide teachers served as the facilitators. Now, the teams have learned how to work as a team and the teachers share the roles and responsibilities.

A Snapshot of the Teaching and Learning Community

The TLC provides a structure for teachers to team teach and work closely together. It also provides an opportunity for the teachers to use flexible groupings and differentiate instruction for a shared group of approximately 60 students (60 students: 4 adults or 15:1). The reading and math assessments are administered on a regular basis and used to group students and determine the level of instruction needed. Students needing more support worked in smaller groups; students needing less support worked in larger groups. The size of the group depended on the skills the students needed to develop.

The TLC also provides opportunities for professional growth and development and for the teachers to serve as mentors. This year, the school is participating in the Iowa Professional Development Model pilot project and the focus is math. Lead teachers participate in the state level professional growth and development. They are then responsible for planning and presenting the same professional growth and development at the school level so all teachers continue to grow as professionals. The TLCs provide daily opportunities for the teachers to observe and coach each other using the new strategies. The teachers discuss them with their TLC team members. The teachers are responsible for transferring the new skills to their repertoire of instructional strategies and skills. The teachers appreciated the support the TLC structure provides. One teacher noted the TLC makes her a better teacher.

Carla: We use the students to guide our discussions and decisions. If most of the students aren't getting it, we talk about what we can do to build understanding with the whole group. If a few students aren't, we brainstorm strategies to use with the individuals until every student gets it. The TLC makes me more knowledgeable!

The teachers noted it is the principal who finds the time for teachers to teach team, share professional growth and development opportunities on a regular basis, and meet weekly, but it's the TLC teacher team that provides the support teachers need to change.

Jane: Professional growth and development is ongoing. We have a method for sharing new information and a model for implementing it—the TLC. It's the support we have from the TLC that translates new information to teaching practices.

The teachers and the principals decided to apply for the Team-Based Variable Pay Pilot Project because they felt they had the team structure in place. The TLC teacher teams were goal driven. Now the teachers feel they're data driven. "We were team-based. We had the data, but now we use it."

The TLCs have evolved as the school has learned how to use the student achievement data and the collaborative teaching model. The TLC teacher teams use ongoing, informal assessments and probes to drive instruction, rather than relying on the once-a-year formal assessments. One of the teachers noted, “We’re institutionalizing using informal assessment data to make decisions as a practice. It makes a difference!”

Impact of the TLC on Student Learning and Student Achievement

The focus of the TLC is student learning and student achievement. The teachers use the planning time and the informal probes to review where students are and plan the week’s lessons based on detailed curriculum guides, which have been locally developed by the district and aligned with locally developed assessments. During the meeting, the TLC members discussed student progress as a group and determined what students, if any, needed “double and triple dipping.” One teacher completed the implementation log as another teacher celebrated, “They got it! They really understood it (comparing decimals). Sixteen had 100%, and four had 80% or better.”

The TLC members discussed individual student progress and identified instructional strategies and materials to help students master required skills. One teacher shared student work and asked for suggestions to help the student.

Carl: This student drew a picture of the class, but she doesn’t know what the word partner means. Partner is a key word. Maybe you can list the key words and define them—partner means groups of two, groups means divide, sets means multiple, in all means add . . . and post them.

Jane: I’ll do that! When the student reads the problem, I’ll have her tell me what the key words are and what operation she will use before she starts to solve it on her own.

Carla: That will help all of the students in their planning and problem solving!

Strategies to Promote Student Achievement and Student Learning

Strategies to Promote Student Achievement and Student Learning

alignment of curriculum and assessment

ongoing assessment

flexible grouping

differentiated instruction

individualized instruction

professional growth and development

instructional strategies such as models (visual representations)

The teacher teams use a variety of strategies to promote student achievement and student learning. One strategy is the alignment of curriculum and assessment. The curriculum guides have been locally developed by the district and aligned with locally develop assessments and ITBS tests. The teachers shared strategies they used to develop vocabulary.

Carl: I posted the words so the students can see them. If they use one of the words, they earn a ticket. The strategy is working—the students are thinking about the words, using them, and beginning to own them. The hard part is getting the students to notice the words as they read.

A related strategy is ongoing assessment. Ongoing assessment provides valuable information for teachers and allows them to adjust instruction as needed. It also allows them to tailor the assessment as needed.

Cindy: The students remembered what to do, how to do it, and why they were doing it. When we completed the probes, they were ready for the test. The probes worked.

Cindy: I'm going to have Miguel dictate his explanations. He can focus on explaining his thinking, and not worry about writing.

Another strategy the TLC uses is flexible grouping. The reading groups are homogenous and flexible, so students take the tests when they are ready and move from one group to another to get the level of support they need. The math groups are heterogeneous, with math extension in large group for all students, and additional math extension in small groups for students who need it. Again the groups are flexible, determined by each math strand and its pretest. During one meeting, the teachers strategies students that work for students.

Cindy: Margarita understands what she reads, but she doesn't have the same experiences the other students have. Daniel understands what he reads when he's interested. Alex understands what he's read when he's experienced it. They understand when they can make connections.

The regular classroom teachers use flexible grouping when they teach science and social studies. The two teachers talked about how to group the students for the water theme. Carla noted, "Health worked well with the whole group when they worked with partners." Carl added, "The experiments for water are more involved. The students need room to work. We should split the group in two."

Differentiated instruction and individualized instruction are two related strategies. The TLC team members refer to "double and triple dipping" and flexible groupings. The teachers discussed the strategies they use to provide the necessary instruction students need to be successful.

Cindy: If the whole group needs extra help, I set aside a day and reteach. If a couple of students need help, I set aside some time during the day and reteach. I make sure they can tell me how to do it and work with them until they get it. I slip it in here and there.

Another strategy is professional growth and development. This year, it has included math extensions. One instructional strategy has been visual representations. The teachers noted the impact on student achievement and learning.

Cindy: I write it out, step-by-step, side by side. Part A, the model, and Part B, the problem. Then I have the student work one problem at a time.

Carl: The math extensions are working! The extra half hour a day really makes a difference. Just think, if we spent three hours a day on math like we do on language arts how well students would do!

Effectiveness of the TLC in Promoting Student Achievement

The urban school has more than 400 students in grades kindergarten to fifth grade. Twenty-six percent of the student population represents minority populations: 11% is Hispanic, 11% is African American, 3% is Asian, and less than 1% is Native American. Eleven percent of the student population is English Language Learners (ELL). More than half of the students qualify for free and reduced food program (57%). There is a great deal of mobility with approximately 25% of the student population moving in and out during the school year.

The school met its goals in 2001-2002 and 2002-2003. According to the principal, "It looks like the school will meet its goals for 2003-2004." The students demonstrated a 2% gain on ITBS. The principal exclaimed, "That's not enough!" In order to stay on track (meet the school trajectory and exceed the state trajectory), the teacher teams need to continue to focus on strategies. The teachers analyzed ITBS data and identified the five areas with greatest need and developed probes to assess the skills. They divided the year into cycles and focus on the skills. For example, one area is estimation so they designed math lessons for 8 weeks focusing on estimation. They administered the probes, and using

the results of the probes, they formed student groups and conducted mini lessons to develop the concepts. They continued to administer the probes and regroup until all students demonstrated the requisite skills.

Effectiveness of the Principal in Promoting Student Achievement

The principal is an instructional leader. He designed courses on the collaborative teaching model to give teachers the skills they need to function as a team and team teach. Some TLCs are more independent than others, and he works with the ones that need more one-on-one time.

The principal has been an active member in the literacy team and the math team attending the monthly and bimonthly meetings with the math and literacy teachers. He implements the strategies along with the teachers and is learning right along side the teachers. He models professionalism and sets a high standard for teachers and students.

Impact on Professional Growth and Development

Strategies to Promote Professional Growth and Development

collaboration on whole group instruction and individual interventions

math and literacy teams

building leadership team to plan and present professional growth and development

implementation logs

The TLC functions as a learning community and supports teacher learning. The TLC as a team, the individual teachers as leaders, and the principal use a variety of strategies to impact professional growth and development (teacher learning). The TLC

members use collaboration while they review and plan for each content area and discuss instructional strategies and instructional materials. The teachers share what's working and ask each other for help with what's not working. The conversation and collaboration is a "give-and-take" with teachers and students benefiting from the process.

Jane: I taught the students a game using a spinner. You spin and record the numbers in the boxes. You try to make the largest number, the smallest number. You can use the same strategy with addition, and subtraction. You can use it with decimals. The students get lots of practice and they love it.

Carl: I use dice. The students develop their number sense.

Sometimes, the ideas shared include instructional strategies for individual students.

Carl asked for help, Cindy shared one idea, and Jane and Carla "kicked it around" and came up with more ideas.

Carl: Robert and Bailey are not lining up the decimals when we do addition or subtraction.

Cindy: What if you have the students highlight the decimal line so all the digits line up?

Jane: What if you use paper with line, dot, line, line, and they fill it in.

Carla: What if you have the students practice reading the numbers emphasizing the place value before they add or subtract so they hear themselves say "and" (decimal) as they line up the decimal?

One teacher completed the implementation log as teachers discussed their use of the teaching strategies and the students' progress. They were wondering if there was a the correlation between the use of strategy and student progress and concluded they needed more practice.

Jane: I need more practice so I feel comfortable using it. I need more examples, so I don't fall back on direct instruction when I run out of ideas. I'm real comfortable with direct instruction.

Carla: If I had more examples, I would make stations and let students use them as they finish lessons, in large groups, small groups, or individually. Students could be learning as we are learning.

Effectiveness of the TLC in Promoting Professional Growth and Development

The lead teachers model the teaching strategies and skills, collaborate with teachers as they develop the teaching strategies and skills, and team teach using the teaching strategies and skills, until all teachers are using the teaching strategies and skills. They use the strategy of gradual release of responsibility with teachers. Lead teachers change as the content area changes.

Effectiveness of the Principal in Promoting Professional Growth and Development

The principal created the leadership structure, which includes the literacy and math teams. The lead teachers have been active in the state level staff professional growth and development and are responsible for sharing the information with the teams. They have taken the leadership planning and presenting it. The principal participates in the planning and has opportunities for input, but it's a team decision. The expectation is the every TLC will help every teacher apply the new learning in the classroom setting and every teacher is responsible for implementing it.

This year, math was the focus and professional growth and development included using a variety of models such as cooperative learning, concept attainment, and coaching. The TLCs teachers team-teach for half a day so they have opportunities to observe each other and coach each other in the implementation of the math strategies.

The teams use action research. The principal has created a school-wide extension block. The K-2 grade teachers and 3-5 grade teachers develop math and reading extension activities. According to the teachers, teachers are teaching and leading teachers. They feel they are responsible for developing the expertise the lead teachers share. The principal feels the teachers use their planning time and instructional time effectively. The implementation logs document the instructional strategies the teachers are using and the probes document the effectiveness of the instructional strategies. According to the principal, "Each teacher is a learner and a leader."

Initially, the principal designed several courses on the collaborative teaching model. In Collaborative Model I, the teachers learn how to learn how to function as a TLC so students and teachers learn. All 25 teachers took the course. In Collaborative Model II, TLCs focus on TLC related problems, questions, or concerns. In Collaborative Model III, teachers used action research learned how to use charting and graphing to motivate students by visualizing student progress. The initial Collaborative Model I course was designed to learn how to be a TLC team—to work together teaching, planning, teaming, and problem solving. The second and third courses were designed to learn additional teaching strategies. All of the courses utilize action research, student information, and information on best practices.

Characteristics of Teamness

The researcher gave the teacher team a list of the characteristics of teamness and asked the teachers to identify the characteristics of teamness they value as a Teaching and Learning Community. The researcher also used observations to identify the characteristics

of teamness the teacher team members demonstrate. The teachers have been members of the TLC for many years and their responses reflect their comfort level with teaming and working together as a teaching and learning community. They listed open, direct communication and conflict, and the mutual trust that contributes to open, direct communication and conflict, as critical. Team teaching and team planning creates a common identity and shared tenets that they take for granted. They noted the structure provides opportunities for risk taking that contribute to the development of teachers as professionals (adult learning) and the development of teachers as leaders (transformational leadership), which in turn contribute to and reconfirm the common identity and shared tenets. The teachers have been members of the same TLC in various combinations for so many years, so they tend to be unaware of the group structure and the common task, but noted they are important. Their common task is student achievement and student learning, and by extension, their adult learning in order to have the greatest impact on student learning. Weekly, the teachers review lessons and what the students, both as a group and as individual students, have mastered. They use that information to plan the following week's lessons. They look at the detailed picture—the daily work and ongoing, informal assessments—and the big picture—the formal assessments and what students need to be able to do by the end of the year (quarter, semester) to be successful. The teachers talked openly about what characteristics of teamness they feel they exhibit. During the teacher team meeting, the researcher observed the teachers using the characteristics of teamness. Table A2 lists the characteristics of teamness in the order the teacher team members prioritized the characteristics.

Table A2. Based on Hall's (1995) Characteristics of Effective Teams

Teamness	TLC Interviews	The Seven Norms of Collaborative Work	Observations
Open, Direct Communication and Conflict	Important (#1)	Pausing; Putting ideas on the table; Probing; Pursuing a balance between advocacy and inquiry; Paying attention to self and others; Paraphrasing	X
Mutual Trust	Important (#1)	Putting ideas on the table; Pursuing a balance between advocacy and inquiry; Presuming positive presuppositions; Paying attention to self and others; Paraphrasing	X
Common Identity and Tenets	Important (#2)	Presuming positive presuppositions	X
Risk Taking	Important (#2)	Putting ideas on the table; Pursuing a balance between advocacy and inquiry	X
Developing Teachers as Professionals (Adult Learning)	Important (#2)	Pursuing a balance between advocacy and inquiry; Paying attention to self and others	X
Developing Teachers as Leaders	Important (#2)	Pursuing a balance between advocacy and inquiry; Paying attention to self and others	X
Awareness and Acceptance of Group Structure	Important (#3)	Paying attention to self and others	X
Common Tasks	Important (#3)	Putting ideas on the table; Probing; Paraphrasing	X

Open, Direct Communication and Conflict

Carl volunteered open communication is the most important thing for an effective team. You do not have a team if you don't have open communication. He also listed constructive conflict as important. "We're professionals. We're not going to agree on everything, but we listen to suggestions, talk about the merits of each one and how it fits the situation, and then agree on which interventions we will use collectively and which ones we will use individually."

Carla added, "Open communication is important. And so is feedback, but it has to be constructive feedback" All four team members agreed open communication was critical.

Carla: As a teacher, you benefit from constructive feedback. When you have constructive feedback from your peers, you learn how to be a more effective teacher. Your students learn more from you, not just you the individual, but you the team of teachers.

Mutual Trust

Carl added mutual trust leads to open communication. If you don't have mutual trust you will not have open communication. He talked about the first year he was a teacher and a member of the TLC. He listened and learned a lot the first year. He learned to trust them. After the first year, he knew he could contribute; he was comfortable sharing. They had earned his trust and he trusted them completely.

Carl: The TLC team earned my trust. Not only do I trust the way the team works, I am a contributing member. If I did not trust the team, I would not share with them. The lack of trust would dead end the team. There would be no communication.

Cindy joked, "Food helps! Food builds mutual trust." On a serious note, Cindy added, "When you remember it is for the good of the students, it keeps you focused on why you're here, what you're doing, and why it's important." She pointed to the table tent, with

The Seven Norms of Collaborative Work and “Presuming positive presuppositions:

Assuming that others’ intentions are positive promotes and facilitates meaningful dialogue and eliminates unintentional put-down.” And she added, “I try to remember that with every idea a teacher proposes. We have the best interests of the students in mind, and every idea comes from that positive presuppositions.”

The four teachers all agreed it was important for the teachers as a TLC. Carla stated, “Presuming positive presuppositions is the fancy way of saying we trust each other. We trust each other completely. No one has ever done anything that makes us feel like he or she cannot be trusted.” When a teacher shares an idea, the teachers focus on refining the idea. Carl added, “That’s what we do as a TLC, we develop ideas. We take an idea, shape it, and make it work. And it all comes back to trust, trusting each other.”

Common Identity and Tenets

Jane noted it is important to know the curriculum. The curriculum plays a critical role and creates a common identity and shared tenets. Every teacher in every TLC knows what the district performance goals are, what the curriculum is, and how the curriculum supports the goals. “We know what each child needs to be successful. We know what we need to do. That’s what the TLC is all about, making sure all students and teachers are successful. That’s our common identity and task.”

Risk Taking

According to the teachers, it’s a teacher’s responsibility to grow professionally. The TLC provides the opportunity to grow professionally, working, teaming with other teachers, and mentoring. “All of us are mentors—beginning teachers, career teachers, reading

teachers, math teachers, and everyone learns from everyone. In order to learn, you have to have mutual trust. You're taking risks, you're proposing ideas, team teaching, sharing what worked what didn't, agreeing and disagreeing. If you don't have mutual trust, you won't take risks."

Developing Teachers as Professionals (Adult Learning)

When the teachers were pondering what characteristic(s) they needed to work on to be more effective as a team, they talked about what they did when they started as a team and what they do when they had new team members. The TLC has been a team from the very beginning and at least three of the four teachers have been part of the team every year. Having continuity as a team has helped them. They feel comfortable working together, they respect each other as professionals committed to student learning and adult learning, and together they can do more for students than they can individually.

The TLC teachers explained a new team member is not the same thing as a new team. The core team is continuing. They gave an example.

Carl: When a new teacher joins the team, the experienced teachers share their experience and expertise in the collaborative teaching model. We don't have all the answers. We have a lot of experience and a little expertise to share. There is so much for new teachers to learn, and so little time, the TLC is committed to socializing new teachers.

Cindy: Brand new teachers adapt well. Teachers who transfer into the school transfer with the understanding that they will be working in a collaborative teaching model. When the school went to the collaborative model, the teachers who didn't like it transferred. The teachers who love it stayed. We stayed and we love it!

According to the teacher teams, a new teacher has a lot to learn the first couple of months and a lot to continue learning because all of the teachers are involved in ongoing professional development as a school, as grade level teams, and TLCs.

Jane: It is easier for new teachers to learn how to function as a TLC than transferring teachers. New teachers have everything to learn! Transferring teachers have a new way of teaching and learning to learn. For some transferring teachers, it's too big a change from what they are used to doing and they prefer the "old way."

All four TLC teachers are experienced teachers and they love the TLC. They know how each and every student functions because they team teach and they see the child in multiple settings. It used to be the Title 1 teacher saw what happened in the Title 1 small group and the classroom teacher saw what happened in the regular classroom, but they did not see what happened in the other classrooms. Now they see each other, they see the students, and they have a shared understanding of each student's strengths and needs. And they learn from each other and each and every student, every day. It is a learning community.

Carla: I prefer it to the old way of teaching, with no teaming, no TLC, no built-in learning for me as a teacher. The school-wide teachers see what the students can do as a group and an individual. When we meet and discuss what to do, we know what we're talking about.

The teachers agreed the principal has high expectations for new teachers, and he provides the support. He conducts the Collaborative Model I class for new teachers. New teachers have the luxury of being a part of working TLCs.

Cindy: There is so much to learn, but new teachers have a team to support them. They learn how to function in a team and a teaching and learning community. They learn with support and learn how to make the most of the support they have.

The principal refers to the whole group time as single dipping, the team teaching time as double dipping and the extension time as triple dipping. The classroom teachers, the school-wide teachers, and new teachers are implementing the strategies with the whole group, small groups and individuals. According to the teachers, the single, double, and triple dipping provide multiple learning opportunities for students and teachers.

Carla: We use the strategy, in different settings, all day long. We use it with the total group, the strategic small groups, and the intensive small groups. We're learning to use the strategy while we're teaching the students, from each other and with each other.

The principal created the original master plan for TLCs, juggled the schedule to create team teaching time for single, double, and triple dipping to support student learning and TLC planning time to support adult learning. It's all about student learning. As the students change from year to year, the TLCs change, but the principal continues to find a way to make it work and make it work more effectively. The TLC provide "built in" professional growth and development.

When the school was transitioning to the teaching and learning community model, they had lots and lots of staff development on the collaborative teaching and learning model. Now that they have been working in TLCs for several years, the professional growth and development is focused on curriculum, assessment, alignment, and the instructional strategies to improve the instruction. According to the teachers, "It's all day, every day, 24-7." During the weekly meeting, Cindy used the implementation log to record the use of the strategy. The teachers decided they were getting the hang of it with the materials that were provided, but once they completed those lessons they were struggling with creating their own lessons that were true to the strategy. The decided they needed

additional ideas on how to implement it, additional model lessons and sample lessons. The ongoing professional growth and development and the TLC teacher team make a difference.

Jane: We have a model and a method for sharing new information. We plan it, use it, and critique it. The evaluation piece is critical. We have an opportunity to hear what others have to say about it. If it worked for everybody—yeah! If it worked with one group, but not every group, why? What was the difference? If it didn't work for any group, why not? What do we need to do to make it work?

Professional growth and development leads to student learning and student achievement. The school has the tools, the district developed curriculum, the locally developed assessments, ongoing assessments, and the classrooms. The teachers have the Teaching and learning Community with teachers leading teachers.

Developing Teachers as Leaders

According to the TLC teachers, developing teachers as leaders is cyclical. It starts with student learning. The school has the district developed curriculum, the locally developed assessments, and the classrooms for students and teachers to learn. Teachers are teachers, so why not have teachers teaching teachers?

Carl: It's cyclical. It starts with open communication, constructive feedback and conflict, which I prefer to think of as discourse, which leads to mutual trust, which leads to risk taking, which leads to professional growth and development (adult learning) and student learning. And it starts all over again.

Carla: Student learning starts the cycle. Teachers have questions about instructional strategies, which lead to open communication with constructive feedback, which lead to mutual trust and risk taking, which lead to professional growth and development (adult learning) and improved student learning. Teachers teaching teachers, and teachers becoming leaders. It's not one leader, but many teachers, who are leaders.

Awareness and Acceptance of Group Structure

Jane said she thought group structure was critical to the success of the TLCs, but the TLC teacher team takes the structure for granted. People know what is expected of them and what they expect of others in the TLC. The structure for one TLC may be different from the next TLC, but each TLC has a structure that works for the teachers involved. The teachers are comfortable with it. The teachers agreed.

Common Task

To make the best use of team teaching, the TLC teacher team plans weekly reading and math lessons. The school-wide teachers know what is happening on a daily basis when they come in to team teach. The TLC teachers also articulate the science and social studies themes, so the school-wide teachers know the extension opportunities for reading and math and make the best use of the teaming and teaching. According to Jane, “The students are the common task and the curriculum is the shared tool. We look for opportunities to use the curriculum, the tool, in an organized, thoughtful manner, and make the best use of the shared teaching time. We split the group as needed to teach and assess, reteach and reassess. We use the TLC time to plan the whole week.”

The TLC meetings are focused on students, and their progress, and teachers, and their implementation of instructional strategies. The instructional strategies provide a focus. Weekly, they talk about the new strategies they have been learning and maintain an implementation log with student probes to document if the strategies make a difference with student learning. According to the TLC teachers, it’s all about using what teachers know to help students, learn new strategies, and becoming a more effective teacher.

The TLC teachers talked about the district curriculum, the school curriculum, and ITBS, and noted some interesting developments.

Jane: When we're planning the lessons, we use the district scope and sequence which maps out the big picture. We map it out from week to week. We layer the key concepts.

Carl: We've identified the key concepts on ITBS. We've developed mini units for those key concepts we don't teach. We teach the key concepts and layer the curriculum. The students have the scaffolding. They're doing better on locally developed assessments.

The Seven Norms of Collaborative Work

The Teaching and Learning Community teachers see the TLC as an effective team. It's effectiveness stems from the six characteristics of effective teams Hall (1995) identified, which includes: open, direct communication and conflict, mutual trust, common identity and tenets, risk taking, awareness and acceptance of group structure, and common tasks. The TLC teachers referred to the roles the team plays in supporting both developing teachers as professionals (adult learning) and developing teachers as leaders.

The TLC teachers noted the Seven Norms of Collaborative Work can be paired with Hall's characteristics of effective teams. Pausing, putting ideas on the table, and probing are strategies that contribute to open communication.

Cindy: Pausing, putting ideas on the table, and probing lead to open communication, which leads to mutual trust. When you know your team members will listen to your ideas, you're willing to share them. They lead to mutual trust, which leads to risk taking. You're willing to make a suggestion and to put your professionalism on the table.

The TLC teachers found that paraphrasing also supports open, direct communication and conflict and presuming positive presuppositions supports mutual trust. Pursuing a balance between advocacy and inquiry supports risk taking, developing teachers

as professionals (adult learning) and leaders (transformational leadership). Paying attention to others and self supports awareness and acceptance of group structure.

Carl: You have to have mutual trust to talk about yourself as a teacher and a learner. If you don't have mutual trust, you will not talk about the things that are important to you as a teacher. You won't take risks and you won't grow.

The TLC teachers see themselves demonstrating all six characteristics of effective teams: They see themselves contributing to their professional growth and development, which contributes to student achievement. They see themselves taking a leadership role within the team and within the school, which contributes to student achievement. The TLC focus is student learning and the team uses student achievement data to demonstrate student learning. They actively participate in professional growth and development and provide leadership within the team and within the school. According to the principal, all of the teams are effective.

APPENDIX E: SUSAN SARANDON ELEMENTARY SCHOOL CASE STUDY

Case Study II: Susan Sarandon Elementary School

School	Students	Teachers	Teams
Suburban Elementary School	440	40	<ul style="list-style-type: none"> • Grade Level Teams including Related Arts and Special Education “Grade Level” Teams • Building Improvement Team • Tech Cadre • STAT (Student-Teacher Assistant Team) • Leadership teams (content area) including reading, math, and science • Learning teams (study teams) • Lawson Station and Lawson Pride teams (school climate/culture team) • School Improvement Facilitators and • Representation on District Teams

The second case study, which will be referred to as the Susan Sarandon Elementary School, is a suburban elementary school with approximately 440 students in grade kindergarten to fifth grade. The team structure consists of the grade level teams and a related arts team. The team structure also includes the Building Improvement Team (BIT), which consists of classroom teachers, special education staff, and related arts teachers. The teacher representatives serve as liaisons with the grade level teams.

BIT team members are responsible for the Comprehensive School Improvement Plan (CSIP), including the annual action plans and the professional growth and development for the entire staff. Several members, including the principal and Dean of Students, serve on district teams, such as the District Improvement Team (DIT) and district study teams. They provide additional expertise for the school and plan the sharing of new information with all teachers.

The team structure also includes the Technology Cadre, the STAT (Student-Teacher Assistance Team) team, leadership teams (content area) for reading, math, and science, the Lawson Station and Lawson Pride teams. Lawson Station and Lawson Pride address climate and culture. In addition, the School Improvement Facilitators steer the professional growth and development. They serve on BIT and the DIT and help plan, coordinate, implement, and evaluate professional growth and development through the CSIP.

The Role of the Three Teacher Teams

In order to answer the first research question of what role the teacher team plays and to compare teacher teams across settings, the researcher used Crow and Pounder's (2000) constructs of purpose, composition, structure and context, and interaction. Table B1 outlines the purpose, composition, structure and context, and interaction of the teacher team in Sarandon school.

Purpose of the Building Leadership Team

The purpose of the BIT team is to steer the school. The BIT team drafted the CSIP and action plans and developed the professional growth and development calendar for the following school year. The representatives on the BIT team are responsible for taking the information from the BIT meetings to the grade level team meetings and, in turn, bringing ideas and information from the grade level teams back to the BIT team.

The school has three different lenses—the grade level team, the content area team, and the BIT team lenses, which focuses on the big picture and how the grade level teams, the content area teams, and the BIT fit together. The grade level team has the most detailed perspective, but it only represents horizontal grade level perspective, and not the vertical

Table B1. Teacher Team: Purpose, Composition, Structure, Context, and Interaction

Teacher Team	Building Leadership Team
Purpose of the Teacher Team	To use comprehensive school improvement process to develop CSIP, including action plans and school-wide professional growth and development; to plan, implement, and evaluate school-wide professional growth and development; to evaluate CSIP; to plan, implement, and evaluate action plans, to facilitate communication with grade teams, leadership teams, and learning teams; to monitor and evaluate student achievement.
Composition of the Teacher Team	Principal, Dean of Students, teachers representing the K-1, 2-3, and 4-5 grade levels, special education teacher, special education support staff, related arts teacher, and School Improvement Facilitators (first and third grade teachers). Teachers were asked to serve on team based on demonstrated positive leadership. BIT facilitated by principal.
Structure and Context and the Teacher Team	Scheduled time before school every other week; principal facilitates; discuss comprehensive school improvement, action plans, student achievement, and school-wide professional growth and development.
Interaction of the Teacher Team Members	Participation varies from agenda to agenda; active participation of all grade level teachers; less active participation by related arts and special education staff when agenda items related to core content areas and students in classroom settings. Related arts and special education staff provide input when agenda items related to school culture; classroom teachers ask related arts and special education staff for input and they provide it. BIT facilitated by principal.

perspective. The content area team focuses on one content area and has the vertical perspective, but it doesn't have the big picture perspective. The content area team is not looking at how everything fits together. The BIT has the big picture perspective, which includes the grade level and the content area lenses, so it can zoom in and zoom out to get the most comprehensive picture.

The principal takes the input from the various teams, meetings, and professional growth and development sessions, and summarizes it so the BIT team can focus on the big picture. The content area team is looking at Mosaic of Thought and thinking how it is going to work with reading at the various grade levels. They have a bigger picture than the grade level teams. They have both the horizontal and vertical perspective, but not the global picture. It is not as big as the BIT level. The BIT is looking at Mosaic of Thought and thinking how it is going to work with math and science. How will it fit with technology? How will it support a safe school and a supportive climate? What professional growth and development is required? They look at the big picture, the whole school picture. They have to map it out and make sure it's doable.

Composition of the Building Leadership Team

The Building Improvement Team consists of five teachers and one associate. The teachers represent the K-1, 2-3, and 4-5 grade levels, the related arts (music, PE, instrumental music, and art), and the special education areas (special education, Title 1, and At Risk), and serve as team leaders on their respective teams. The team meets biweekly from 7:30-8:30. Currently they are writing the CSIP plan. They are also responsible for analyzing data, creating action plans, planning professional growth and development, implementing and evaluating the plan. The grade level team member who serves on BIT facilitate the grade level teams. Members also serve on leadership and learning teams. Representatives from Tech Cadre, Lawson Station and Lawson Pride also serve on grade level teams to facilitate communication and provide horizontal and vertical articulation.

According to a lead teacher member, the composition of the BIT team includes representatives from all the teams in order to represent the various teams, share information with their respective teams, and communicate to and from BIT. The grade level teachers share what they do at their respective grade levels when talking about curriculum and assessment. The facilitator asked about problem solving in math and how it is assessed.

Tami: In first grade, we combine problem solving with math concepts such as money and measurement. It extends their understanding of the math concepts.”

Cindy: We’ll assess it with the district assessment when it is completed, until then we’ll need to use informal assessment.

These contributions show the grade level teachers provide information the other representatives would not be able to provide.

According to the principal, the composition of the BIT Team is interesting. Last spring, when some team members were transitioning off, the principal reviewed the composition of the team and concluded it was not working as well as she would like. Too many teachers had the attitude “Ugh! I have to serve on BIT.” The principal disbanded the old team and created a brand new team. The principal handpicked the team members considering factors such as who would not be afraid to communicate openly, support the decisions the BIT team made, and ultimately, who would provide leadership both on and off the BIT “field.” Starting with a fresh team allowed the principal to form a group where people felt a commitment to the BIT team and its work. According to principal, “The new team is becoming a cohesive group and developing a history as leaders because they’re committed to quality education, willing to work hard, and work well together. They are professionals and leaders.”

Structure and Context of the Building Leadership Team

According to a lead teacher, the BIT team addresses a wide range of building needs, from needed professional growth and development, to reading, math, and science, a new program in the lunchroom, and/or a concern on the playground. The issues affect everyone. Representatives bring ideas to the BIT team from the various teams, so BIT is able to hear all the ideas and focus on the issues and resolve them.

Currently, the BIT team is working on the new five-year comprehensive school improvement plan, and the work exemplifies how BIT functions and why it functions well. The teachers could, and would, talk about CSIP all day. There would be a lot of voices with a lot to say, but it would be challenging to be focused, draft a plan, and accomplish all the necessary steps. This way, all the grade level teams are represented, the BIT team is focused, the ideas are organized, and the team is able to accomplish the necessary steps, which the representatives in turn share with the grade level teams. A quality plan is developed and all the teachers have input without spending hours and hours floundering and getting frustrated with the process.

According to a lead teacher member, the BIT team members are responsible for making sure the voices of the grade level teams are heard. The BIT team reviews building wide issues and uses quality information and input to make decisions. The representatives bring the ideas and opinions of the grade level teams to the BIT team and in turn take the solutions or the steps accomplished to the grade level teams. It eliminates conflicts and conversations that would otherwise come up if teachers didn't know what was happening. It ensures that teacher feel they have a voice in building wide issues and an organized way to communicate and get things done.

According to a lead teacher member, the BIT team gets along well as a team. The team members use each other's ideas and build on them. Individuals might have one good idea, but the team has many more good ideas. It's shared problem solving and decision-making. Team members are not afraid to disagree, but they do so agreeably. They respect each other and each other's opinions, so they can agree or disagree and it's not personal. It is a professional discussion regarding the pros and cons of any one solution, building on the collective ideas of the team that are shared, which represent the collective ideas of the grade level teams. The team is able to address issues, problem solve, and complete challenging tasks such as the CSIP in an organized, productive, professional manner.

Interaction on the Building Leadership Team

The principal facilitates the BIT meetings. Prior to this year, the teachers took turns facilitating the BIT meetings, but the teachers feel the principal does a better job. BIT team members facilitate their grade level team meetings. The grade level teams used to address problem issues with the grade level teams, but this year, the teachers address the problem issues at regular staff meetings to facilitate communication and problem solving. The principal feels this has been a proactive change in problem solving because now all teachers know what issues have been raised, they all have opportunities for input, and they know the plans to address the problem issues. Communication is important.

According to a lead teacher, team members need to be able to pull together and address challenges as well as "easy to solve and resolve" issues; their positive attitudes and productive frame of mind are critical in coming together as a team.

A Snapshot of the Building Leadership Team

The representatives serve two roles—to represent their grade level teams and provide the grade level perspective and to provide their individual perspective. The principal invited the individuals to serve on the team because they are professionals and leaders. They are known to be hard workers, willing and ready to grapple difficult tasks, not be afraid to communicate openly and voice conflicts, actively support decisions once they are made, and ultimately, be leaders both on and off the BIT “field.”

The principal plans the agenda, prepares the materials, which are communicated electronically prior to the meeting, and facilitates the meetings. The minute the meeting begins, the teachers are actively involved and the principal takes a backseat. There is even participation during the meetings, with the grade level team representatives taking the lead. The grade level teacher that initiates the conversation asks other grade level teachers for their input. The grade level teachers, in turn, ask the Related Arts and special education staff for their perspective. The grade level representatives provide the grade level perspective which provides a multiple grade level and multiple content area perspective. The special education staff provides the most focused perspective working with individual students. The Related Arts teacher provides the broadest perspective working with all students at all grade levels.

Impact of BIT on Student Learning and Student Achievement

The focus of the BIT team is school improvement, student learning, and student achievement. The BIT focuses on the big picture—comprehensive school improvement. It does not focus on individual students. BIT team members provide the grade level

perspective and the BIT team, in turn, compiles the multiple perspectives to create the school-wide perspective.

Strategies to Promote Student Achievement and Student Learning

Strategies to Promote Student Achievement and Student Learning

curriculum and assessment alignment

curriculum mapping

developing student achievement goals using student achievement data

pilot projects and use of student achievement data to evaluate pilot projects

differentiated and individualized instruction with Focus on Four and SMART Goals

differentiated and individualized instruction with Dragon Club and Practice Partners (extended day)

professional growth and development

comprehensive school improvement process and plan

The BIT team members and the principal use a variety of strategies to promote student achievement and student learning. One strategy is curriculum and assessment alignment. It is an ongoing process. The Iowa Technical Adequacy Project (ITAP) helped to formalize curriculum and assessment alignment. One challenge is school-wide assessment as opposed to individual class or grade level assessment. The team discussed the limitations of using ITBS as the school-wide assessment for math.

Kristen: One student may complete 8 problems correctly. Another student may complete 16 problems, but only 8 correctly. The students appear to be performing at the same level, but they're not. It's important to be able to use the assessment information to determine what students understand.

This quote shows the teachers understand the challenges of curriculum and assessment alignment.

Another related strategy is curriculum mapping. It, too, is an ongoing process. Curriculum mapping includes aligning curriculum with school-wide assessment. The teachers noted they have not completed the curriculum mapping with science.

Jill: Science has the biggest gaps. Curriculum mapping will help with vertical and horizontal articulation.

Melissa: Curriculum mapping is critical. I need it to know where I'm going, otherwise I'm in the dark. If I don't know where I'm going, I don't know where my kids are going.

This exchange shows the teachers understand curriculum mapping maps out what teachers teacher. The curriculum and assessment alignment determines what assessment will be used to assess the curriculum.

The teachers discussed the challenge of adopting new curriculum materials. The district recently adopted FOSS science materials and the teachers love the materials, but do not know how the FOSS curriculum is aligned with ITBS science. BIT team members voiced concerns grade level teams shared.

Jill: This team will play a critical role in helping teachers understand it is important to have the assessment piece for science that assesses what we teach so that we can improve. Otherwise, it won't happen.

This quote shows the Dean of Students outlining the importance of curriculum and assessment alignment and the role the BIT team members play in helping teachers understand it.

Another strategy involves developing student achievement goals, which include Adequate Yearly Progress (ITBS trajectory goals), which are consistent from school to school, district to district, and state to state in that all schools need to meet trajectory goals, and SMART goals (annual student achievement goals), which are unique to the school.

The teachers discussed what student achievement data they would use to develop the SMART goals.

Cindy: Will we use this year's data and look at this year's students or next year's students, the students we'll be working with?

Kristen: It would make sense to look at the data for the students we'll be working with, then the strategies would fit the students.

The exchange shows the teachers discussing and making decisions regarding the best use of student achievement data.

Developing student achievement goals, and the goals themselves, leads to next strategy—differentiated instruction with the Focus on Four and SMART Goals Programs. The Focus on Four Program includes differentiated instruction and additional instruction for four students who are close to being proficient in reading and math on ITBS. The SMART Goals Program includes differentiated instruction and additional instruction in areas identified as areas of growth for all students.

BIT team members use pilot programs to field test instructional strategies and materials. One pilot includes the two-year looping program. Another pilot includes a math program. The teachers discussed the challenges of assessing looping.

Tami: We don't have anything to assess first grade, the first year in the loop, or second grade. We have MIALT and ITBS in third grade to assess the second year in the loop, so that's good, but we don't have a way to assess the looping itself. What ever we develop for K-1-2 should provide information on looping, too. And then we could compare that data from third grade.

The quote demonstrates the teachers understand the complexities of assessing instructional programs. The team discussed the challenges of assessing the pilot program. The team agreed the data could be disaggregated to see how the students were benefiting from the looping or the math pilot program.

Extending the teaching day is another form of differentiated instruction. The BIT team members discussed extending the Dragon Club, an after school program for third, fourth, and fifth grade students, or supplementing the Dragon Club with Practice Partners, a before school program for identified students. The teachers discussed the pros and cons and decided the programs would support school climate and culture.

Cindy: Let's continue Dragon Club and give students a jump start on the year. And start Practice Partners and give students get a jump start on the day.

Cheryl: The two programs compliment each other and provide different options for different students.

This exchange shows how the teachers understand the importance of providing differentiated and individualized instruction so all students are successful.

Another strategy to promote student achievement and student learning is professional growth and development, which also includes multiple levels—leadership and study teams and the whole staff. Leadership teams (content area) will focus on one area. The principal referred to the process as “divide and conquer.” Some staff members, but not all, develop expertise and experience in content areas, while all staff members develop experience and expertise in an identified focus area. The content area teams are responsible for sharing the information with grade level teams and the staff. Study teams (all staff members) will focus on reading. The focus area changes from year to year—one year the focus area is reading, another year(s), the focus area is science. It is cyclical, and eventually all of the staff members develop experience and expertise in all areas.

The BIT team members agreed they needed to compare the FOSS science curriculum with ITBS science tests, and identify the gap that exists. Then they could plan the necessary professional growth and development to support students and teachers.

Tami: We need to look at the curriculum connections. I know they are there, I just don't know what they are.

Cindy: We need to look at assessment. FOSS teaches students to be scientists and think like scientists.

Kristen: We need to look at the fit. We complete the curriculum alignment process and see the fit. We need to do that for science.

This exchange shows teachers see the relationship between professional growth and development and curriculum and assessment alignment.

Another strategy is the comprehensive school improvement process. The BIT team is writing the new Comprehensive School Improvement Plan. It's a new plan, but not a new process to the school. The principal proposed they cross-reference the curriculum.

Jill: Let's cross-reference the curriculum we listed with how we assess it like we did with reading and math. We'll discover any gaps and that will help us think about professional growth and development.

This quote demonstrates the process they have developed. The classroom teachers led the conversation because they are the most knowledgeable about grade level assessments. The principal facilitated the process, but it was the teachers who questioned each other and kept the process going. The special education teacher and PE teacher volunteered they didn't have "first-hand" knowledge when it came to math and science assessment, but would serve as a "check and balance."

The team members discussed how they would assess the role of professional growth and development and its effectiveness. They wanted to have quality assessment for teachers and their professional growth and development as well as tools to accurately assess student achievement in reading, math, and science. They could use study groups and implementation logs, which would assess how teachers were using the strategy in the

classroom. They talked about the two levels of assessment—teacher use of strategy and student use of strategy and how it impacts student achievement. One of the classroom teachers concluded, “Our professional growth and development isn’t fully implemented, so it hasn’t fully impacted students. It’s evolving. We’re learning how to learn.”

Effectiveness of BIT in Promoting Student Achievement

Ten percent of the student population represents minority populations, 4% African American students, 4% Hispanic students, and 2% Asian students. According to the principal, this elementary building has the greatest range of socioeconomic status of any of the buildings in the district with 7% of the students qualifying for the free and reduced food program. This elementary building has the second highest mobility rate (approximately 15%) in the district.

The school staff is experienced and educated. Each year, the staff welcomes 2 to 3 new teachers and there are 5 staff members who have less than 5 years of teaching experience. The majority of the staff members have 10 or more years of teaching experience. One-third of the staff members have a Masters degree with more and more teachers taking graduate classes and pursuing advanced degrees at Iowa State University and Drake University.

In 2001-2002 and 2002-2003, the school met both its reading and math goals. Prior to that, the school met its one goal, but not the other. Meeting both goals was important to the school and represented growth for the students, the staff members, and the school.

The 2003-2004 TBVP goals are higher than the Adequate Yearly Progress (trajectory) goals. The teachers and the principal call it “one for the show (adequate yearly

progress and annual improvement goals) and two for the money (TBVP goals).” They might not meet the TBVP goals even if they meet the building goals and that’s okay with them. The TBVP pay is not the goal; student achievement is the goal and it’s one step at a time.

The teachers analyze the ITBS data and use it to make instructional changes. The grade level teams focus on data at the individual grade levels, while the BIT focuses on data across grade levels. The grade level teams create action plans for addressing individual students who are close to being proficient and provide differentiated instruction and additional instruction to ensure that individual students will be proficient. That’s the Focus on Four Program, which has been successful and allowed the school to increase its proficiency levels each year. The grade level teams also create action plans for addressing building goals, including differentiated instruction and additional instruction, staff development, additional time, additional resources, to ensure that all students will be proficient. That’s the SMART Goals Program, which has also been successful and allowed the school to increase its proficiency levels each year.

Effectiveness of the Principal in Promoting Student Achievement

According to the principal, all of the staff members provide instructional leadership. The principal sees her role as guiding teachers and teams and developing teachers as teachers and teachers as leaders. The BIT team is writing the CSIP, which includes problem solving, identifying areas to address, researching strategies, and providing the professional growth and development for adult learning focused on student learning.

Impact of BIT on Professional Growth and Development

The focus of the BIT team is comprehensive school improvement, student learning, and student achievement. BIT determines what professional growth and development is necessary to support increased student achievement and learning. BIT members carefully consider the grade level perspective offered by the individuals, and from those multiple perspectives team members create the school-wide professional growth and development plan that is aligned with the district plan and meets the needs of the school and the individual teachers.

Strategies to Promote Professional Growth and Development

Strategies to Promote Professional Growth and Development

use of student data to drive the professional growth and development

learning teams

collaboration on SMART Goals and Focus on Four Programs

collaboration on instructional strategies to implement SMART Goals and Focus on Four Programs

developing teachers as researchers

developing teachers as leaders

The BIT team members and principal use a variety of strategies to impact professional growth and development. One strategy is the use of student data to drive the professional growth and development plan. The principal began one of the meetings with the following introduction as they were finalizing their action plans.

Cheryl: We'll use the data to help us determine what we focus on for SMART Goals and which students will benefit from Focus on Four students.

The quote shows using student achievement data to make instructional decisions is the norm.

Using a variety of learning teams, with varying sizes, members, and purposes impacts professional growth and development. One type of learning team, the study team, couples research-based practices with implementation logs. The BIT team discussed the use of homogeneous groups and heterogeneous groups for study teams. The principal initiated the conversation.

Cheryl: The reading content area team thought it would good to structure the study groups by levels (homogeneous).

Tami: That's not what we would do with kids. With students we would have vertical groups (heterogeneous). The kids who have read it would spark the interest of the ones who are just getting started.

Cindy: It's just like our classrooms. If we have low, medium, and high groups, we're limiting the development of all the groups. We would be limiting ourselves and our implementation of it. If we mix everybody up, like we do with kids, we'll learn from each other. (To Kristen) You've read the book, what do you think?

Kristen: I think multiple level groups would work!

This exchange show the teachers give careful thought to the composition of the teacher teams. The BIT team decided to use multilevel groups for study teams for heightened professional growth and development and vertical articulation, with periodic grade level team meetings for horizontal articulation. One teacher summarized, "K-2 and 3-5 multilevel groups would provide vertical articulation. Grade level teams would generate age appropriate lessons and K-5 would keep it all in perspective."

Another strategy is differentiated instruction with SMART goals and Focus on Four. Collectively, the teachers identify instructional strategies and materials to help whole groups of students develop needed skills and small groups and/or individual students

develop skills. The teachers identify the strategies, utilize the strategies, and assess student progress to see if students demonstrate progress and master the skills. SMART goals and Focus on Four are becoming the norm. The action plans spell out that teachers are responsible for implementing SMART Goals and Focus on Four. The BIT team members set the expectations for teachers.

Cheryl: SMART Goals—once a month or as needed? Focus on Four—a week or as needed?”

Cindy: We need to spell out the minimum.

Tami: It’s my responsibility to determine how much, not what or if, but how much. At least once a month for the whole class and at least once a week, or until they get it.

Kristen: That says we differentiate instruction. We don’t do the same thing, the same way, at the same time, with the same set of students, but we do it.

This exchange shows the team members understand teachers need to know the expectations for differentiated and individualized instruction and they need to be clear.

The teachers noted the statement “once a month, or as needed” and “once a week, or as needed” sets the parameters. The norm is students need to demonstrate proficiency and the assessments enable teachers to demonstrate students are proficient.

Another strategy is developing teachers as researchers. With the importance of research-based instruction, teachers discussed research based strategies for professional growth and development.

Kristen: Mosaic of Thought is the kind of book you can read many times. It’s not a “how to” book. You’re challenging and questioning your own thinking, your own use of reading comprehension strategies.

Cheryl: With students, we use guided and shared reading. There is research to support both, so we’ll use both strategies with adults.

This exchange shows teachers realize instructional strategies that work with students work with adults as learners.

Another strategy is developing teachers as leaders. The teachers discussed the district professional growth and development calendar and compared it with the school's calendar. The teachers mapped out year I and year II.

Tami: Year one, we focus on the math adoption. Year two, we pick up the math study group and integrate the math articles we identified with the math adoption and the curriculum mapping.

Cindy: There's a lot of software that comes with the new math adoption. We look at the software and discuss it in grade level teams, so that everyone uses it. That will be powerful!

Lynn: It makes sense to use grade level teams to do curriculum mapping, and have it be integrated throughout the year.

Melissa: I am getting excited just talking about it. While we're implementing the new math adoption, we're doing curriculum mapping. While we're doing curriculum mapping, we're talking about the new math adoption. They're not two separate activities or processes, they are one and the same, and support each other.

This exchange shows the professional growth and development is research-based, but it's also developed by the teachers for the teachers.

Effectiveness of BIT in Promoting Professional Growth and Development

The BIT team members develop the professional growth and development plan.

They discuss the options and develop a calendar that supports teachers as they are learning.

Kristen: We'll be implementing the math adoption, doing curriculum mapping as we implement it, and integrating technology. We'll have lots of opportunities for sharing with our grade level teams. We'll be fully immersed in it. It's not a lot of time, but sprinkled throughout the year, using it every day, it will seem like a lot of time.

Cindy: We need to sprinkle math. Clustering it would not provide the support we need throughout the year, whereas, we need to cluster reading.

Kristen: I don't want a schedule that works well for math, but not reading.

Jill: We need a good chunk of time for math at the beginning of the year, and then we need a good chunk of time in the middle of the year for reading.

This exchange shows the teachers are willing to try different structures with different content areas.

The teachers noted they are getting better at developing SMART Goals. They used to devote whole professional growth and development days to the development of SMART goals. Now they are able to develop them during regular staff meetings. The teachers noted the challenge of researching all the instructional strategies for SMART Goals and decided the process would require more time.

Tami: You have to know your students and what they need and match the strategy with the students. And that will change from goal to goal, and group to group, what you do with one small group might not be what you do with an individual or the whole class.

Melissa: SMART Goals is research-based. I'd like to think the instructional strategies are research-based, but I don't know if they are!

Melissa: Good thing we're getting good at identifying SMART Goals. Now we're moving to the next level—identifying research-based strategies.

The teachers determined, and were able to cite the research, that SMART Goals is a research-based instructional strategy. The principals proposed a strategy to research the instructional strategies.

Cheryl: We'll have grade level teams research goals. Each team member could research one goal and then share what information they find. Ideally, if you have four goals and four people at each grade level, each person could take one skill and research it. And then share with the grade level team.

Kristen: For science we could have half the staff look at assessment and half the staff look at technology and then share what they learn. That way we can accomplish twice as much. It's an effective strategy.

This exchange shows teachers proposing strategies that rely on collaboration. Team work is the norm.

Effectiveness of the Principal in Promoting Professional Growth and Development

The principal credits the district administrative team for her instructional leadership. She actively participates in the district administrative study team, which meets twice a month and focuses on leadership. The team is currently reading “Leadership Capacity for Lasting School Improvement.” Her classes are her teachers and her subject is school improvement, student learning, and student achievement. She claims she has a very talented group of students—her teachers!

At the school level, the principal is actively involved in planning, participating in, and evaluating professional growth and development. The teachers are comfortable leading the professional growth and development. The principal listens to the BIT team members and is willing to try different ideas and demonstrates confidence in the teachers—she knows they know what works, when, and where. She begins meetings with “I have a question for you” and solicits input. The teachers are ready to provide thoughtful input.

Characteristics of Teamness

The teachers and principal were asked to identify the characteristics of teamness they value in the Building Improvement Team. The teachers have served on BIT for one year. When asked if they were willing to serve a second year, all of the teachers indicated they were willing and eager to serve. Their responses reflect their role. They rated open, direct communication and conflict, mutual trust that contributes to open, direct communication and conflict, and risk taking as critical. Their roles as facilitators on BIT

and grade level and related arts teams provide opportunities to develop as professionals (adult learning) and leaders (transformational leadership). The focus on comprehensive school improvement contributes to the common identity and shared tenets; the development of the new Comprehensive School Improvement Plan, including action plans, professional growth and development calendar, and timeline provide a structured focus. The Comprehensive School Improvement Plan provides a structure for the school improvement process. The goal of school improvement is student learning and student achievement, and it provides a shared identity and a shared set of tasks. No one noted the importance of an awareness and acceptance of group structure, but the members demonstrated open, direct communication and conflict, which supports group structure. The teachers talked openly about what characteristics of teamness they feel they exhibit. During the BIT meetings, the teachers also demonstrated the characteristics of teamness. Table B2 lists the

Table B2. Based on Hall's (1995) Characteristics of Effective Teams

Teamness	BIT	Observations
Open, Direct Communication and Conflict	Important (#1)	X
Risk Taking	Important (#1)	X
Mutual Trust	Important (#1)	X
Developing Teachers as Professionals (Adult Learning)	Important (#2)	X
Developing Teachers as Leaders	Important (#2)	X
Common Identity and Tenets	Important (#3)	X
Common Tasks	Important (#3)	X
Awareness and Acceptance of Group Structure	Important (#3)	X

characteristics of teamness in the order the teacher members prioritized the characteristics. The column labeled Observations indicates the researcher observed the teacher team demonstrating the characteristics of teamness.

Open, Direct Communication and Conflict

When the BIT members were asked which characteristics of teamness were important to the team, the team members answered immediately with open, direct communication and conflict and risk taking. They view themselves as good communicators who communicate well with each other and with their respective grade level teams. One team member summed it up.

Tami: We listen. We're open to ideas our team members bring from their grade level teams and discuss them in a professional manner. We're comfortable raising difficult questions and don't feel we must agree with everything everyone says, but we listen and think about the concerns our team members raise. When we discuss conflicting ideas, we consider the research. We discuss it as a team and share it with our grade level teams. When we make our decisions, they are informed.

This quote demonstrates the teachers understand communication include open conflict.

The team members share ideas with the BIT team and with the grade level teams. Open communication includes open conflict.

Kristen: As BIT and grade level team members, we share a common task. We are responsible for representing our grade level teams and representing the BIT team and need to understand and have an awareness and acceptance of the team structure. We have to be able to communicate when people agree and when they don't agree. We're risk takers. We articulate the common identity and tenets. We must have the trust of our BIT and grade level team members. It's ongoing so we are developing as professionals, which includes developing as leaders.

The team members agreed. According to team members, the grade level teams are very accepting and appreciative of the work BIT has done. The grade level teams have been involved in the process all along so they know what BIT has been working on and

what BIT has been doing, so they feel like they have had input all along, but have not had to put the draft together.”

Melissa: It goes back to the role we play on the team, we're sharing information back and forth, keeping everybody informed and involved. We're responsible for communicating. Our grade level teams are responsible for providing input and critiquing the plan as it comes together. We have an active role as members of the BIT team, but they have an active role as members of the school staff. We try to look at it from all perspectives.

This quote shows the teachers realize communication is the glue that powers the BIT team and the grade level teams.

It appears that the teachers and the grade level teams are aware and accept the team structure of the school: the grade level teams report to BIT. BIT steers the comprehensive improvement plan and process and provides direction for the grade level teams. BIT team members share information back and forth.

Risk Taking

According to the team members, when BIT team members come to a decision, individual team members support it. The support requires risk taking and leadership. One teacher explained.

Cindy: We support the decision within the BIT team and we support it within our grade level teams and in the building, which requires leadership. Supporting decisions within our grade level teams requires risk taking. Our peers may not agree with the BIT team decision, and it would be easy to agree or not agree, depending on the context and the audience, but then we would not be true to the BIT team, true to our grade level teams, or true to ourselves.

The quote demonstrates teachers recognize the risks they take as leaders. They take risks in supporting decision or not supporting decisions. Either way, they take risks.

The Dean of Students added, “BIT is developing teachers as leaders, which requires taking risks and taking responsibility. Leaders take risks and responsibilities, and these teachers are leaders. They take risks and responsibilities.”

Mutual Trust

The BIT team members have mutual trust based on mutual respect. One teacher described it as being true to team.

Tami: We know what we say will be respected and the decisions we make as a team will be supported. We know it because we support each other and model support in the grade level teams. There is a great deal of mutual trust because we have a great deal of respect for each other. The respect is based on what we represent, what we stand for as professionals, and how we comport ourselves as professionals. We’re leaders. We share that in addition to a shared identity and tenets. We believe in students, we believe in teachers, and we believe in providing leadership to support students and teachers. We share that commonality.

This quote shows the teachers recognize mutual respect and mutual trust are intertwined.

All the team members agreed.

Developing Teachers as Professionals (Adult Learning)

The noted that BIT develops teachers as professionals (adult learning). Teachers can get lost in the world of teaching. Serving on BIT give team members the opportunity to be informed. The related arts teacher noted he has the opportunity to learn what’s going on.

Steve: I am in a world of my own, sheltered from much of what goes on in the school, and I wouldn’t know what is going on if I weren’t a part of the team. I have a better understanding of the school as a whole, and the roles the various grade level teams, teachers, and BIT team members play in the school. I have the big picture in addition to my own picture of the world.”

This quote shows the teachers value their development as professionals and leaders. All the team members agreed.

Developing Teachers as Leaders

The principal noted she asked the team members to be a part of the team because they demonstrate mutual trust and open, direct communication and conflict within the BIT team and within their grade level teams. The team members are well respected by their peers. They're good communicators, which leads to mutual trust, and because they are good communicators and are trusted, they represent their grade level teams well. The principal concluded:

Principal: They are well respected by their peers because they use open, direct communication and conflict, so they are trusted by their peers. They are good communicators and their good communication leads to trust. They are trusted so they represent their teams well. Their peers know they are well represented on the BIT team and I know the BIT team is well represented on the grade level teams. They are ambassadors. Without that role, that ambassador role, the BIT team would not function as a leadership team. It provides leadership in improving, changing, growing, and must communicate well along the way. They provide a means of communicating for all team members. The individual teacher or the teachers on the team know they have an avenue of communication with the BIT team, all they have to do is talk to their grade level team leader, who will in turn share their concern with the BIT team. And they do, the BIT team discusses the concerns and proactively addresses the concerns, and the grade level team leaders then, in turn share that with the grade level teams. It's open two-way communication that works because these teachers are trusted by their grade level team members and they are trusted by their BIT team members.

The Dean of Students added BIT is developing teachers as leaders, "Leaders learn to take risks and responsibility. I don't know where it started, but it's started. These teachers are teachers and leaders."

Common Task

The principal helps the teachers keep track of what they have accomplished, where they're at in the process, and what they need to complete. The BIT team members have the

agenda and the materials prior to the meeting and they come prepared to discuss the agenda items and complete the tasks. Teachers chorus, "Let's get to it!"

APPENDIX F: HELEN HUNT ELEMENTARY SCHOOL CASE STUDY

Case Study III: Helen Hunt Elementary School

School	Students	Teachers	Teams
Rural Elementary School	280	20 (14 core grade level teachers, including special education teachers, and 6 shared teachers, including related arts teachers)	<ul style="list-style-type: none"> • Grade Level Teams • Building Leadership Team • Focus Group • Building Assistance Teams (BAT) • Learning (study) Teams • Technology Team

Focus Group

The third case study, which will be referred to as the Helen Hunt Elementary School, is a small rural elementary school with approximately 280 students in fourth and fifth grade or 140 students at each grade level. The team structure consists of the grade level teams, building leadership team, learning teams/study teams, and a focus group. Individual teachers are involved in Building Assistance Teams and the Technology Team and they have a specialized purpose.

The grade level teams include core teachers at each grade level (approximately 7 people). The grade level teams focus on student learning and student needs. According to the principal, the discussions are evolving and there is less talk about management related issues, like “workbooks and fieldtrips,” and more talk about student needs and student learning.

The building leadership team includes the whole staff, and by whole staff, the principal means the 14 “core teachers” who are in the building full-time, but not the

additional six related arts teachers who are shared with the middle school. The building leadership team looks at the data, assesses the data, and outlines the building goals.

There are three learning/study teams and they include the whole staff, including the 14 “core teachers” and the 6 additional teachers. The focus is teacher learning to improve student learning. The three learning/study teams meet simultaneously and the principal moves from team to team and works with all three teams.

This year, the learning/study teams focused on “Classroom Instruction that Works: Research-Based Strategies for Increasing Student Achievement” by Robert Marzano. The middle school also focused on Marzano’s instructional strategies so there is continuity for the shared teachers, which include the related arts teachers (art, instrumental music, physical education, and vocal music). Individual teachers are required to use two strategies a week, and every other week, submit implementation logs. The learning/study teams also focus on using the Six + 1 Traits of Writing and creating writing rubrics.

The principal designed the learning/study teams to be cross-grade level teams, representing all content areas, including the related arts teachers. She structured it so that the learning teams, not the grade level teams, focus on the instructional strategies, Six + 1 Traits of Writing, and the rubrics. She created the learning/study teams with the individual personalities in mind. There are teachers, who tend to dominant any group, including the grade level teams, so the principal planned the composition of the learning teams to balance dominant teachers.

At the beginning of the school year, the learning/study teams were less structured but the principal saw the team leaders struggling with dominant personalities so the principal provided more structured meetings to support the team leaders. The principal

helps the team leaders by developing an agenda, planning concrete activities, and providing structure for the learning teams. The team leaders were selected for the leadership skills they demonstrate, but the principal was concerned with the leadership the team leaders were providing for the teams. The principal observed the learning teams discussing the strategies superficially.

Principal: The team leaders introduced graphic organizers as if there was one way to use them—a “slam, bam, thank you, ma’am” approach, which did not lend itself to in-depth discussions. I structured the learning team meetings differently, by providing common “hard copy” tasks for the teams to complete. The common tasks provide a concrete focus, the discussions are directed, and the teachers are talking about the instructional strategies in-depth. With structure, the learning teams are becoming learning teams and the discussions are more meaningful.

This quote demonstrates the principal observed the learning teams needed more support with purpose, structure, and context in order to improve interaction.

According to the principal, the learning/study teams, the teachers, and the principal are learning a lot. The learning teams are learning how to function as a learning team, the principal is learning how to help the learning teams function as a learning team, and not just another “committee,” and the teachers are learning to use the instructional strategies, the Traits, and the rubrics. The principal looks forward to the day when the teams function independently as learning teams, but they are not there yet. They are learning how to be learning teams and learn as a team. For the principal, it’s challenging.

Principal: I want to help teachers learn how to do it (function as a learning team) almost by doing it for them, but hurrying the learning curve does not hurry up the learning. I can’t take any short cuts. In fact, short cuts slow down the learning. The teachers have to learn by doing just like kids learn by doing. I have to learn by doing, too, and I learn something new every year. This year I learned the teams need structure as they learn how to team and learn. Looking back, it’s clear as can be, but I learned by doing it. Next year will be better!

This quote demonstrates the principal recognizes the important of structure.

Last year, the learning/study teams were optional and most teachers opted to participate, but some teachers did not, so the principal learned something. This year, participation in the learning teams was required. According to the principal, that is a step in the right direction for a learning organization. It may seem like a small step, but it is a step. All of the teachers are actively involved in the learning/study teams. It is challenging, a learning organization doesn't just happen. The principal learned that, initially, she needs to provide more structure, but anticipates that as the learning teams learn how to function as a team and a learning team, she will need to provide less structure.

Last year, the learning teams focused on SMART Goals. This year, they are focusing on instructional strategies. They are moving from talking about the strategies to implementing them; they're transitioning from learning theory to applying theory to student learning. The SMART Goals provide the "here's what needs to be done so all students are successful" ideology and the instructional strategies provide "here's how it's done."

The Focus Group consists of classroom teachers from both grade level teams. They are responsible for translating the SMART Goal, "improve student performance in the area of reading comprehension and making inferences," into a unit that classroom teachers can use to provide additional instruction in the focus area, including the development of probes to assess student progress. The teachers serve as liaisons with the grade level teams. The Focus Group is responsible for creating an agenda and following it. The principal does not attend all the Focus Group meetings and knows that when she does the teachers look to her for leadership, but provide leadership from within when she does not attend.

The principal noted she was able to "get around" one dominant teacher with the formation of the Focus Group. That teacher was not invited to participate. The four

teachers who were invited to participate had the opportunity to see themselves as learners and leaders, and practice learning and leading. Hopefully, with more practice, teachers who are focused on learning and leading can more effectively lead teacher teams. The principal plans to address professional growth and development with individual, dominant teachers.

The Role of the Focus Group

In order to answer the second research question of what role the teacher team plays and to compare teacher teams across settings, the researcher used Crow and Pounder's (2000) constructs of purpose, composition, structure and context, and interaction. Table C3 outlines the purpose, composition, structure and context, and interaction of the teacher team in Hunt school.

Purpose of the Focus Group

The purpose of the Focus Group is to research instructional strategies and materials for the SMART Goal: Making inferences. The team, consisting of two fourth and fifth grade teachers, is responsible for translating the SMART Goal, improve student performance in the area of making inferences and reading comprehension, into a unit that classroom teachers can use to provide additional instruction in the focus area, including the development of probes to assess student progress. The unit can be used for a designated period of time or used throughout the year, integrated with ongoing reading, writing, and content area activities. The teachers serve as liaisons with the grade level teams, who are responsible for implementing the unit, administering the probes, using the lessons and materials, and providing feedback.

Table C3. Teacher Team: Purpose, Composition, Structure, Context, and Interaction*

Teamness	Focus Group
Purpose of the Teacher Team	To develop informal assessment; to develop curriculum aligned with SMART Goal (making inferences); to develop vertical articulation across grade levels; to create a team structure that overcomes obstacles with grade level teams.
Composition of the Teacher Team	Two classroom teachers from each grade level; lead teacher facilitates; teacher team develop an agenda jointly; agenda balances fourth and fifth grade input and participation; team follows agenda.
Structure and Context of the Teacher Team	Scheduled time during the school day every other week during planning block or principal scheduled release time; team members discuss SMART Goal (inference), develop of informal assessment, curriculum development, analyze student achievement data, participate in professional growth and development.
Interaction of the Teacher Team Members	Work well together; even participation of team members as team develops informal assessment, evaluates results of informal assessments, shares materials collected and developed with input from grade level teams. Agenda balances fourth and fifth grade input; teachers take turns talking about inference at fourth and fifth grade. All four teachers actively involved in implementing materials developed, teaching (student learning), and implementation of professional growth and development (adult learning). All four teachers actively involved in professional growth and development as leaders within the focus group and within the grade level teams.

*Based on Crow Pounder's (2000) Characteristics of Teacher Teams

This Focus Group used the team time to research using inference, collected, created, and compiled instructional materials for teachers, including fiction, nonfiction, and poetry excerpts, and developed a pre-test/post-test using ITBS format. They shared the materials with the two grade level teams in order to focus on and reinforce the school-wide SMART Goal and implement instructional strategies and materials tied to it.

According to the principal, the Focus Group with its specific focus is functioning as an effective team. The team has worked hard and focused on the instructional strategies and materials, not “other issues.” The principal finds that grade level teams focus on “other issues” and plans to continue to use the focus group concept to not only address instructional strategies and materials, but also to address the school climate which remains divided, with the fourth grade teachers acting as an elementary building and the fifth grade teachers acting as a middle school building, not the two grade levels acting as one building. The success of the initial focus group has convinced the principal to create more focus groups in the future.

Principal: With a specific focus, the short timeframe, and a specific project, the focus group concept seems to work for the staff now. That may change as the school culture evolves. Working with a four member team is more manageable than a seven member team (grade level teams and learning).

This quote demonstrates the principal understands the importance of purpose. She views the team structure, the teams, and the role of the teams, including purpose, composition, structure and context as fluid.

Composition of the Focus Group

The Focus Group consists of the two fourth and fifth grade teachers. The teachers met five times to complete the common task of developing the pre-test/post-test and compiling instructional strategies and materials for the teams to use. The principal created the Focus Group to address student learning, student achievement, and professional growth and development because the grade level teams and the learning teams weren't serving that purpose. The Focus Group served to provide an opportunity for the principal to pilot a

project to see if she could create a team structure that could focus on student and adult learning and create a school culture committed to learning.

The elementary building (4-5 grades) was created when the district built the new middle school. The 6-7-8 grades moved to the new middle school, the fifth grade team stayed in the building, and the fourth grade teachers moved from the traditional elementary building (K-4 grades) to the newly formed elementary building. The principal noted it has been interesting to see the elementary and middle school cultures merge.

Principal: The fifth grade teachers retained the middle school culture. The fourth grade teachers brought the elementary school culture with them, which did not include the team concept. They were not accustomed to meeting, nor had they functioned as a team; they functioned as individual teachers who taught at the same grade level, at the same school. Six years later, the two cultures are still merging.

This quote demonstrates the principal is proactively addressing the school culture with the use of teacher teams. She has determined that in order to change the culture, she needs teacher collaborating and teaming. The current teams are not working so she has tinkered with the composition of the teacher teams.

The fifth grade team is collaborative. The teachers do not have a shared planning time, but they created one because they are committed to teaming. They have more in-depth conversations about instructional strategies, collaborate, and strive to serve students. They are willing to change. The fourth grade team is collegial. They are willing to meet if the principal will take their classes, but otherwise they do not feel the need to meet as a team, so they did not create a time to meet. The principal structured it so they had a shared planning time once a week, but they are not committed to it. They do not see the value of teaming and are willing to maintain the status quo, as teachers and adult learners.

The principal formed the learning teams to merge the two teams and create cross-grade level teams and bridge the two teams and the two cultures. She also formed the learning teams with personalities in mind and created different personality blends. She gave a lot of thought to who would be the dominant team members and who would be the leaders in order to try to balance the teams. The dominant team members are not necessarily leaders, or do not provide leadership related to student and adult learning. The learning teams are functioning: two are succeeding with how to function as a team, but one is struggling. As team members are learning how to function as a team, they are not as focused on instruction as they will be when they have learned how to function as a team. The principal commented on the challenges presented by school culture and change.

Principal: The teachers know what the right thing to do is, and want to do the right thing, but doing it is hard. Doing the right thing as a team is more difficult. If the norm is “do not change,” an individual can do what she wants in her classroom when she is not part of a team. If she is part of a team, with the “do not change” norm, it is difficult to ignore the norm. It is difficult to challenge professional peers. Open communication and conflict are mines in a minefield. Individuals committed to student and adult learning ignore the norm when working individually and “suffer in silence” when working in a team.

This quote shows the principal understands the composition of the teacher teams hinders the open communication and conflict. The characteristic of teamness is not present in the grade level and leadership teams. Without open communication and conflict, the communication and collaboration are limited. In order to change the interaction, the principals has concluded she must change the composition of the teacher teams.

Structure and Context of the Focus Group

The Focus Group focuses on the SMART Goal. The need for the SMART Goal was noted by both the leadership team when analyzing school-wide level data and the grade

level teams when looking at grade level data. The Focus Group developed a packet of materials that teachers can use to provide additional instruction in the focus area, including the development of probes to assess student progress. The Focus Group team members used the materials during a focused, intense study after administering the pre-test. They culminated the study with the administration of the post-test. Implementation of the SMART Goal is was required, but use of the materials and probes by the grade level team members was optional. All the fifth grade teachers administered the probes and were unhappy with the results, which involved accountability. The fifth grade teachers discussed the response of the fifth grade team.

Char: The teachers thought the questions that were already developed (by the company) were invalid. When I had a chance to think about it, I realized it was the inferential questions, the not “right there” kinds of questions they questioned.

Mary: I think part of it was their students did not do well on the probes.

Char: It's not something kids do automatically when they read. They don't realize they're doing it. They're becoming more aware of it by discussing it.

Mary: It was fun to analyze what the students were thinking, what information they used, what information they ignored, and what they had to infer to understand what they were reading. I learned as much from what they weren't doing as I learned from what they were doing.

This exchange shows the grade level team struggles with change. The fifth grade teachers concluded they gave the teachers the pre/post-test, but they didn't share the activities. They didn't provide the support the teachers needed to change.

The fourth grade teachers shared the instructional materials. The teachers were happy with the materials, which did not involve accountability. The teachers could choose to use or not use the materials. The fourth grade teachers did not administer the pre/post-test. The Focus Group teachers talked about the two different approaches.

Kelly: We gave the teachers the packets, but said we would administer the probes next year. The teachers were receptive.

Lisa: There were no “have tos” and they appreciated that.

Kelly: They used the activities. We didn’t say, “You have to give the pre-/post-test,” but said, “Here are some materials you can use.”

Mary: We need to prepare something like that for the fifth grade teachers. We threw a couple of ideas out there, but didn’t make them available in a packet. No wonder your teachers were receptive, they had a resource, right there, ready to use.

The exchange demonstrates the teachers learned that sharing the actual materials was more productive than requiring the use of the probes. The Focus Group team members developed a plan to share the instructional materials with all teachers.

Interaction in the Focus Group

The lead teacher facilitates the meetings. Other teachers volunteer to record minutes. The Focus Group met in the principal’s office, while the principal taught one of the classes. The principal discussed the previous work with the Focus Group as a group, with individual teachers, and the fourth and fifth grade teams, and was aware of the agendas. Initially, the principal met with the Focus Group, but as the work progressed, she “took a back seat.” The Focus group was working and didn’t need her “driving and direction.”

The grade level teams include the core teachers. The building has self-contained classes for language arts, math, science, and social studies. The related arts teachers, who also teach at the middle school, include music, art, instrumental music, physical education, and vocal music. The grade level teams develop the SMART Goals, but tend to discuss management issues more than instructional strategies to implement the SMART Goals.

The principal initiated the Focus Group, a new team structure, to focus specifically on how strategies to impact student learning. It is hoped that with a focus, a short timeframe, and a specific project, the focus group team structure will provide the structure to effectively focus on student and adult learning, and not be waylaid by the politics of interpersonal interactions.

A Snapshot of the Focus Group

The representatives in the Focus Group serve two roles—to provide their individual perspectives and to represent their grade level teams and provide the grade level team perspectives. The representatives take the two roles seriously and discuss both their individual and grade level perspectives. The teachers took each other's grade level pre-test/post-test to provide feedback. First, they talked about what they were thinking as they took the test. And then they talked about what their students did and would do when they took the test. The activity was worthwhile as well as fun.

Mary: There are too many names and quotation marks.

Lisa: I had to read the first paragraph several times. I was trying to keep all the names straight.

Kelly: When you read the questions first and then read the passage, you realize you don't need to remember all these names. It's a basketball game, there are lots of players, but you don't need to remember the names.

Lisa: When I read the questions I realized I should have used that test taking strategy and read the questions first and then the story.

This exchange demonstrates the teachers will refine their skills as they continue to develop probes. The exchange also demonstrates the teachers are developing their skills as professionals as well as the probes and the teaching unit.

One role of the principal is to continue working to create a school culture where all the teachers are committed to professional growth and development, including collaborating and working together. The fifth grade team values it, but the fourth grade team does not. According to the principal, the reformed elementary school might have resembled a newly formed “middle school” with teachers from traditional junior high schools and elementary schools. The initial middle school teams would have had to learn how to team and that’s what the fourth grade team is learning how to do, learning to be more than collegial, to be collaborative.

Another role of the principal is to provide the instructional leadership and move the conversations from teacher friendly to student focused and friendly. Right now, some conversations are superficial and the principal is working toward having more conversations, eventually all conversations, be focused on real student learning.

Impact of the Focus Group on Student Learning and Student Achievement

The Focus Group is addressing one component of the big picture—one SMART Goal. It does not focus on individual students, but rather group data, aggregated and disaggregated. The Focus Group provides the dual grade level perspective and blends the dual grade level team cultures. The Focus Group impacts student learning and achievement.

Strategies to Promote Student Achievement and Student Learning

Strategies to Promote Student Achievement and Student Learning

curriculum and assessment alignment

curriculum mapping

collaborating across grade levels

creating, collecting, and compiling instructional materials for teachers to use to focus on SMART Goal

SMART Goal—making inferences (reading comprehension strategy)

developing probes and using data to determine SMART Goal and assess effectiveness of instructional materials

professional growth and development

The Focus Group teachers and principal use a variety of strategies to impact student learning and achievement. One strategy is alignment of curriculum and assessment. The teachers noted the teaching unit not only focused on making inferences in reading, but also included social studies and science.

Char: I looked at the science and social studies questions on the ITBS tests, and most of them are making inferences.

Mary: Vocabulary is critical.

Char: With science experiments, you follow the steps, collect the data, draw conclusions. And in drawing conclusions, you make inferences.

Mary: It's nonfiction and high interest.

This exchange demonstrates the teachers understand teaching making inferences will positively impact the social studies and science curriculum and ITBS assessment.

The Focus Group incorporated the alignment of curriculum and assessment with curriculum mapping. The teachers discussed the SMART Goal timeframe and its relation to the big picture.

Char: We could focus on making inferences all year. Making predictions to make inferences one month, drawing conclusions to make inferences another month.

Lisa: We could develop probes for different ways to make inferences.

Kelly: We could have the students keep a journal and write how they were developing an understanding of making. The pre and post-test, the probes, and the journals would help the students, their parents, and us see how they understand and apply it.

This planning demonstrates the teachers understand making inferences is a strand throughout the curriculum, not an isolated comprehension strategy.

Collaborating across grade levels impacted student learning and achievement. The fourth grade teachers know what students can and cannot do at the fifth grade level. The fifth grade teachers know what instructional strategies and materials the fourth grade teachers use. The teachers discussed how to develop the curriculum across grade levels.

Kelly: We could have a shared definition that everyone uses. Fifth grade teachers would see it transfer from fourth grade.

Char: We could focus on making inferences all year. We could designate different themes for different grade levels. Or we could use the same themes, but use more difficult materials.

Mary: That way students will see it's a thinking strategy, not just something we use when we read, but in science, social studies, reading for information, reading for enjoyment, it's ongoing. 24-7.

This exchange shows the teachers understand developing the curriculum across the grades will strengthen the curriculum and the students will understand and apply the strategy across the grades and the content areas.

The task the Focus Group completed was creating, collecting, collaborating, and compiling instructional materials for teachers to use to focus on the comprehension strategy, making inferences. After discussing the poetry excerpts on the pre-/post-tests, and the use of poetry on ITBS, the teachers talked about the use of poetry in class.

Mary: Inference really makes them think and poetry is rich with inference.

Kelly: We need to include more poetry in the packet of materials. It's language with limited text so each word matters.

This exchange demonstrates the teachers a better understanding on inferences, which they are plying as they further develop the teaching unit.

The building leadership team and the grade level teams used student data to develop the SMART Goal. The Focus Group developed the probes using ITBS format and excerpts from fiction, nonfiction, and poetry selections. The fifth grade teachers administered the probes to the students. The Focus Group took the probes and discussed their thinking as they took the probes and tried to discern what the fifth grade students were thinking. The Focus group used the student data to assess the effectiveness of the making inferences unit.

Char: 19 kids missed it. They read they're proud to be friends, but missed this part "Tyler bounced the ball nervously" or this part "You don't understand how we do things here," so they don't realize they are afraid."

Char: That's making inferences. They read what's there, think about it, and infer.

This exchange demonstrated the teachers were reflecting on how they were using the materials and teaching making inferences. They concluded the students need more modeling by the teachers and more practice with each other, just like the Focus Group needed to collaborate with each other.

The Focus Group noted the professional growth and development opportunities provided the Focus Group impacted student and adult learning. The teachers shared they did not feel they used the reading comprehension strategy, making inferences, effectively, but they were developing a shared definition of making inferences, which was helpful.

Char: It's important knowing as adult readers when we're making inferences and how. And model for the students making inferences. I just made an inference. This is how I did it and why!

Lisa: We need to provide more opportunities for practice. It needs to be meaningful, not page after page of worksheet, but making real inferences. We need to use science, social studies, trade books, and poetry.

Kelly: We need to create opportunities for students to discuss it.

This exchange shows the teachers are applying what they have come to rely on, the collaboration, to the classroom.

Effectiveness of the Focus Group in Promoting Student Achievement

The school is a rural school with very little ethnic diversity and a limited number of English Language Learners (ELL) students. There has been a marked increase in the number of students—an increase from 24 to 29 students per class. The increase in enrollment (approximately forty students/ 20 per grade level) presents challenges. The building is a traditional junior high school building with fourth grade on the first floor and fifth grade on the second floor. The classrooms are self-contained. The two grade levels differ. One grade level has a high number of students with IEPs (20 of the 140 students have IEPs) while the other grade does not. According to the principal, the grade level that has the greatest need to provide differentiated instruction is the least prepared to provide it.

The grade level that has the greatest student learning needs also has the greatest adult learning needs.

The school staff has 22 teachers and most of them are experienced with more than half of the teachers having taught for 20 years. The less experienced staff members are more open to change, flexible, and frustrated by the status quo. The more experienced staff members, particularly the fourth grade teachers, like the status quo. They are less open to change, inflexible, and frustrated by change. They began teaching in isolation and would be more comfortable continuing to teach in isolation.

Five teachers have advanced degrees. One of the ten self-contained classroom teachers has a Masters in reading and she's a dynamic teacher, very knowledgeable about reading, but she doesn't know how to share her knowledge without antagonizing other teachers. She is very interested in teaching reading and good at teaching reading with students, but she's not as good at teaching teachers.

In ITBS reading and mathematics, the percent of students who are proficient continues to increase. When the school applied for TBVP, the teachers realized they might not meet the TBVP goals, but felt strongly they would continue to see growth. The Adequate Yearly Progress (AYP) goals and the SMART goals are based on ITBS student achievement data. The school met its student achievement goals for 2003-2004.

Teachers study the ITBS item analysis, develop SMART Goals, and make instructional and curriculum changes based on the item analysis. The grade level teams focus on grade level data, while the leadership team (core staff) focuses on the cross-grade level data. This year, they determined vocabulary and making inferences were areas for growth. The action plans reflect the areas of growth and every teacher, including the

related arts teachers, implements two reading strategies a week. The instructional strategies are research-based.

Effectiveness of the Principal in Promoting Student Achievement

The principal currently serves as the curriculum and professional growth and development coordinator for the district, so she has a great deal of curriculum knowledge and is an instructional leader in the areas of curriculum development, instruction, and assessment. She has coordinated the development of the new professional growth and development plan (evaluation of beginning teachers and career teachers), and the Career Development Plan (professional growth and development plan tied to required reading, math, and science goals) and helped each of the schools implement the plans. In fact, she has conducted more Walk Thrus in other buildings, modeling for other principals how to conduct a Walk Thru, than she has conducted in her own building. "It is frustrating. I feel my own building is at risk."

The middle school received a Comprehensive School Reform grant, so the elementary building benefits from shared professional growth and development resources, but does not receive funding for stipends for teachers. Last summer, NWEP worked with the staff, but it was voluntary for elementary teachers so not all the teachers participated. This summer, the staff will have the opportunity to focus on Marzano's instructional strategies that work. Again, it will be voluntary for elementary teachers so not all the teachers will participate. The principals sees a team structure with learning teams and focus groups is in place and the teacher can begin to grow as learners.

Principal: It has been a challenge because change is difficult, but they are making progress. They have focused on reading and every teacher teaches reading. Learning is work, but they are working at it, and they are learning. The Focus Group supports the learning and may, in the long run be more effective than the learning teams.

This quote demonstrates the principal understands the importance of the team structure and is willing to tweak it, twist it, or completely revolutionize it.

According to the principal, she is learning all the time. As a member of the administrative team, she is part of a study group and she sees the administrative team struggle with the same issues as the teachers. As the curriculum coordinator, she is eager to go and has to remind herself that her eagerness can hinder teachers' growth. They may not be eager, but they are ready to go and they are learning. The fifth grade team focuses on the instructional needs of students and their instruction related to the instructional needs of students. The fourth grade team focuses on their needs and maintaining the status quo. The focus group may be the answer. It may help to blend the two cultures, which are embedded in the grade levels. This particular Focus Group has been successful. Other staff members would like to serve on a focus group. Initially, being invited to serve on a focus group was considered an additional obligation, now it's considered an honor. Working with 2 teachers from each grade level worked with the initial team and may work with other focus groups. The leadership team is exploring future topics.

Impact of the Focus Group on Professional Growth and Development

The Focus Group is concentrating on one SMART Goal, and the student learning and achievement related to that goal. That concentration includes the professional growth and development related to that SMART Goal.

Strategies to Promote Professional Growth and Development

Strategies to Promote Professional Growth and Development

SMART Goals

use of student data to drive professional growth and development

collaborating across grade levels

creating, collecting, and compiling instructional materials for teachers to use to focus on SMART Goal

developing probes for ongoing assessment, aligning probes with curriculum and assessment

developing teachers as instructional leaders

curriculum and assessment development and alignment

The Focus Group and the principal use a variety of strategies to impact professional growth and development. One strategy is the use of student data to drive the professional growth and development plan. The Focus Group was asked for input regarding whether or not making inferences needed to be SMART Goal for 2004-05.

Lisa: It needs to continue to be a SMART Goal. When it's a SMART Goal, we agree it's important, we all work on it, we assess it, and we are accountable for developing and improving it.

Kelly: We need to work on it longer. One month was too short. We did not see very much growth. We need to work on it all year and assess it periodically.

Lisa: If we work on it all year, we need to develop different probes and work on it in science and social studies. We could have students develop probes.

This exchange demonstrates the teachers use the student achievement data to make decisions.

Developing instructional materials gave the Focus Group members an opportunity to explore in-depth the reading comprehension strategy as adult learners and teachers.

Initially the Focus Group focused on making inferences as adult readers. Now, the Focus group team members have a better understanding of the strategy and see how it is connected to other reading strategies and other content areas. They see the big picture when it comes to comprehension and instruction. The teachers discussed the shared definition they developed.

Mary: It shows the students the skills are connected and related. Making a prediction is based on what you read and what you know. It's taking a step forward without the author, a step into the unknown, so it's making an inference. Good authors give you good clues. You have to learn to look for the clues and keep checking with what you know, what you're read, and what you think to see if your inference makes sense. As we approached making inferences, we were thinking these were unrelated strategies, but they're related.

This quote demonstrates the teachers are developing as professionals.

The Focus Group developed the probes for ongoing assessment, aligning the probes with curriculum and formal assessment. The development of the probes contributed to the Focus Group members' understanding of making inferences as learners and teachers. The lead teacher explained they were going to do some fine-tuning by taking each other's tests. Fourth grade teachers took the fifth grade test and fifth grade teachers took the fourth grade test. After the teachers took the tests, they discussed how they felt about the tests, the passages and the questions.

The Focus Group members became "experts" on making inferences and serve as leaders for the grade level teams. The Focus Group teachers not only have a better understanding of making inferences, they have the confidence to share what they have learned with students, teachers, and parents. They agreed they have more to learn about making inferences, but have developed a level of expertise they did not have prior to the Focus Group.

Lisa: We need to know when it is inference.

Char: There are a lot of things we are doing students that include making inference. This is not an isolated skill, but something we use day in and day out. We need to be explicit when we teach it, modeling it, so we know and students know.

Lisa: It would be good for all of us to be able to read a question and say it's an inference.

This exchange demonstrates the teachers are developing as professionals and leaders. They are ready to share the knowledge they have gained with their grade level teams.

The Focus Group members used curriculum and assessment development as a tool to understand the reading comprehension strategy as learners and teachers. The Focus Group teachers concluded that inferences are a component of and can be assessed in reading, but inference is also a component used in the content areas and can be assessed in those content areas.

Lisa: We need to point out to students and teachers that we make inferences in science and social studies. We use inference whenever we're reading and thinking.

Kelly: We need to develop probes for making inferences using science and social studies themes. And administer the probes while we were studying the theme to see how students were making inferences.

This exchange demonstrates the teachers understand they see the connections, but they will need to provide leadership and continue teaching making inferences so that teachers and students see the connection.

Curriculum and assessment alignment accompanies curriculum and assessment development. The Focus Group, the grade level teams, and the leadership team use the ITBS item analysis to determine SMART Goals. SMART Goals drive instruction and assessment. The Focus Group talked about the limitations of using ITBS for item analysis, but realized they could use the same process with NWEA assessment data.

Mary: I'll be curious to see when we analyze this year's ITBS data if we made a difference or if we still need to work on inferences. We only focused on it for a month, so I'm predicting we'll need to spend more time on it next year.

Char: It goes beyond ITBS.

This exchange demonstrates the teachers will continue the process of aligning curriculum and assessment until they have the right assessment.

The Focus Group members critiqued the instructional materials as they collected, compiled, created, and collaborated them. The fourth grade teacher talked about the instructional strategies and materials they collected.

Kelly: Here's an example, the recording sheet is an ice cream cone shape. You list what's there, your background knowledge, and then, you write your inference. You can use the recording sheet with different excerpts. It's the process—you use the thinking process to build your inference, like you build an ice cream cone.

This quote demonstrates the teachers provided open-ended activities to teacher the strategy which can be used with different excerpts and different content areas.

Effectiveness of the Principal in Promoting Professional Growth and Development

The principal actively seeks opportunities to provide meaningful team structures for team teachers. The principal has toyed with learning teams and focus groups to create a school culture committed to student learning and adult learning. Teachers used to think it would be a chore to serve on a focus group; now they think it is an honor. The focus group concept may be the answer to finding a way to blend the two grade levels and cultures to promote student achievement, student learning, and professional growth and development.

Characteristics of Teamness

The teachers were asked to identify the characteristics of teamness they value as a Focus Group. The teachers have worked together as a Focus Group for approximately one quarter and their responses reflect their namesake. They rated common task as critical. They noted the Focus Group has provided opportunities for developing teachers as professionals (adult learning) and leaders. They noted they took a risk agreeing to serve on the Focus Group. Developing the probes and compiling the instructional materials required risk taking, too—risk taking with each other as a new team and risk taking with their grade level teams. They stated they have enjoyed the risk taking and learned from it, again referring to developing teachers as professionals and leaders. To function effectively, they felt they needed to use open, direct communication and conflict and be aware of and accept the group structure.

They agreed they had a role and a focus, and within that role and focus, they shared a mutual respect and trust. Being a part of the Focus Group contributed to a common identity and tenets. They noted they previously had not had the opportunity to work closely together and had enjoyed it, learned from each other, and learned a lot about making inferences.

They focus on the big picture, the SMART Goal, and what students need to be able to do to be successful, and they focus on the detailed picture, the ongoing, informal assessments. The teachers talked openly about what characteristics of teamness they feel they exhibit. During the Focus Group meetings, the teachers also demonstrated the characteristics of teamness. Table A3 lists the characteristics of teamness in the order the teacher team members prioritized the characteristics. The column labeled Observations

Table A3. Based on Hall's (1995) Characteristics of Effective Teams

Teamness	Focus Group	Observations
Common Tasks	Important (#1)	X
Developing Teachers as Professionals (Adult Learning)	Important (#2)	X
Developing Teachers as Leaders	Important (#2)	X
Risk Taking	Important (#2)	X
Open, Direct Communication and Conflict	Important (#3)	X
Awareness and Acceptance of Group Structure	Important (#3)	X
Mutual Trust	Important (#3)	X
Common Identity and Tenets	Important (#3)	X

indicates the researcher observed the teacher team demonstrating the characteristic of teamness.

Common Task

When the Focus Group members were asked to look at the characteristics of effective teams, they responded immediately that common task was the most important.

The Focus Group had a task and that's what they enjoyed about the Focus Group—the task.

They felt they were effective. One of teachers exclaimed, "Common task" and the others agreed.

Mary: That's the reason this team was formed. There was job to be done. We came to do the job. We had a common task. Now we have information to share.

Char: This model works.

Kelly: The common task made it so there were no risks. We had a task to complete, we did it, here's what we learned, what we have to share.

Mary: As a school team, we have so much to do. This is efficient and effective. I'll take this task and work on it and share what I learn with you, if in the future you'll take another task and work on it and share what you learn with me. We're all leaders, leading the way with a new model of professional growth and development, and learners.

This exchange shows the teachers felt the common task supported the new teacher team and would help future focus groups.

Developing Teachers as Professionals (Adult Learning)

The Focus Group members were quick to add that developing teachers as professionals (adult learning) and leaders were equally important. With the common task, the SMART Goal, the Focus Group members were sharing their experience and expertise and furthering it. They were responsible for working together, one level of professional growth and development, and they were responsible for sharing what they developed with their grade level teams, another level of professional growth and development. They pooled their resources and created something they would not have been able to create individually.

Lisa: We've learned so much working together across teams. I didn't know how much I knew about making inferences or how much I have to share.

Kelly: I'm a "sharer" of information, not a teller. I'm not doing it for you, but with you, teaming.

Char: We can collaborate. We can team. It doesn't have to be a power struggle.

This exchange demonstrates the teachers value developing as teachers and understand the grade level teams leave much to be desired.

Developing Teachers as Leaders

The Focus Group members professed they had learned as much about themselves as teachers and professionals (adult learning) as they were learning about leading and it was empowering. Again, with the common task, the SMART Goal, the Focus Group team members were responsible for sharing what they developed with their grade level teams. Their grade level teams were receptive to what they developed. The Focus Group concluded the team structure provided opportunities to develop teachers as leaders.

Kelly: Not appointed leaders, but teachers as leaders with regards to this common task, leaders among teachers.

Mary: We were invited to serve on this team because we are leaders whether we're comfortable with that or not. We're leaders who can demonstrate the power of this model, the focus group model—a group of teachers working together with a focus, a timeframe, and a desired project.

Kelly: We have so much to do, we can't singly, individually, or as a whole group, do it all. We have to pool our resources and team. The teachers are glad we were willing to do it and share what we learned.

Theses quotes demonstrates the teachers see themselves as leaders.

Risk Taking

The Focus Group members agreed it was a risk to accept the invitation, to proclaim themselves teachers as professionals (adult learning) and leaders, but it was worth it. Again, with the common task, the SMART Goal, the Focus Group team members were responsible for sharing what they developed with their grade level teams, which required a risk

Lisa: We took a risk to serve on this team, to be responsible for learning something new, and sharing what we learned with others who weren't invited to serve on the team. We share a common experience. We collaborated. We have a common identity and shared tenets. Our peers didn't share the experience."

Kelly: The task minimized the risk. We had a task to complete. We were asked to do, we accepted, we did it, and here's what we learned.

This exchange demonstrates the teachers understand the importance of risk taking and recognize in the current school culture it is a risk to learn and lead.

Open, Direct Communication and Conflict

The Focus Group members talked about their role as grade level representatives. They were responsible for communicating with their grade level teams. The teachers handled it differently with different results. The fifth grade teachers shared the pre-/post-test and told their peers they had to administer it. The fourth grade teachers shared a packet of materials and told their peers they could use them as they found them useful. The teachers realized they could learn how to communicate with their grade level teams from each other.

A fourth grade teacher: We have so much to do, so the teachers were glad we were doing it. They were glad we were willing to share what we learned. We didn't tell them they had to administer the probes. We will next year otherwise we will never know if the instructional strategies and materials are effective.

A fifth grade teacher: We should have made copies of the packet to share with the teachers, not waited for them to ask.

This exchange demonstrates the teachers were learning as leaders.

Awareness and Acceptance of Group Structure

The Focus Group members adopted a group structure, but they did not list it as an important characteristic of teamness. One teacher served as the facilitator. They created an agenda and followed it. For each agenda item, they took turns sharing by grade levels.

Mutual Trust

The Focus Group members did not list mutual trust as an important characteristic of teamness, though they did refer to risk taking. They felt comfortable taking risks within the Focus Group. They felt the risk accepting the invitation to be a member of the Focus Group, but felt the common task minimized the risk. It appears they trust each other in the Focus Group setting, but do not feel the same sense of trust in the grade level teams.

Common Identity and Shared Tenets

The Focus Group members did not list common identity and shared tenets as an important characteristic of teamness. It may be they are too new a Focus Group to feel they have a common identity and shared tenets, but they referred repeatedly to the common task, which may contribute to a common identity and shared tenets if they were to continue to meet as a Focus Group.

REFERENCES

- Abelmann & Elmore (1999). *When accountability knocks, will anyone answer?* Research Report Series. CPRE- RR- 42. Philadelphia, PA: Consortium for Policy Research in Education CRPE Publications.
- Adsit, J., Carpenter, G., & Goff, J. (1998). *The building based awards pilot program: An analysis of the results*. Golden, CO: Jefferson County Public Schools.
- Alexander, M. (1985). In L. D. Goodstein & J. W. Pfeiffer (Eds.), *Developing Human Resources*. San Diego, CA: University Associates.
- Argyris, C. (2000). *Flawed advice and the management trap*. New York: Oxford University Press.
- Arhar, J. M., Johnston, H. J., & Markle, G. C. (1989). The effects of teaming on students. *Middle School Journal*, 20-3 (January), 24-27.
- Aronin, L. (1991). Student study teams: A comparative study. (Ed.D. Dissertation, University of LaVerne, 1991).
- Asmussen, K. J., & Creswell, J. W. (1995). Campus response to a student gunman. *Journal of Higher Education*, 66, 575-591.
- Babbie, E. (1990). *Survey research methods* (2nd ed.). Belmont, CA: Wadsworth.
- Baitland, B. (1992). *An evaluation of an experiential school principal preparation program at the University of Houston*. University of Houston, Houston.
- Barnett, B. (1991). The educational platform: Articulating moral dilemmas and choices for future educational leaders. In B. Barnett, F. McQuirrie, & C. Norris (Eds.), *The moral dimensions of leadership: A focus on human decency* (pp. 129-153). Memphis, TN: Memphis State University, National Network for Innovative Principal Preparation.
- Barnett, B., Basom, M., Yerkes, D., & Norris, C. (2000). Cohorts in educational leadership programs: Benefits, difficulties, and the potential for developing school leaders. *Educational Administration Quarterly*, 36 (2), 255-282.
- Barott, J. E., & Raybould, R. (1998). Changing schools into collaborative organizations. In D. G. Pounder (Ed.), *Restructuring schools for collaboration: promises and pitfalls* (pp. 27-42). Albany, NY: SUNY Press.
- Barth, R. S. (1988). Principals, teachers, and school leadership. *Phi Delta Kappan* (May), pp. 639-642.

- Barth, R. S. (1990). *Improving schools from within*. San Francisco: Jossey-Bass.
- Bass, B. M., & Avolio, B. J. (1994). *Improving organizational effectiveness through transformational leadership*. San Francisco, CA: Sage Publications.
- Bass, B. M., & Stogdill, R. M. (1990). *Bass and Stogdill's handbook on leadership*. New York: Free Press.
- Beane, J. A. (1993). *A middle school curriculum: From rhetoric to reality* (2nd ed.). Columbus, OH: National Middle School Association.
- Beer, M., Eisenstat, R., & Spector, B. (1990). *The critical path to corporate renewal*. Boston, MA: Harvard Business School Press.
- Belasco, J. (1990). *Teaching the elephant to dance: The manager's guide to empowering change*. New York, NY: Penguin Group.
- Bensimon, E. M., & Neumann, A. (1993). *Redesigning collegiate leadership: teams and teamwork in higher education*. Baltimore, MD: The Johns Hopkins University Press.
- Berg, B. L. (2001). *Qualitative research methods for the social sciences* (4th ed.). Boston, MA: Allyn & Bacon.
- Binder, S. (2003). Unpublished. *The role of the principal in successful Team-Based Variable Pay Pilot Project schools*. Ames, IA: Iowa State University.
- Binder, S. (2005). Unpublished. *Developing Teachers as Professionals and Developing Teachers as Leaders*. Ames, IA: Iowa State University.
- Bishop, B. (2000). *The strategic enterprise*. Toronto: Stoddard.
- Blum, A. F., & McHugh, P. (1978). *Self reflection in the arts and science*. London. Heinemann Educational Books, Ltd.
- Blum, A. F., & McHugh, P. (1984). *Self reflection in the arts and science*. Atlantic Highlands, NJ: Humanities Press.
- Bogdan, R. C., & Biklen, S. K. (1982). *Qualitative research for education: An introduction to theory and methods*. Boston, MA: Allyn and Bacon.
- Bransford, J., Brown, A., & Cocking, R. (1999). *How people learn*. Washington, DC: National Academy Press.
- Brewer, J., & Hunter, A. (1989). *Multimethod research: A synthesis of styles*. Newbury Park, CA: Sage.

- Bridges, E. M. (1980). Job satisfaction and teacher absenteeism. *Educational Administration Quarterly*, 16(2), 41-56.
- Brown, J. S., & Duguid, P. (2000). *The social life of information*. Boston: Harvard Business School Press.
- Bryk, A., Sebring, P., Kerbow, D., Rollow, S., & Easton, J. (1998). *Charting Chicago school reform*. Boulder, CO: Westview Press.
- Buchholz, S., & Roth, T. (1987). *Creating the high-performance team*. New York: John Wiley and Sons.
- Calhoun, E. (1995). *How to use action research in the self-renewing school*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Calhoun, E. (2001). *Building capacity to support student achievement from the state department to the classroom and the classroom to the state department*. Paper presented at the Annual Meeting of the American Educational Research Association (Seattle, WA, April 10-14).
- Campbell, D., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 54, 297-312.
- Carr, C. (1992). *Teampower: Lessons from America's top companies on putting teampower to work*. Englewood Cliffs, NJ: Prentice-Hall.
- Cartwright, D. (1968). The nature of group cohesiveness. In D. Cartwright, & A. Zander (Eds.), *Group dynamics: Research and theory* (pp. 91-109). New York: Harper and Row.
- Chadwick, D. (2002). *Team-based variable pay: Report of the Iowa project*. Des Moines, IA: Department of Education.
- Chase, S. E. (1995). *Ambiguous empowerment: The work narratives of women school superintendents*. Amherst, MA: University of Massachusetts Press.
- Clark, S. N., & Clark, D. C. (1994). *Restructuring the middle level school: Implications for school leaders*. Albany, NY: SUNY Press.
- Clotfelter, C. T., & Ladd, H. F. (1996). Recognizing and rewarding success in public schools. In H. F. Ladd (Ed.), *Holding schools accountable: Performance-based reform in education* (pp. 23-63). Washington, DC: The Brookings Institution.
- Clowes, G. A. (2003a). *Excuses, expectations, and learning gaps*. *School Reform News*, The Heartland Institute. Retrieved January 15, 2003, from <http://www.heartland.org/Article.cfm?artId=11278>

- Cohen, D., & Hill, H. (2001) *When state education reform works*. New Haven, CT: Yale University Press.
- Consortium for Policy Research in Education. (2000c). *Professional development today*. CPRE Finance Briefs: Reporting on issues and research in education finance. Retrieved January 4, 2003, from <http://www.ed.gov/pubs/CPRE/t61/t61c.html>
- Cooper, H. (1984). *The integrative research review: A systematic approach*. Newbury Park, CA: Sage.
- Corcoran, T. B. (1995). *Helping teachers reach well: Transforming professional development*. CPRE Policy Briefs: Reporting on issues and research on education policy. Retrieved January 4, 2003, from <http://www.ed.gov/pubs/CPRE/t61/>
- Corkrum, R. L. (1995). *Using team characteristics to predict teamness: A validation of the Harvey/Drolet construct* (Ed.D. Dissertation, University of LaVerne, 1995).
- Creswell, J. W. (1995). *Research design: Qualitative and quantitative approaches*. Thousand Oaks, CA: Sage.
- Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches* (2nd ed.). Thousand Oaks, CA: Sage.
- Creswell, J. W., & Brown, M. L. (1992). *How chairpersons enhance faculty research: A grounded theory study*. *The Review of Higher Education*, 16 (1), 41-62.
- Creswell, J. W., & Miller, D. L. (2000). Determining validity in qualitative inquiry. *Theory into Practice*, 39 (3), 124-130.
- Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process*. Thousand Oaks, CA: Sage.
- Crow, G. M. (1998). Implications for leadership in collaborative schools. In D. G. Pounder (Ed.), *Restructuring schools for collaboration: Promises and pitfalls* (pp. 134-154). Albany, NY: SUNY Press.
- Crow, G. M., & Pounder, D. G. (1997). *Teacher teams: Work group enhancement as a teacher involvement strategy*. Paper presented at the 1997 American Education Research Association Conference, Chicago, IL.
- Crow, G. M., & Pounder, D. G. (2000). Interdisciplinary teacher teams: Context, design, and process. *Educational Administration Quarterly*, 36 (2) (April), 216-254.
- Cruickshank, S. T., & Haefele, H. T. (2001). Good teachers, plural. *Educational Leadership*, 58 (5), 26-30.

- Danielson, C. (2001). New trends in teacher evaluation. *Educational leadership*, 58(5), 12-15.
- Darling-Hammond, L., & Snyder, J. (1992). Framing accountability: Creating learner-centered schools. In A. Lieberman (Ed.), *Ninety-first yearbook of the National Society for the Study of Education: Vol. 1. The changing contexts of teaching* (pp. 11-36). Chicago National Society for the Study of Education.
- Darling-Hammond, L. (1997). *Doing what matters most: Investing in quality teaching*. CPRE Policy Briefs: Reporting on issues and research on education policy. Retrieved January 4, 2003, from <http://www.ed.gov/pubs/CPRE/t55/>
- Day, J., Goertz, M., & Floden, R. (1995). *Building Capacity for Educational Reform*. CPRE Policy Briefs. Retrieved January 4, 2003, from <http://www.ed.gov/pubs/CPRE/rb18/>
- Deal, T. E., & Peterson, K. D. (1999). *Shaping school culture: The heart of leadership*. San Francisco: Jossey-Bass.
- Denzio, N. K. (1978). *Symbolic interactionism and cultural studies*. Cambridge, MA: Basil Blackwell.
- Doda, N. (1983). *School effectiveness and the middle school: The missing links*. A paper presented at the annual meeting of the National Middle School Association. Chicago, IL (November).
- Drolet, B. (1993). *The power beneath the surface: Identifying behavioral norms in elementary schools* (Ed.D. Dissertation, University of LaVerne, 1993).
- Duffy, F. (2003). I think, therefore I am resistant to change. How educators learn. *National Staff Development Council*, 24 (1), 30-36.
- Dyer, W. G. (2001). The power of 360-degree feedback. *Educational Leadership*, 58 (5), 35-38.
- Eddy, W. B. (1985). *The manager and the working group*. New York: Praeger.
- Education Commission of the States. (2001). *Pay-for-performance: Key questions and lessons from five current models*. Author. Retrieved September 15, 2002, from <http://www.ecs.org/clearinghouse/28/30/2830.htm>
- Elmore, R. F. (1990). Reform and culture of authority in schools. *Educational Administrative Quarterly*, 23-4, 60-78.
- Elmore, R. F. (2000). *Building a new structure for school leadership*. Washington, DC: Albert Shanker Institute.

- Elmore, R. F. (2002). Hard questions about practice. *Educational Leadership*, 59 (8), 22-25.
- Elmore, R. F., & Burney, D. (1999). Investing in teacher learning: Staff development and instructional improvement. In L. Darling-Hammond & G. Sykes (Eds.), *Teaching as the learning profession: Handbook of policy and practice* (pp. 236-291). San Francisco: Jossey-Bass.
- Erb, T. O. (1987). What team organization can do for teachers. *Middle School Journal*, 18-4 (August), 3-6.
- Erb, T. O. (1995). Teamwork in middle school education. In H. G. Garner (Ed.), *Teamwork models and experience in education* (pp. 175-198). Boston, MA: Allyn-Bacon.
- Erb, T. O., & Doda, N. M. (1989). *Team organization: Promise, practices, and possibilities*. Washington, D.C.: National Education Association.
- Evans-Stout, K. (1998). Implications for collaborative instructional practices. In D. G. Pounder (Ed.), *Restructuring school for collaboration: Promises and pitfalls* (pp. 43-64). Albany, NY: SUNY Press.
- Fink, E., & Resnick, L. (1999a). *Developing principals as instructional leaders*. Paper prepared for the High Performance Learning Communities Project. Pittsburgh: University of Pittsburgh, Learning Research and Development Center.
- Fink, E., & Resnick, L. (1999b). Developing principals as instructional leaders. *Phi Delta Kappan*, 82 (8), 598-606.
- Finn, C. E. Jr. (2003). High hurdles. *Education Next*, 2(2), 62-67.
- Finn, C., Kanstaroom, M., & Petrilli, M. (1999). *The quest for better teachers: Grading the states*. Washington D.C.: Thomas B. Fordham Foundation. Retrieved April 1, 2002, from the Thomas B. Fordham Foundation website: <http://www.edexcellence.net/better/quest/excel/iowa.html>
- Firestone, W. A., & Pennell, J. R. (1993). Teacher commitment, working conditions, and differential incentive policies. *Review of Educational Research*, 63, 489-525.
- Fisher, K. (1993). *Leading self-directed work teams: A guide to developing new team leadership skills*. San Francisco, CA: McGraw-Hill.
- Forsythe, J. (2000). *Iowa teacher compensation design*. Des Moines, IA: Educator Compensation Design Team.
- Francis, D., & Young, D. (1979). *Improving work groups: A practical manual for team building*. San Diego, CA: University Associates.

- French, W. L., & Bell, C. H. (1995). *Organizational development: Behavioral science interventions for organization improvement*. Englewood Cliffs, NJ: Prentice-Hall.
- Fullan, M. (1993a). *Change forces: Probing the depths of educational reform*. London: Falmer Press.
- Fullan, M. (1993b). *Change forces: The sequel*. Bristol, PA: Falmer Press.
- Fullan, M. (2001a). *Leading in a culture of change*. San Francisco: Jossey-Bass.
- Fullan, M. (2001b). *The new meaning of educational change* (3rd ed). New York: Teachers College Press.
- Fullan, M., & Hargreaves, A. (1991). *What's worth fighting for in your school?* New York, NY: Teachers College Press.
- Furtwengler, C. (1985). Tennessee's career ladder: They said it couldn't be done. *Educational Leadership*, 43 (3), 50-56.
- Gadamer, H. G. (1975). *Truth and method*. New York, NY: Seabury Press.
- Galvin, P. F. (1998). The organizational economics of interagency collaboration. In D. G. Pounder (Ed.), *Restructuring schools for collaboration: Promises and pitfalls* (pp. 43-64). Albany, NY: SUNY Press.
- Garten, J. (2001). *The mind of the CEO*. New York, NY: Basic Books.
- Garvin, D. (2000). *Learning in action*. Boston: Harvard Business School Press.
- Geertz, C. (1986). Making experiences, authoring selves. In V. W. Turner & E. M. Bruner (Eds.), *The anthropology of experience* (pp. 374, 380). Urbana, IL: University of Illinois Press.
- George, P. S., & Oldaker, L. I. (1985). *Evidence for the middle school*. Columbus, OH: National Middle School Association.
- Georgia Department of Education. (2000). *The pay for performance program: Evidence of program impact*. Author. Retrieved October 18, 2002, from <http://www.doe.k12.ga.us/budget/pfp.asp>
- Gibson, P. (1992). *Factors present during the development of exemplary interdisciplinary teams in middle level schools* (Ed.D. Dissertation, Virginia Polytechnic Institute and State University, 1992).
- Gleick, J. (1999). *Faster*. New York, NY: Pantheon Books.

- Glesne, J. C., & Peshkin, A. (1992). *Becoming qualitative researchers: An introduction*. White Plains, NY: Longman.
- Goetz, J. P., & LeCompte, M. D. (1984). *Ethnography and qualitative design in educational research*. New York: Academic Press.
- Goffee, R., & Jones, G. (2000, September-October). Why should anyone be led by you? *Harvard Business Review*, pp. 63-70.
- Goldhaber, D. D., & Brewer, D. J. (1997). Why don't schools and teachers seem to matter? Assessing the impact of unobservables on educational productivity. *Journal of Human Resources*, 32 (3), 505-523.
- Goleman, D. (2000). Leadership that gets results. *Harvard Business Review*, pp. 78-90, March-April.
- Goodlad, J. (1984). *A place called school*. New York: McGraw-Hill.
- Guba, E. G., & Lincoln, Y. S. (1981). *Effective evaluation*. San Francisco, CA: Jossey-Bass.
- Guskey, T. R. (2000). *Evaluating professional development*. Thousands Oaks, CA: Corwin Press.
- Guskey, T. R., & Huberman, M. (Eds.). (1995). *Professional development in education: New paradigms and practices*. New York, NY: Teachers College Press.
- Hackman, R. J. (Ed.). (1990). *Groups that work (and those that don't): Creating conditions for effective teamwork*. San Francisco, CA: Jossey-Bass.
- Hackman, R. J., & Oldham, G. R. (1980). *Work redesign*. Reading, MA: Addison-Wesley.
- Haimes, R. (1995). Planning for change. In H. R. Garner (Ed.), *Teamwork models and experiences in education* (pp. 73-84). Boston, MA: Allyn & Bason.
- Hall, G., & Caffarella, E. (1998, May 5). *Executive summary: Third year implementation assessment of the performance pay plan for teachers (1997-'98)*. *Presentation to the Douglas County Board of Education*. Retrieved September 15, 2002, from <http://www.dcsd.k12.co.us/district/hr/Third.year.assess.98.html>
- Hall, S. C. (1995). *The road less traveled: Elementary teacher teams*. LaVerne, CA: University of LaVerne.
- Hamel, F. L., & Merz, C. (2005). Reframing accountability: A preservice program wrestles with mandated reform. *Journal of Teacher Education*, 56(2), 157-67.

- Hanushek, E., & Raymond, A. (2002). *Accountability and academic achievement*. NBER Working Paper 8000.
- Hare, A. (1952). Interaction and consensus in different size groups. *American Sociological Review*, 17, 261-267.
- Hart, A. W. (1990). Work redesign: A review of literature for education reform. In S. Bacharach (Ed.), *Advances in Research & Theories of School Management and Educational Policy* (Vol. 1, pp. 3-69). Greenwich, CT: JAI Press.
- Hart, A. W. (1998). Marshalling forces: Collaboration across educational roles. In D. G. Pounder (Ed.), *Restructuring schools for collaboration: Promises and pitfalls* (pp. 89-120). Albany, NY: SUNY Press.
- Harvey, T. R., & Drolet, B. (1994). *Building teams, building people: Expanding the fifth resource*. Lancaster, PA: Technomic.
- Harvey, T. R. (1995). *Organizational theory and organizational development*. LaVerne, CA: University of LaVerne.
- Haycock, K. (1998). Good teaching matters...a lot. *Thinking K-16*, Summer, pp. 3-14.
- Heifetz, R. (1994). *Leadership without easy answers*. Cambridge, MA: Harvard University Press.
- Hill, D. (2000). He's got your number. *Teacher Magazine*, May. Retrieved June 26, 2002, from http://www.teachermagazine.org/tm/tm_printstory.cfm?slug=08sanders.h11
- Hodgkinson, H. L. (2003). *Leaving too many children behind*. ED476949. Washington, D.C.: Institute for Educational Leadership.
- Hoerr, T. R. (1998). A case for merit pay. *Phi Delta Kappan*, 326-327 (December).
- Hoff, D. J. (2001). Test dilemma: Revisions upset trends in data. *Education Week* (May 2). Retrieved September 15, 2002, from <http://www.edweek.org/ew/ewstory.cfm?slug=33cutscores.h20>
- Iacocca, L. (1984). *Iacocca: An autobiography*. New York, NY: Nantam Books.
- Iowa Association of School Boards. (2000). *The lighthouse inquiry: School board/superintendent team behaviors in school districts with extreme differences in student achievement*. Des Moines, IA: Iowa Association of School Boards.
- Iowa Department of Education. (2002). *The Iowa professional development model*. Retrieved October 1, 2003, from <http://www.state.ia.us/educate/ecese/tqt/tc/documents.html>

- Iowa General Assembly. (2001, May). *The establishment of a student achievement and teacher quality program*. Retrieved June 26, 2002, from <http://www.legis.state.ia.us/GA/79GA/legislation/HF/00600/HF00672/010320.html>
- Iowa Professional Development Model. (2002). Author. Des Moines, IA: Iowa Department of Education.
- Isaac, S., & Michael, W. (1990). *Handbook in research and evaluation*. San Diego, CA: Edits.
- Jacobson, S. L. (1999). *Monetary incentives and the reform of teacher compensation: A persistent organizational dilemma*. Unpublished paper. Buffalo, New York: State University of New York. Retrieved October 18, 2002, from <http://www.gse.buffalo.edu/fas/Jacobson/629/readings/comp2.htm>
- Jick, T. D. (1979). Mixing qualitative and quantitative methods: Triangulation in action. *Administrative Science Quarterly*, 24, 602-611.
- Johnson, A., Potter, P., Pughsley, J., Wallace, C., Kellor, E., & Odden, A. (1999). *A case study of the Charlotte-Mecklenburg Public School's school-based performance award program*. Madison, WI: University of Wisconsin-Madison, Consortium for Policy Research in Education, Wisconsin Center for Education Research. Retrieved December 26, 2002, from <http://www.wcer.wisc.edu/cpre/teachercomp>
- Johnson, B. L. (1998). Organizing for collaboration: A reconsideration of some basic organizing principals. In D. G. Pounder (Ed.), *Restructuring for collaboration: Promises and pitfalls* (pp. 9-26). Albany, NY: SUNY Press.
- Johnson, D. W., & Johnson, R. T. (1987). *Joining together: Group theory and group skills*. Englewood Cliffs, NJ: Prentice Hall.
- Johnson, D. W., & Johnson, R. T. (1989). *Leading the cooperative school*. New York, NY: Interaction Book Company.
- Johnson, H., Leak, E. L., Williamson, G., Kellor, E., Milanowski, T., Odden, A., & Hanna, J. (1999). *A case study of the State of North Carolina's school-based performance award program*. Madison, WI: University of Wisconsin-Madison, Consortium for Policy Research in Education, Wisconsin Center for Education Research. Retrieved December 26, 2002, from <http://www.wcer.wisc.edu/cpre/teachercomp>
- Johnson, J. H., & Ramos de Perez, M. (1985). *Four climates of effective middle schools. In Schools in the middle: A report on trends and practices*. Reston, VA: National Association of Secondary School Principals.

- Joyce, B., & Calhoun, E. (Eds.). (1996). *Learning experiences in school renewal*. Eugene, OR: ERIC Clearinghouse on Educational Management. (ERIC Document Reproduction Service No: ED 401 600).
- Joyce, B., & Showers, B. (1983). *Power in staff development through research on training*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Joyce, B., & Showers, B. (1988). *Student achievement through staff development* (1st ed.). New York, NY: Longman.
- Joyce, B., & Showers, B. (2002). *Student achievement through staff development* (3rd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.
- Kaiser, S. M., & Woodman, R. W. (1985). Multidisciplinary teams and group decision-making techniques: Possible solutions to decision-making problems. *School Psychology Review*, 14, 459.
- Katz, L. G., & Rath, J. D. (1986). Dispositional goals for teacher education: Problems of identification and assessment. ED272470. Illinois, U.S.
- Katzenbach, J. R., & Smith, D. K. (1993). *The wisdom of teams: Creating the high performance organization*. Cambridge, MA: Harvard Business School Press.
- Keene, E. O., & Zimmermann, S. (1997). *Mosaic of thought: Teaching comprehension in a reader's workshop*. Portsmouth, NH: Heinemann.
- Kelley, C. (1999). The motivational impact of school-based performance awards. *Journal of Personnel Evaluation in Education*, 12 (4), 309-326.
- Kelley, C. (2000). *Douglas County Colorado performance pay plan*. Madison, WI: University of Wisconsin-Madison, Consortium for Policy Research in Education, Wisconsin Center for Education Research. Retrieved December 26, 2002, from <http://www.wcer.wisc.edu/cpre/teachercomp>
- Kelley, C. (2003). *Performance pay plans: Rewards and risks*. Madison, WI: University of Wisconsin-Madison, Consortium for Policy Research in Education, Wisconsin Center for Education Research. Retrieved January 31, 2003, from <http://www.wcer.wisc.edu/cpre/teachercomp>
- Kelley, C., & Finnigan, K. (2003). Organizational context colors teacher expectancy. *Educational Administration Quarterly*, 39 (5), 603-634.
- Kelley, C., & Protsik, J. (1997). Risk and reward: Perspectives on the implementation of Kentucky's school-based performance award program. *Educational Administration Quarterly*, 33 (4), 474-505.

- Kelley, C., Heneman, H., & Milanowski, A. (2000a). *School-based performance award programs, teacher motivation, and school performance: Findings from a study of three programs*. Pittsburgh, PA: University of Pennsylvania, Consortium for Policy Research in Education.
- Kennedy, M. (1999). *Form and substance in inservice teacher education* (Research monograph No. 13). Madison: University of Wisconsin-Madison, National Institute for Science Education.
- Kinlaw, D. (1989). *Coaching for commitment: Managerial strategies for obtaining superior performance*. San Diego, CA: Pfeiffer & Company.
- Kinlaw, D. (1991). *Developing superior work teams: Building quality and the competitive edge*. San Diego, CA: University Associates.
- Kotter, J. P. (1996). *Leading change*. Cambridge, MA: Harvard Business School Press.
- Kouzes, J. M., & Posner, B. Z. (1987). *The leadership challenge: How to get extraordinary things done in organizations*. San Francisco: Jossey-Bass.
- Kouzes, J. M., & Posner, B. Z. (1998). *Encouraging the heart: A leader's guide to rewarding and recognizing others*. San Francisco: Jossey-Bass.
- Kruse, S. D. (1994). *Learning as collaboration in professional communities: An analysis of innovation in progress*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Kruse, S. D., & Louis, K. S. (1994). *Organizational learning in schools: A framework for analysis*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Kruse, S. D., & Louis, K. S. (1997). Teaching teaming in middle schools: Dilemmas for a school-wide community. *Educational Administration Quarterly*, 33 (3), 261-289.
- Larson, C. E., & LaFasto, M. J. (1989). *Teamwork: What must go right/what can go wrong*. Newbury Park, CA: Sage Publications.
- Lashway, L. (2001a). *Incentives for accountability*. ERIC Document Reproduction Service No. ED457498.
- Lashway, L. (2001b). *The new standards and accountability: Will rewards and sanctions motivate America's schools to peak performance?* ERIC Document Reproduction Service No. ED457499.
- Lebsack, J. (1993). *A formative evaluation of a university departmental restructuring effort*. Doctoral Dissertation. Houston, TX: University of Houston.

- Lee, V. E., & Smith, J. B. (1996). Collective responsibility for learning and its effects of gains in achievement and engagement for early secondary students. *American Journal of Education*, 104, 103-147.
- Leithwood, K., Steinbach, R., & Jantzi, D. (2002). School leadership and teachers' motivation to implement accountability policies. *Educational Administration Quarterly*, 38 (1), pp. 94-119.
- Lewin, R., & Regine, B. (2000). *The soul at work*. New York: Simon & Schuster.
- Lifton, W. M. (1972). *Groups: Facilitating individual growth and societal change*. New York: John Wiley.
- Likert, R. (1961). *New patterns in management*. New York: McGraw-Hill.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage.
- Lipsitz, J. S. (1984). *Successful schools for adolescents*. New Brunswick, NJ: Transaction Books.
- Little, J. W. (1990). The persistence of privacy: Autonomy and initiative in teachers' professional relations. *Teachers College Record*, 9 (14), 509-536.
- Little, J. W. (1997). *Excellence in professional development of professional community*. Berkeley, CA: OERI. U.S. Department of Education.
- Louis, K. S. (1994). Restructuring and the problem of teachers' work. In A. Lieberman (Ed.), *Ninety-first yearbook of the National Society for the Study of Education: Vol. 1. The changing contexts of teaching* (pp. 138-156). Chicago, IL: National Society for the Study of Education.
- Louis, K. S., Marks, H., & Kruse, S. D. (1994). *Teachers' professional community in restructuring schools*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- MacIver, D. (1990). Meeting the needs of young adolescents: Advisory groups, interdisciplinary teams, and school transition programs. *Phi Delta Kappan*, 71, 458-464.
- Maeroff, G. (1993a). Building teams to rebuild schools. *Phi Delta Kappan*, 74 (7), 512-519.
- Maeroff, G. (1993b). *Team building for school change: Equipping teachers for new roles*. New York: Teachers College, Columbia University.

- Marinaccio, A., & Marinaccio, M. R. (1974). *Human relations and cooperative planning in education and management*. Dubuque, IA: Kendall/Hunt.
- Marks, H. M., & Printy, S. M. (2003). Principal leadership and school performance: An integration of transformational and instructional leadership. *Educational Administration Quarterly*, 39 (3), 370-397.
- Matthews, J. (1998). Implications for collaborative educator preparation and development: A sample instructional approach. In D. G. Pounder (Ed.), *Restructuring for collaboration: Promises and pitfalls* (pp. 9-26). Albany, NY: SUNY Press.
- McCollum, S. (2001). How merit pay improved education. *Educational Leadership*, 58(5), 21-24.
- McGrath, J., & Altman, I. (1966). *Small group research*. New York: Holt, Rinehart & Winston.
- McLaughlin, M. (1990). *Educational policy and educational practice*. CRC-P90-127. ED340105. California, U.S.: Center for Research on the Context of Secondary School Teaching.
- McLaughlin, M. (1993). What matters most in teachers' workplace context? In J. W. Little & M. W. McLaughlin (Eds.), *Teachers work: Individuals, colleagues, and contexts* (pp. 79-103). New York: Teachers College Press.
- Menro, R. L. (1998). Student achievement and school and teacher accountability. *Journal of Personnel Evaluation in Education*, 12 (3), p. 257-267.
- Merenbloom, E. (1986). *The team process in the middle school: A handbook for teachers*. Columbus, OH: National Middle School Association.
- Merriam, S. B. (1988). *Case study research in education: A qualitative approach*. San Francisco, CA: Jossey-Bass.
- Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass.
- Mertens, D. M. (2003). Mixed methods and the politics of human research: The transformative-emancipatory perspective. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in the social and behavioral science*. Thousand Oaks, CA: Sage.
- Milanowski, A. T. (1999). Measurement error or meaningful change? The consistency of school achievement in two school-based performance award programs. *Journal of Personnel Evaluation in Education*, 12 (4), 343-363.

- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: A sourcebook of new methods* (2nd ed.). Newbury Park, CA: Sage.
- Mintzberg, H., Ahlstrand, B., & Lampel, J. (1998). *Strategy safari: A guided tour through the wilds of strategic management*. New York: Free Press.
- Mohrman, S. A., & Lawler, E. E. III. (1992). Applying employee involvement in schools. *Educational Evaluation & Policy Analysis*, 14 (4), 347-360.
- Mohrman, S., Cohen, S., & Mohrman, A. (1995). *Designing team-based organizations: New forms for knowledge work*. San Francisco, CA: Jossey-Bass.
- Murphy, J. (1994). Redefining the principalship in restructuring schools. *NASSP Bulletin*, 78(560), 94-99.
- Murphy, J., & Beck, L. (1995). *School-based management as school reform: Taking stock*. Thousand Oaks, CA: Corwin.
- Murphy, P., DeArmand, M., & Guin, K. (2003). A national crisis of localized problem? Getting perspective of the scope and scale of the teacher shortage. *Educational Policy Analysis Archives*, 11(23), 11-23.
- National Staff Development Council. (2001). *Standards for staff development* (Revised). Oxford, OH: National Staff Development Council.
- Newmann, F. & Wehlage, G. (1995). *Successful school restructuring: A report to the public and educators*. Madison, WI: Center on Organization and Restructuring of Schools.
- No Child Left Behind Act of 2002. H. Res.1, 107th Cong., Report 107-334 (2002).
- Noam, G. G. (2003). After-school education: What principals should know. *Principal*, 8(5), 12-21.
- Nonaka, I., & Takeuchi, H. (1995). *The knowledge-creating company*. Oxford: Oxford University Press.
- Norris, C. J., Barnett, B. B., Basom, M. R., & Yerkes, D. M. (2002). *Developing educational leaders a working model: The learning community in action*. New York: Teachers College Press.
- Norris, C. J., Barnett, B. G., Basom, M. R., & Yerkes, D. M. (2002). *Developing educational leaders: A working model: The learning community in action*. New York: Teachers College Press.
- Norris, C., Barnett, B., Basom, M., & Yerkes, D. (1996). The cohort: A vehicle for building transasformational leadership skills. *Planning and Changing*, 27 (3/4), 145-164.

- Norris, C., Basom, M., Yerkes, D., & Barnett, B. (1996). *The development of platforms in leadership programs: Perspectives and prospects*. Paper presented at annual conferences of the University Council for Educational Administration, Louisville, KY. ERIC Document Reproduction Service No. EA 028 098.
- Norris, C., Hermond, D., & Meisgeier, C. (1996). Developing creative leaders for empowered schools. *National Forum of Educational Administration and Supervision Journal*, 14 (1), 14-29.
- Norris, C., Hooker, R., Weise, K., & Baitland, B. (1996). *A community of learners: University and district collaboration*. Paper presented at the annual conferences of the University Council for Educational Administration, Louisville, KY.
- North Carolina State Department of Public Instruction. (2000). *History of the ABCs program*. Author. Retrieved September 18, 2002, from <http://www.ncpublicschools.org/abcs/ABCsHist.html>
- Nurick, A. (1993). Facilitating effective work teams. *SAM Advanced Management Journal*, 58 (1), 22-27.
- Odden, A. (2000). *School-based performance award programs*. Madison, WI: University of Wisconsin, Consortium for Policy Research in Education, Wisconsin Center for Education Research.
- Odden, A., & Kelley, C. (1997). *Paying teachers for what they know and do: New and smarter compensation strategies to improve schools*. Thousand Oaks, CA: Corwin Press.
- Odden, A., & Kelley, C. (2000). *School-based performance award programs: Design and administration issues synthesized from three programs*. Madison, WI: University of Wisconsin, Consortium for Policy Research in Education, Wisconsin Center for Education Research.
- Odden, A., & Odden, E. (1994). *Applying the high involvement framework to local management of schools in Victoria, Australia*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Odden, E., & Wohlstetter, P. (1995) Making school-based management work. *Educational Leadership*, 55 (5), 32-36.
- Olson, L. (2002). Accountability studies find mixed impact on achievement. *Education Week*, June. Retrieved September 18, 2002, from http://www.edweek.org/ew/ew_printstory.cfm?slug=41account.h21
- Painter, J. (2001). Using teaching portfolios. *Educational Leadership*, 58 (5), 31-34.

- Pascale, R., Millemann, M., & Gioja, L. (2000). *Surfing the edge of chaos*. New York: Crown Business.
- Patton, M. (1990). *Qualitative evaluation and research methods*. San Francisco, CA: Sage.
- Pierce, M., & Stapleton, D. (2003). *The twenty-first century principal*. Cambridge, MA: Harvard Educational Press.
- Pomerantz, M. (2000). *Proposal for Iowa teacher compensation design*. Des Moines, IA: The Business and Education Forum.
- Popham, W. J. (2001). *The truth about testing: An educator's call to action*. Alexandria, VA: Association for Supervision and Curriculum Development (ACSD).
- Pounder, D. G. (1997). Teacher teams: Promoting teacher involvement and leadership in secondary schools. *High School Journal*, 80 (2), 117-124.
- Pounder, D. G. (1998a). Promises and pitfalls of collaboration: Synthesizing dilemmas. In D. G. Pounder (Ed.), *Restructuring for collaboration: Promises and pitfalls* (pp. 173-180). Albany, NY: SUNY Press.
- Pounder, D. G. (Ed.). (1998b). *Restructuring for collaboration: Promises and pitfalls*. Albany, NY: SUNY Press.
- Pounder, D. G. (1998c). Teacher teams: Redesigning teachers' work for collaboration. In D. G. Pounder (Ed.), *Restructuring for collaboration: Promises and pitfalls* (pp. 65-88). Albany, NY: SUNY Press.
- Pounder, D. G. (1999). Teacher teams: Exploring job characteristics and work-related outcomes of work group enhancement. *Educational Administration Quarterly*, 35 (3), 317-348.
- Rees, F. (1991). *How to lead work teams: Facilitation skills*. San Diego, CA: Pfeiffer & Company.
- Reeves, C. (2003a). *State support to low-performing schools*. ED477378. Washington, D.C.: Council of Chief State School Offices.
- Reeves, C. (2003b). *Implementing the No Child Left Behind Act: Implications for rural schools and districts*. ED475037. Educational Policy Publications. Naperville, IL: North Central Regional Educational Lab.
- Reitzug, U., & Burrello, L. (1995). How principals can build self-renewing schools. *Educational Leadership*, 52 (7), 48-50.

- Rivkin, S. G., Hanushek, E. A., & Kain, J. F. (2001). *Teachers, schools, and academic achievement*. Unpublished paper.
- Robbins, H., & Finley, M. (1995). *Why teams don't work: What went wrong and how to make it right*. Princeton, NJ: Peterson's Pacesetter Books.
- Rosenholtz, S. J. (1989). *Teacher's workplace: The social organization of schools*. White Plains, NY: Longman.
- Rossman, G. B., & Rallis, S. E. (1998). *Learning in the field: An introduction to qualitative research*. Thousand Oaks, CA: Sage.
- Rothstein, S. (2003). Learning to Challenge Assumptions. In M. Pierce & D. Stapleton (Eds.), *The 21st Century Principal: Current Issues in Leadership and Policy* (pp. 55-86). Boston: The Harvard Press.
- Rowan, B. (1990a). Applying conceptions of teaching to organizational reform. In R. F. Elmore (Ed.), *Restructuring schools: The next generation of educational reform* (pp. 31-58). San Francisco, CA: Jossey-Bass.
- Rowan, B. (1990b). Rationality and reality in organizational management: Using the coupling metaphor to understand educational (and other) organizations—a concluding comment. *Journal of Educational Administration*, 40 (6), 604-611.
- Sanders, W. (2001). *The Tennessee Value-Added Assessment System*. Retrieved December 26, 2002, from <http://www.shearonforschools.com/TVASS.html>
- Schalock, M. D. (1998). Accountability, student learning, and the preparation and licensure of teachers: Oregon's teacher work sample methodology. *Journal of Personnel Evaluation in Education*, 12 (3), 269-285.
- Schlechty, P. C. (1990). *Schools for the twenty-first century*. San Francisco: Jossey-Bass.
- Schmoker, M. (1996). *Results*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Schrage, M. (1989). *No more teams: Mastering the dynamics of the teaming organization*. New York: Currency Doubleday.
- Schwedel, A., Veysey, P., Conti, E., Kellor, E. & Odden, A. (2000). *A case study of the Boston Public Schools School Improvement Awards*. Madison, WI: University of Wisconsin-Madison, Consortium for Policy Research in Education, Wisconsin Center for Education Research. Retrieved October 27, 2002, from <http://www.wcer.wisc.edu/cpre/teachercomp>

- Seamon, D. F. (1981). *Working effectively with task-oriented groups*. New York: McGraw-Hill.
- Senge, P. M. (1990). *The fifth discipline: the art and practice of the learning organization*. New York: Currency Doubleday.
- Sergiovanni, T. (1990b). *Value-added leadership: How to get extraordinary performance schools*. San Francisco: Harcourt Brace Jovanovich.
- Sherman, R. R., & Webb, R. B. (1988). Qualitative research in education: A focus. In R. R. Sherman & R. B. Webb (Eds.), *Qualitative research in education: Focus and methods*. Bristol, PA: Falmer Press.
- Showers, B. (1984). *Peer coaching: A strategy for facilitating transfer of training*. Eugene, OR: Center for Educational Policy and Management.
- Showers, B. (1985). Teachers coaching teachers. *Educational Leadership*, 42 (7), 42-49.
- Showers, B., & Joyce, B. (1996). The evolution of peer coaching. *Educational Leadership*, 53 (6), 12-16.
- Showers, B., Joyce, B., & Bennett, B. (1987). Synthesis of research on staff development: A framework for future study and a state-of-the-art analysis. *Educational Leadership*, 45 (3), 77-87.
- Slavin, R., & Fashola, O. (1998). *Show me the evidence: Proven and promising programs for America's schools*. Thousand Oaks, CA: Corwin Press.
- Slavin, R., Madden, N., Dolan, L., & Wasik, B. (1996). *Every child every school: Success for all*. Thousand Oaks, CA: Corwin Press.
- Smylie, J. A., Lazarus, V., & Brownlee-Conyers, J. (1996). Instructional outcomes of school-based participative decision-making. *Educational Evaluation and Policy Analysis*, 18 (3), 181-198.
- Snyder, D., & Edwards, G. (1993). It's time to re-invent higher education. *On the Horizon*, 1-5 (June), 1-4.
- Sober, E., & Wilson, D. (1998). *Unto others: The evaluation and psychology of unselfish behavior*. Cambridge, MA: Harvard University Press.
- Solmon, L. C., & Podgursky, M. (2000). *The pros and cons of performance-based compensation*. San Francisco: Milken Family Foundation.

- Spiri, M. H. (2001). *School leadership and reform: Case studies of Philadelphia principals*. Occasional Paper. Madison, WI: University of Wisconsin-Madison, Consortium for Policy Research in Education, Wisconsin Center for Education Research.
- Stake, R. (1995). *The art of case study research*. Thousand Oaks, CA: Sage.
- Stogdill, R. (1981). *Handbook of leadership: A survey of theory and research*. Riverside, NJ: Free Press.
- Stolp, S. (1994). *Leadership for school culture*. ERIC Document Reproduction Service No. ED370198.
- Stout, K. E. (1998). Implications for collaborative instructional practices. In D. G. Pounder (Ed.), *Restructuring schools for collaboration: Promises and pitfalls* (pp. 124-134). Albany, NY: State University of New York Press.
- Supovitz, J. A. (2000). Manage less lead more. *Principal Leadership*, 1(3), 14-19.
- Supovitz, J. A. (2002). Developing communities of instructional practice. *Teacher College Record*, 104(8), 1591-1626.
- Supovitz, J. A., & Christman, J. B. (2002). Small learning communities that actually learn: Lessons for school leaders. *Phi Delta Kappa*, 86(9), 649-51.
- Supovitz, J. A., Mayer, D. P., & Kahle, J. B. (2000). Promoting inquiry based instructional practices: The longitudinal impact of professional development in the context of systemic reform. *Educational Policy*, 14 (3), 331-356.
- Sweeney, D. (2003). *Learning along the way*. Portland, MA: Stenhouse.
- Tashakkori, A., & Teddlie, C. (1998). *Mixed methodology: Combining qualitative and quantitative approaches*. Applied social research methods series, V46. Thousand Oaks, CA: Sage.
- U.S. Department of Education. (2002). *No Child Left Behind*. Retrieved September 15, 2003, from <http://www.ed.gov/legislation/ESEA02/>
- Varney, G. (1991). *Building productive teams: An action guide and resource book*. San Francisco, CA: Jossey-Bass.
- Vogt, J., & Murrell, K. (1990). *Empowerment in organizations: How to spark exceptional performance*. San Diego, CA: University Associates.
- Voices from the Field. (1996, July). *Role of leadership in sustaining school reform*. Retrieved January 4, 2003, from <http://www.ed.gov/pubs/Leadership/>

- Voices from the Field. (1996c, July). *Role of leadership in sustaining school reform: Knowledge and daring*. Retrieved January 4, 2003, from <http://www.ed.gov/pubs/Leadership/ch2c.html>
- Voices from the Field. (1996c3, July). *Role of leadership in sustaining school reform: Stories of knowledge and daring*. Retrieved January 4, 2003, from <http://www.ed.gov/pubs/Leadership/ch3c.html>
- Von Krogh, G., Ichijo, K., & Nonaka, I. (2000). *Enabling knowledge creation: How to unlock the mystery of tacit knowledge and release the power of innovation*. Oxford: Oxford University Press.
- Waters, T., Marzano, R. J., & McNulty, B. A. (2003). *Balanced leadership: What 30 years of research tells us about the effect of leadership on student achievement*. Aurora, CO: Mid-continent Research for Education and Learning. Retrieved January 25, 2004, from http://www.mcrel.org/PDF?LeadershipOrganizationDevelopment/5031RR_BalancedLeadership.pdf.
- Weise, K. R. (1992). *A contemporary historical study of the Danforth Principal Preparation program at the University of Houston* (Doctoral Dissertation. Houston, TX: University of Houston).
- White, B. (2002). *Performance-based teacher compensation in Iowa*. Madison, WI: University of Wisconsin-Madison. Consortium for Policy Research in Education. Retrieved October 21, 2003, from <http://www.wcer.wisc.edu.cprc>
- Wilkinson, A. M., & Smith, M. (1995). Team recruitment, team building, and skill development. In H. G. Garner (Ed.), *Teamwork models and experiences in education* (pp. 103-124). Boston, MA: Allyn & Bacon.
- Williams, B. (2003). *Closing the achievement gap: A vision for changing beliefs and practices* (2nd Ed.). Alexandria, VA: Association for Supervision and Curriculum Development.
- Willis, T., Koch, K., Lampe, G., Young, R., Kellor, E., & Odden, A. (1999). *A case study of the state of Kentucky's school-based performance award program*. Madison, WI: University of Wisconsin-Madison, Consortium for Policy Research in Education, Wisconsin Center for Education Research. Retrieved July 7, 2002, 2002 from <http://www.wcer.wisc.edu/cpre/teachercomp>
- Wohlstetter, P. & Briggs, K. (1994). The principal's role in school-based management. *Principal*, 74 (2), 14-17.
- Wohlstetter, P., Smyer, R., & Mohrman, S. A. (1994). New boundaries for school-based management. *Educational Evaluation and Policy Analysis*, 16, 268-286.

- Wolcott, H. T. (1994). *Transforming qualitative data: Description, analysis, and interpretation*. Thousand Oaks, CA: Sage.
- Wright, S. P., Horn, S. P., & Sanders, W. L. (1997). Teacher and classroom context effects on student achievement: Implications for teacher evaluation. *Journal of Personnel Evaluation in Education*, 11, 57-67.
- Yin, R. K. (1989). *Case study research: Design and methods*. Newbury Park, CA: AltaMira.
- Yin, R. K. (2003b). *Case study research: Design and methods*. Applied research methods series, V5. Thousand Oaks, CA: Sage.
- Zander, A. (1982). *Making groups effective*. San Francisco: Jossey-Bass.

ACKNOWLEDGEMENTS

I would like to give thanks for the help I received on this project. First, I would like to thank my husband, Brad, for his support while I have pursued my educational dreams these many years. Secondly, I would like to thank my family—my mom and dad and my sisters. My mom and dad were inspirational. They provided encouragement and support, both while I was working on this degree and while I was growing up. They valued education and hard work and taught me to believe I could do whatever I set my heart on doing. My sisters encouraged me with their many telephone calls, “care packages,” and visits to keep me on track as I struggled with managing a career as a school leader and fulfilling a personal goal. Judy touched base with me every weekend to see how I was doing. Candy and Audrey encouraged me by sharing stories of their boys as they pursued their dreams. And Penny read every word I wrote, the long, the extra-long, and the “even longer” version. Thirdly, I would like to thank my chair, Joanne Marshall, for her encouragement. I met Joanne half way through my project and I am thankful she became my chair. She has a special way of encouraging you as she’s stretching you to think and write and rethink. I would also like to thank Don Hackmann, my chair who got me started by encouraging me to apply for the doctoral program and supporting me during my capstone project and proposal phase. Finally, I would like to thank my committee members. Mack Shelley was inspirational during my coursework and I look forward to future quantitative research. Richard Manatt also encouraged me to apply for the doctoral program and supported my decision to explore Iowa’s Team-Based Variable Pay Pilot

Project. Zora Zimmerman always had a thoughtful comment during the journey. And Tom Alsbury provided support during meetings and with his dissertation.

I would also like to thank the principals, the lead teachers, and the teacher teams who allowed me to observe and interview them as they worked and glean valuable information from them. Dianne Chadwick has been a crucial source of information and support during the project. Gail Gailbraith has provided valuable a sounding board as I tried and tested ideas. Penelope Daugherty proved a wordsmith as she provided her professional perspective.