MIDDLE LEVEL SCHOOLS IN AN ERA OF STANDARDS AND ACCOUNTABILITY:
ADAPTATIONS OF THE FEATURES OF THE MIDDLE SCHOOL CONCEPT

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ABSTRACT

The literature related to the development of education in the middle grades and to the features associated with the implementation of the middle school concept provides a theoretical grounding for the development and testing of an Innovation Configuration map for the middle school concept. The description provided of the historical development of middle-grades education presents the context for recent research studies and ongoing policy debate. In addition, features of the middle school concept as described within the literature are identified and an overview of salient research findings related to these features is given. A synthesis and critical review of previous research methodologies and findings reveal the need for further research.

The purpose of the instrument development and testing process was to identify critical features of the middle school concept implemented in the context of standards and accountability. The instrument development and testing process investigated the nature of the implementation of middle school concept features, recognizing that actual practices in schools may vary somewhat without the schools losing their identity as middle level schools. The principle product of the process was the development of a diagnostic tool that may be used in future research to identify acceptable forms of implementation of the middle level philosophy of education. The instrument development and testing process employed research methodology based on the Concerns-Based Adoption Model (CBAM) of Hall and Hord (2006). Specifically, an Innovation Configuration map was developed identifying components of the middle level philosophy of education and describing variations in implementation of the components.
Dedication

I thank my God for the blessing of a loving and supportive family and the strength to persevere.

My wife, best friend, and partner Teresa Ann Nichols Nicely has been far more patient, encouraging, and accommodating than I have had the right to ask her to be.

I dedicate this work to her; our children Samuel, Benjamin, and Emily; and to my parents Ronald and Barbara Nicely in appreciation for helping to make this possible.
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TABLE OF CONTENTS

CHAPTER I INTRODUCTION ......................................................................................... 1

BACKGROUND ........................................................................................................... 1
STATEMENT OF THE PROBLEM ............................................................................... 2
PURPOSE OF THE INSTRUMENT DEVELOPMENT AND TESTING PROCESS .............. 3
SIGNIFICANCE OF THE INSTRUMENT DEVELOPMENT AND TESTING PROCESS .......... 4
  Scholarly Significance ......................................................................................... 4
  Practical Significance ......................................................................................... 5
DEFINITIONS OF KEY TERMS .................................................................................. 5
  Academic excellence ........................................................................................... 5
  Advisory ................................................................................................................. 6
  Collaboration ......................................................................................................... 6
  Developmental responsiveness .......................................................................... 6
  Interdisciplinary teaming .................................................................................... 6
  Middle grades ..................................................................................................... 6
  Professional learning communities ................................................................... 6
  Socially equitable ............................................................................................... 7
  Young adolescents ............................................................................................ 7

CHAPTER II REVIEW OF THE RELEVANT LITERATURE .................................... 8

INTRODUCTION ....................................................................................................... 8
SEARCH PROCESS .................................................................................................. 8
HISTORICAL PERSPECTIVE OF MIDDLE GRADES EDUCATION ...................... 10
  Early Development of Elementary and Secondary Schools ................................ 11
  The Junior High School Movement .................................................................. 11
  Middle School Concept ...................................................................................... 12
  Middle Grades in the Standards Movement Era .............................................. 15
RESEARCH EXAMINING MIDDLE SCHOOL FEATURES AND STUDENT OUTCOMES .... 19
  Evaluating the Features of the Standards-based Middle School Concept .......... 19
  Overview of Research on Features of Standards-based Middle School Concept .... 21
MacIver and Epstein (1991) ........................................................................................................ 21
Lee and Smith (1993) .................................................................................................................. 23
Stephens and Jenkins (1994) ........................................................................................................ 25
Felner, Jackson, Kasak, Mulhall, Brand, and Flowers (1997) ....................................................... 26
Offenberg (2001) ......................................................................................................................... 27
Mertens and Flowers (2003) ......................................................................................................... 29
Cook, Faulkner, and Kinne (2009) ............................................................................................... 30
Jackson and Lunenburg (2010) .................................................................................................. 31

SYNTHESIS AND CONCLUSIONS .................................................................................. 33

CHAPTER III METHODOLOGY .................................................................................. 35

INTRODUCTION ...................................................................................................................... 35
PURPOSE OF THE INSTRUMENT DEVELOPMENT AND TESTING PROCESS ................. 35
CONCERNS-BASED ADOPTION MODEL ............................................................................. 36
INNOVATION CONFIGURATION MAPPING ......................................................................... 38
METHODOLOGY FOR THE DEVELOPMENT OF A MIDDLE SCHOOL INNOVATION CONFIGURATION MAP ................................................................................................. 42

Phase One: Identification of the Components ......................................................................... 42
Phase Two: Developing the IC Map .......................................................................................... 47
Phase Three: Verifying the IC Map .......................................................................................... 49
SUMMARY ................................................................................................................................. 50

CHAPTER IV FINDINGS .............................................................................................................. 51

INTRODUCTION ...................................................................................................................... 51
RESTATEMENT OF THE PURPOSE .......................................................................................... 51
OVERVIEW OF THE INSTRUMENT DEVELOPMENT AND TESTING PROCESS .............. 51
PHASE ONE FINDINGS: IDENTIFICATION OF KEY FEATURES OF MIDDLE GRADES EDUCATION .................................................................................................................. 52

Description of the Participants ............................................................................................... 52
First Round of the Quasi-Delphi Exercise .............................................................................. 53
Synthesis of Middle Grades Features from Expert Panel and Major Frameworks .............. 54
Second Round of the Quasi-Delphi Exercise ........................................................................ 58
APPENDIX E SUMMARY OF ANALYSIS OF FIT DATA FROM PILOT SCHOOLS. 191
APPENDIX F SUMMARY OF ANALYSIS OF FIT DATA FROM PILOT SCHOOLS COMPARED TO REVISED IC MAP .......................................................... 192
APPENDIX G TRAINING IN HUMAN SUBJECTS CERTIFICATE ......................... 193
List of Tables

Table 2.1  Features of Standards-Based Middle School Concept from Four Major Frameworks. ................................................................. 18

Table 2.2  Summary of Lee and Smith (1993) Findings ................................................................. 25

Table 3.1  IC Map Describing How Data are Used to Improve Teaching and Learning .......... 40

Table 4.1  Academic Excellence: Synthesis of Middle School Features from the Expert Panel and the Document Review ................................................................. 56

Table 4.2  Developmental Responsiveness: Synthesis of Middle School Features from the Expert Panel and the Document Review ................................................................. 56

Table 4.3  Social Equity: Synthesis of Middle School Features from the Expert Panel and the Document Review ................................................................. 57

Table 4.4  Organizational Structures: Synthesis of Middle School Features from the Expert Panel and the Document Review ................................................................. 57

Table 4.5  Academic Excellence: Percentage of Panelists Rating Each Feature .................. 59

Table 4.6  Developmental Responsiveness: Percentage of Panelists Rating Each Feature ...... 59

Table 4.7  Social Equity: Percentage of Panelists Rating Each Feature ............................. 60

Table 4.8  Organizational Structures: Percentage of Panelists Rating Each Feature .......... 61

Table 4.9  Feature A1: The Curriculum is Rigorous and Challenging .................................. 65

Table 4.10 Feature A2: The Curriculum is Exploratory and Relevant to Young Adolescents.. 66

Table 4.11 Feature A3: The Curriculum is Integrative and Interdisciplinary ....................... 66

Table 4.12 Feature A4: Instructional Strategies are Varied, Aligned to Standards, Data Informed, and Designed to Meet the Individual Needs of All Learners ............... 67

Table 4.13 Feature A5: Students and Teachers are Engaged in active Learning .................. 67

Table 4.14 Feature A6: Students Demonstrate Mastery of Standards in a Variety of Ways ..... 68
Table 4.15 Feature B1: An Advisory Or Advocacy System Ensures That Every Student is Known Well By At Least One Adult

Table 4.16 Feature B2: Comprehensive Guidance and Support Services Promote Whole-Student Development

Table 4.17 Feature B3: Students Learn in a Healthy and Safe School Environment

Table 4.18 Feature B4: Students are Organized Into Small(Er) Learning Communities

Table 4.19 Feature C1: School Rules are Clear, Fair, and Consistently Applied

Table 4.20 Feature C2: All Students, Including All Social, Economic, and Ethnic Groups, Have Open and Equal Access to Challenging Learning Opportunities

Table 4.21 Feature C3: To the Fullest Extent Possible, All Students Participate In Heterogeneous Classes With High Academic and Behavioral Expectations

Table 4.22 Feature C4: All Students Have Ongoing Opportunities to Learn About their Own and Others’ Cultures; Diversity is Valued By the School

Table 4.23 Feature D1: Teachers are Organized In Teams With Common Plan Time

Table 4.24 Feature D2: Teachers Have Plan Time to Coordinate Transitions Between Grade Levels and Schools

Table 4.25 Feature D3: Organizational Structures, Including Planned Time For Collaboration, Foster Purposeful Learning and Meaningful Relationships

Table 4.26 Feature D4: Teachers are Empowered to Implement Flexible Scheduling to Promote Learning

Table 4.27 Feature D5: Leaders are Knowledgeable About and Committed to Working With This Age Group

Table 4.28 Feature D6: Teachers are Knowledgeable About and Committed to Working With This Age Group

Table 4.29 Feature D7: Students Have Opportunities to Participate In Decision Making

Table 4.30 Feature D8: Decision Making is Democratic and Guided By A Shared Vision
Table 4.31  Feature D9: Leadership is Courageous and Collaborative ........................................... 80
Table 4.32  Feature D10: Professional Development is Aligned to School Improvement and 
Best-Practice Strategies ........................................................................................................ 80
Table 4.33 Feature D11: Students Have the Opportunity to Engage With the Community..... 81
Table 4.34 Feature D12: The Community is Engaged In Providing Resources and Support.... 81
Table 4.35 Feature D13: Relationships With Families are Valued In Support of Students' 
Success.................................................................................................................................. 82
Table 4.36 Availability of Ic Map Data Sources In Three Pilot Schools................................. 84
Table 4.37 IC Map Descriptors In Need of Revision. .............................................................. 85
Table 5.1 Feature A1: The Curriculum is Rigorous and Challenging ..................................... 93
Table 5.2 Feature A2: The Curriculum is Exploratory and Relevant to Young Adolescents. 94
Table 5.3 Feature A3: The Curriculum is Integrative and Interdisciplinary.......................... 94
Table 5.4 Feature A4: Instructional Strategies are Varied, Aligned to Standards, Data 
Informed, and Designed to Meet the Individual Needs of All Learners........................... 95
Table 5.5 Feature A5: Students and Teachers are Engaged In Active Learning ................. 95
Table 5.6 Feature A6: Students Demonstrate Mastery of Standards in a Variety of Ways..... 96
Table 5.7 Feature B1: An Advisory Or Advocacy System Ensures That Every Student is 
Known Well By At Least One Adult...................................................................................... 96
Table 5.8 Feature B2: Comprehensive Guidance and Support Services Promote Whole-
Student Development.......................................................................................................... 97
Table 5.9 Feature B3: Students Learn in a Healthy and Safe School Environment ............. 98
Table 5.10 Feature B4: Students are Organized Into Small(Er) Learning Communities .... 99
Table 5.11 Feature C1: School Rules are Clear, Fair, and Consistently Applied............... 100
Table 5.12 Feature C2: All Students, Including All Social, Economic, and Ethnic Groups, Have 
Open and Equal Access to Challenging Learning Opportunities ................................. 101
Table 5.13 Feature C3: To the Fullest Extent Possible, All Students Participate In Heterogeneous Classes With High Academic and Behavioral Expectations ....... 102
Table 5.14 Feature C4: All Students Have Ongoing Opportunities to Learn About their Own and Others' Cultures; Diversity is Valued By the School............................................ 103
Table 5.15 Feature D1: Teachers are Organized In Teams With Common Plan Time ........ 103
Table 5.16 Feature D2: Teachers Have Plan Time to Coordinate Transitions Between Grade Levels and Schools ........................................................................................................ 104
Table 5.17 Feature D3: Organizational Structures, Including Planned Time For Collaboration, Foster Purposeful Learning and Meaningful Relationships.......................... 104
Table 5.18 Feature D4: Teachers are Empowered to Implement Flexible Scheduling to Promote Learning........................................................................................................ 105
Table 5.19 Feature D5: Leaders are Knowledgeable About and Committed to Working With This Age Group................................................................. 105
Table 5.20 Feature D6: Teachers are Knowledgeable About and Committed to Working With This Age Group.......................................................................................... 106
Table 5.21 Feature D7: Students Have Opportunities to Participate In Decision Making .... 106
Table 5.22 Feature D8: Decision Making is Democratic and Guided By A Shared Vision.... 107
Table 5.23 Feature D9: Leadership is Courageous and Collaborative ............................. 108
Table 5.24 Feature D10: Professional Development is Aligned to School Improvement and Best-Practice Strategies ......................................................................................... 108
Table 5.25 Feature D11: Students Have the Opportunity to Engage With the Community... 109
Table 5.26 Feature D12: The Community is Engaged In Providing Resources and Support.. 109
Table 5.27 Feature D13: Relationships With Families are Valued In Support of Students' Success.................................................................................................................... 110
List of Figures

Figure 3.1. The concerns-based adoption model. Adapted from hall and hord (2006), implementing change: patterns, principles, and potholes, p.252............................... 37

Figure 3.2. Innovation configuration mapping process. Adapted from hall and hord (2006), implementing change: patterns, principles, and potholes, p.126............................... 42
CHAPTER I
INTRODUCTION

Background

A new era of calls for public school reform with more rigorous academic standards and uniform measures of accountability was ushered in with the 1983 publication of *A Nation at Risk* (Ravitch, 2000). These efforts gained momentum in the 1990s with the development and adoption of national and state curriculum standards and culminated in the No Child Left Behind Act (NCLB) of 2001. Within the K-12 public school continuum, the education of young adolescents in the middle grades has undergone considerable reform, yet the effectiveness of the middle school concept in improving student achievement has continued to be questioned by some critics (Juvonen et al., 2004; Rockoff & Lockwood, 2010; Yecke, 2003, 2006), and staunchly defended by others (Cook, Faulkner, & Kinne, 2009; Felner et al., 1997; Flowers, Mertens, & Mulhall, 2003; George, 2011; Jackson & Lunenburg, 2010; Lounsbury, 2009; McEwin & Greene, 2010; Picucci, Brownson, Kahlert, & Sobel, 2004). What education should look like for the middle grades and where it should take place continue to be debated with rising NCLB achievement accountability benchmarks.

The middle school concept, as an integrated philosophy and set of practices uniquely suited to the education of young adolescents, originally emerged in the 1960s after the development of humanistic psychology theories. Maslow first published his theory of a hierarchy of human needs in 1943 and articulated the humanistic goal of self actualization: the development of the whole person (Maslow, 1943). Consequently, the middle school features advocated by Alexander (1969), an early proponent of separate middle schools in the 1960s, emphasized practices that were developmentally responsive to the unique time of life that is early adolescence. This nascent description of middle school features included a concern for intellectual development through thinking and problem-solving skills, but also emphasized individualized curriculum, counseling, and advisory programs (Alexander, 1969). Maslow, in a volume first published posthumously in 1971, wrote about the educational implications of humanistic psychology, observing:
There is the overwhelming majority of teachers, principals, curriculum planners, and school superintendents who are devoted to passing on the knowledge that children need in order to live in our industrialized society. They are not especially imaginative or creative, nor do they often question why they are teaching the things they teach. Their chief concern is with efficiency, that is, with implanting the greatest number of facts into the greatest number of children, with a minimum of time, expense, and effort. On the other hand, there is the minority of humanistically oriented educators who have as their goal the creation of better human beings, or in psychological terms, self-actualization and self-transcendence. (Maslow, 1993, p. 180)

Skeptics of the middle school concept (Yecke, 2003, 2006) later used the concern for social and emotional development within the middle school concept to accuse the middle schools of being unprepared and unwilling to place the needed emphasis on academic rigor as called for by the standards movement. In response, more recent iterations of documents describing features of the middle school concept (Jackson, Davis, Abeel, & Bordonaro, 2000; National Forum to Accelerate Middle-Grades Reform, 2006) have placed greater emphasis on the importance of high expectations for rigorous and relevant curricula in middle schools.

**Statement of the Problem**

Attempts to investigate the efficacy of the practices associated with the middle school concept have resulted in mixed findings (Cook et al., 2009; Jackson & Lunenburg, 2010; Lee & Smith, 1993; Mertens & Flowers, 2003; Offenberg, 2001; Stephens & Jenkins, 1994). Some researchers have used statistical analysis to determine if features of the middle school concept are related to desired student outcomes, such as increased achievement (Cook et al., 2009; Felner et al., 1997; Jackson & Lunenburg, 2010; Lee & Smith, 1993; Mertens & Flowers, 2003; Stephens & Jenkins, 1994). Other researchers have used statistical analysis to investigate possible variance in achievement scores between middle schools and schools with other grade configurations, such as K-8 schools (Offenberg, 2001).

Obstacles to definitive findings relating middle school features to student achievement have included the clear identification and enumeration of the characteristics of the middle school concept, and the ability to measure the degree of implementation of these features in actual
practice (Lee & Smith, 1993; MacIver & Epstein, 1991; Stephens & Jenkins, 1994). Another concern that has been raised regarding the middle school concept is whether the recommendations for effective middle schools are truly distinctive from best practices in elementary and high schools (Heller, Calderon, & Medrich, 2003). These problems have impeded research efforts to understand and measure the efficacy of the middle school concept as a clearly-defined set of practices that can be replicated in multiple settings with the expectation of positively influencing student outcomes.

**Purpose of the Instrument Development and Testing Process**

The purpose of the instrument development and testing process that is the focus of this document was to identify critical features of the middle school concept as implemented in the context of standards and accountability. While there are many effective school and classroom practices that overlap among school levels, the instrument development process reported here focused on enumerating school characteristics that collectively define the middle school concept. Once clearly defined, the middle school concept will more readily lend itself to empirical investigation using rigorous research methodology.

The implementation of change is nonlinear, is characterized by varying stages of adoption, and is subject to multiple adaptations (Fullan, 2001; Hall & Hord, 2006). The instrument development and testing process that was used, therefore, investigated the nature of the implementation of middle school concept features, recognizing that actual practices in schools may vary somewhat without the schools losing their identity as middle schools. The principle product of the instrument development and testing process was the development of a diagnostic tool that may be used in future research to identify acceptable stages of implementation of the middle school concept.

The instrument development and testing process implemented proceeded in three phases. Phase One focused on the confirmation of the key features that define the middle school concept as implemented in an era of standards and accountability. Phase Two involved developing a data collection instrument that identifies which key features of the middle school concept are operationalized in schools serving the middle grades and the nature of the implementation of
those features. In Phase Three, a field test of the data collection instrument developed in Phase Two was conducted.

**Significance of the Instrument Development and Testing Process**

**Scholarly Significance**

The effectiveness of the middle school concept has been the subject of much debate within the commentary literature (Clark & Clark, 2006; George, 2011; Lounsbury, 2009; Rockoff & Lockwood, 2010; Yecke, 2003, 2006). Critics and advocates alike have attempted to influence public policy regarding the priorities that schools should adopt and how schools should be organized to best serve the needs of young adolescents. Should schools serving the middle grades be exclusively concerned with academic achievement or should middle-grades schools be more concerned with nurturing students through a developmentally difficult period of social and physical adjustment? Are academic rigor and developmental responsiveness mutually exclusive? Are schools with K-8 or 6-8 grade configurations inherently better prepared to influence student achievement and meet the developmental needs of young adolescents? The instrument development and testing process described in this document endeavored to contribute to the debate by helping to define what is meant by the middle school concept within the context of increased standards and accountability.

Empirical research examining the effectiveness of practices associated with the middle school concept has produced mixed findings (Cook et al., 2009; Jackson & Lunenburg, 2010; Lee & Smith, 1993; Mertens & Flowers, 2003; Offenberg, 2001; Stephens & Jenkins, 1994). Since the 1990s, researchers have focused much attention on student achievement outcomes as indicated by various measures including standards-based testing. Among the challenges of conducting research with the middle school concept, however, have been clearly defining the research variables and accounting for the variance in the implementation of middle school features. The development of a diagnostic tool used to identify acceptable stages of implementation of the middle school concept will enable researchers to more rigorously investigate the relationship between the middle school concept and student outcomes.
Practical Significance

The No Child Left Behind Act (2001) requires that middle schools assess student achievement each year in math and reading and make Adequate Yearly Progress (AYP) toward the ultimate goal of having 100% of students demonstrate proficiency with adopted standards. School leaders and policy makers have a clear incentive to know how to organize middle-grades schools and implement research-based practices that best promote student achievement. If features of the middle school concept are found to have no influence on student achievement, school leaders should consider modifying or abandoning middle school features and replace them with research-validated practices that do influence achievement.

For school leaders implementing any reform or change in schools, understanding the nature of the change process is a key factor that influences whether the intended change succeeds or fails. School leaders that successfully navigate the complexities of the change process recognize that there are various stages of adoption of change that require steady leadership toward long-term and short-term goals (Fullan, 2006; Hall & Hord, 2006). The instrument development and testing process attempts to add to current understanding of what practices constitute the middle school concept to aid school leaders in their decision making. The resulting diagnostic tool, an Innovation Configuration (IC) map (Hall & Hord, 2006), should be useful to school leaders assessing the status of middle school features within schools and making decisions about needed professional development.

Definitions of Key Terms

Several key terms will be used throughout this document and are defined here to facilitate understanding of their usage.

Academic excellence. The National Forum to Accelerate Middle-Grades Reform (National Forum, 2006) reports that middle schools that are academically excellent challenge students to grow intellectually by providing clear expectations and exemplars of high-quality learning. Academically excellent schools support all students to meet rigorous standards, while developing critical thinking and problem-solving skills. Rigorous teaching (Hart, Natale, & Starr, 2010) includes clear communication, student engagement, discussion facilitated by probing questioning, constructive feedback, and a variety of grouping structures.
Advisory. Russell (1997) described middle school advisory programs as a component of a comprehensive guidance program. A faculty advisor is an adult who meets daily with a small group of students to provide at least one stable adult relationship for each student within the school. Typically, the advisor remains with the same group of students throughout the middle school years and focuses on specific social and developmental goals.

Collaboration. Though the word cooperation is a common synonym found as a thesaurus entry, the idea of collaboration in the literature goes beyond mere cordial association or coordination of organizational tasks (Clark & Clark, 2006; Hord & Sommers, 2008). Collaboration includes the concept of teamwork and individuals whose work is interconnected in meaningful ways and collectively focused on common goals. Where authentically and purposefully implemented, collaboration within interdisciplinary teacher teams is a bedrock principle of middle school philosophy (Cook et al., 2009). Collaboration is also closely associated with the concept of professional learning communities (Hord & Sommers, 2008).

Developmental responsiveness. The National Forum (2006) has articulated the key characteristics of schools that are developmentally responsive to the unique needs of young adolescents. Such schools create small learning communities of adults and students in which the whole child is nurtured to grow. Developmentally responsive schools provide comprehensive counseling services and engage parents and the community as partners. Developmentally responsive practices associated with the middle school concept include interdisciplinary teaming and advisory (MacIver & Epstein, 1991).

Interdisciplinary teaming. MacIver and Epstein (1991) defined interdisciplinary teaming as the practice of organizing teachers into clusters that share the same students and collaborate to plan learning experiences across content areas for these students. Flowers et al. (2003) reported that effective interdisciplinary teams should meet regularly during common planning time, teach no more than 120 students, and collaborate to integrate and assess learning.

Middle grades. Regardless of the total number of grade levels housed within a school, the middle grades are those that target young adolescents, ages 11-14. These grades generally correspond to grades six through eight (Russell, 1997).

Professional learning communities. Hord and Sommers (2008) define a professional learning community in a school as the “educators in a school coming together to learn in order to
become more effective so that students learn more successfully” (p. 2). Five common features of this type of structure are: shared values, focus on student learning, collaboration, deprivatized practice, and reflective dialogue (Louis & Marks, 1998).

**Socially equitable.** According to the National Forum (2006), schools that are socially equitable have high expectations for all students, regardless of the student’s background. Each student in a socially equitable school is taught by expert teachers who recognize the individual needs and capacity to learn of each child.

**Young adolescents.** This term is used in the literature to describe students between the ages of 10 and 15 (Lounsbury, 2009; Peterson & Epstein, 1991). Young adolescents experience dramatic changes in physical, intellectual, emotional, and social development during these years (Thompson, Homestead, & Pate, 2004; Weiss & Kipnes, 2006).
CHAPTER II
REVIEW OF THE RELEVANT LITERATURE

Introduction

A review of the literature related to the development of education in the middle grades and to the features associated with the implementation of the middle school concept provides a foundation and theoretical grounding for research regarding middle grades education. The review begins by describing the historical development of educational models designed to serve young adolescent students. These models vary somewhat in structure and implementation, but common threads related to impetus, purpose and features may be traced throughout the evolution of middle grades pedagogy. The review closes with a synthesis of the features of middle grades education as described within the literature and an overview of research findings related to these features.

Search Process

Varied means were employed to produce a comprehensive search of the literature. Background reading specifically related to reform and innovation in education helped provide a general context for the current review and justify its broader significance. Resources available from national organizations dedicated to the study and promotion of best practices in middle grades education were indispensable. Online research databases provided the primary vehicle for conducting an exhaustive search of scholarly research articles using specified search terms. Additional resources were identified using the online search of holdings at the libraries of Virginia Tech. Finally, works cited by others were scrutinized for inclusion in this review.

The search process for the literature review began with background reading to develop a broad base of understanding of current issues in education. Several sources served this purpose. The first source was Friedman’s (2006), *The World Is Flat: A Brief History of the 21st Century*, which described societal and economic concerns in the United States with implications for educational reform. A second source of background information was the work of the Partnership for 21st Century Skills (2004) including its skills framework articulating the types of skills that American schools should be developing in students. The work of the U.S. Council on
Competitiveness (2004) served as an additional source of information regarding the context for education reform. This background knowledge led to a focus on the specific skills of collaboration and innovation as not only desirable learning outcomes for students in K-12 education, but as inherent features of current models for middle grades education in particular.

The change literature within education also shaped the development of the literature review. The works of several writers were examined based on the regularity with which they have been cited in educational journals and within each other’s work. Hall and Hord (2006), Hargreaves and Fink (2003), Fullan (2001, 2006), Reeves (2009), and Schmoker (2006) have all contributed to current paradigms describing the elements and processes associated with change within schools. The current literature review rose out of an interest in understanding how one particular change, the middle school concept, has developed over time and in various contexts.

With the middle school concept chosen as the innovation to be studied, the next step in the search process was to identify the literature that defines the features of the middle school concept. A search conducted using Education Research Complete from EBSCOHost, an electronic database of scholarly research, revealed that much of the literature produced in the past 20 years about middle grades education has been published by the National Middle School Association (NMSA; now the Association for Middle Level Education), a national advocacy organization for the middle level philosophy of education and ongoing reform in the middle grades. Additional queries using online search engines and the search terms “middle school,” “middle school reform,” and “middle-grades reform” led to a web of other national organizations, initiatives, and reform models dedicated to middle level education. These include prominent professional education organizations and change agents such as the National Association of Secondary School Principals (NASSP), the National Forum to Accelerate Middle-Grades Reform (National Forum), the Carnegie Council, and the Southern Regional Education Board. Collectively, these sources offer descriptions of the key features associated with the middle school concept and relevant adaptations for the current era of standards-based testing.

An online search for research articles published in scholarly journals was conducted using Education Research Complete from EBSCOhost. The purpose of this stage of the search process was to review research related to specific middle school features defined by the developers of the middle school concept. Various search terms were explored with search
parameters set to include only peer-reviewed journals and articles published since 1996, in order to yield the most current literature. These search terms were as follows: middle schools and student achievement; adolescence, middle school, and developmental biology; young adolescents and characteristics; scheduling and student achievement; block scheduling and middle schools; middle school and teaming; middle school and guidance; middle school and advisory; middle school and academic rigor; middle school and No Child Left Behind; middle school and leadership; middle school and common planning; and middle school and parent involvement; and middle school and reform.

**Historical Perspective of Middle Grades Education**

What education should look like for students in the 11-14 age range is the subject of much debate (Flowers et al., 2003; George, 2011; Lounsbury, 2009; Rockoff & Lockwood, 2010; Yecke, 2006). Middle schools housing grades 6-8, a concept first articulated in the 1960s and adopted with increasing popularity in the 1970s and 1980s, were, by far, the most common grade configuration as recently as the 2005-2006 school year. That year, according to the National Center for Education Statistics (2006), there were 9,199 schools in the United States housing grades 6-8, as compared to 5,348 schools housing either grades PK-8 or grades K-8, 2,601 schools housing grades 7-8, and merely 530 schools housing grades 7-9. Proponents of middle schools (Cook et al., 2009; Felner et al., 1997; Flowers et al., 2003; George, 2011; Lounsbury, 2009; McEwin & Greene, 2010; Picucci et al., 2004) continue to assert the efficacy of the middle school concept, when fully implemented with fidelity. Nonetheless, critics of the middle school concept (Juvonen et al., 2004; Morocco, Brigham, & Aguilar, 2006; Rockoff & Lockwood, 2010; Stephens & Jenkins, 1994; Tucker & Codding, 1998; Yecke, 2006) have declared it to be a failed educational paradigm. Tucker and Codding write:

Middle schools are the wasteland of our primary and secondary landscape. Most teachers would prefer to teach in elementary schools or high schools than to teach in middle schools. Caught between the warmth of a good elementary school and the academic seriousness of a good high school, middle school students often get the least of both and the best of neither. (p. 153)
A brief history of education for young adolescents will help elucidate the development of the middle school as a concept and the complexity of the current controversy.

**Early Development of Elementary and Secondary Schools**

Current uncertainty about effective educational models for the middle grades is understandable given that elementary schools and secondary schools developed independently from each other, without any sense of K-12 articulation in the early years. Gruhn and Douglass (1956) report that the elementary schools of the early 19th century were established following Prussian school models typically consisting of seven or eight school grades. High schools consisted of four grades; however, even as late as the early 1900s, retention studies indicated that only 17-25% of students who started first grade in primary school actually continued on through the second year of high school (Gruhn & Douglass, 1956).

By the late 1800s, the 8-4 grade split first came under scrutiny through the initiatives of the National Education Association (NEA) (Eichhorn, 1991). The NEA appointed national committees to study school structures in the Unites States and make recommendations regarding needed reforms. Ironically, the impetus for change initially did not come from any concern for more appropriate ways to educate young adolescents, but rather from university presidents who wanted students to enter college sooner. Nevertheless, the work of these national committees primarily resulted in a recommendation to establish a transitional program of education for grades 7-9 (Gruhn & Douglass, 1956). The committees did not suggest the establishment of separate middle level schools, but did seek to develop a transitional program that would better prepare students for high school and beyond (Eichhorn, 1991).

**The Junior High School Movement**

The work of the NEA study committees resulted in a new interest in bridging the gap between elementary schools and secondary schools. There was not universal agreement about changes in grade configurations, but a 6-6 plan, with six years of elementary education followed by six years of secondary education, was the most favored plan since it would group seventh and eighth grade students with high school. Grouping young adolescents with the higher grades was intended to introduce the more specialized academic rigor associated with high school rather
than continue the generalist approach of the elementary grades. Cited advantages included: having teachers as content experts rather than generalists, exposing students to multiple teachers rather than one or two, providing students access to more modern science labs and manual training workshops, allowing for earlier study of modern languages, and allowing for a more gradual transition for students to advance toward college (Gruhn & Douglass, 1956).

The 6-6 plan was generally adopted in rural areas, but in urban areas that were experiencing dramatic increases in enrollment, separate schools housing grades seven through nine began to develop. The first of these 7-9 schools, Indianola Junior High School, was established in Columbus, Ohio, in 1909 (Lounsbury, 2009). Ten years later, there were 55 junior high schools in the United States, and the number grew to 1,842 by 1930 (Gruhn & Douglass, 1956).

The structure, grade configurations, and organizational features of these newly recognized middle grades varied somewhat by locality (Gruhn & Douglass, 1956). Some considered junior high schools to be uniquely 7-9 schools. Others pointed to such features as departmentalization and homogenous grouping to be representative of junior high schools. Gruhn and Douglass opine, though, that “a school building, grade organization, and certain administrative features are important only to the extent that they have a bearing on that educational program” (1956, p. 4). Their observation at the height of the junior high school movement in 1956, served as a foreshadowing of the debate that continues today regarding the priorities for educating young adolescent students.

Middle School Concept

Even though the establishment of junior high schools was an important step in recognizing the need for a transitional program between the elementary and secondary school years, by the 1950s, educators and policy makers were again calling for changes to approaches to young adolescent education. Bossing (1954) criticized the junior high school to be nothing more than its name implied: a little high school (as cited in Eichhorn, 1991). Alexander (1964) recognized that the junior high school had provided broader opportunities for students than elementary schools with eight grades in terms of facilities and programs. Nonetheless, he argued that junior high schools were solely designed to acclimate students to high schools rather than
serving as genuine bridges between elementary and secondary schools, focusing on the unique needs of students of this age. Junior high school programs failed to reinvigorate the intellectual curiosity that begins to wane during the upper elementary years (Alexander, 1964). Other concerns articulated during this transitional era were that junior high schools began with good intentions but had not been sustained through training teachers and administrators to specifically work with this age group and few studies had been conducted to truly understand the needs of young adolescents (Herriott, 1955).

Alexander (1964) began to articulate the need for a new school for the middle years, one with features and personnel truly dedicated to meeting the needs of young adolescents. These new schools would constitute a change away from junior highs as a preparation for high school to “middle schools” that would be child centered and incorporate such features as team teaching, integrated content, advisory programs, and flexible scheduling (Anfara & Buehler, 2005). The characteristics suggested for the new middle schools also included a more individualized instructional program, increased guidance counseling support, a flexible curriculum that recognized that young adolescents are profoundly varied in their intellectual development, an emphasis on thinking and problem solving skills rather than just discrete facts, and the development of values (Alexander, 1964).

The name middle school was widely adopted along with a trend toward schools housing grades 6-8. In the 1970s and 1980s, schools using a 6-8 grade configuration increased 120% while the former junior high schools with a 7-9 grade configuration decreased by 53% (Alexander & McEwin, 1989). According to U.S. Department of Education’s National Center for Education Statistics, by the 2005-2006 school year, there were 9,199 middle schools with grades 6-8 compared to only 530 schools with grades 7-9 (National Center for Education Statistics, 2006). At least in name and in the traditional 6-8 grade configuration, the vast majority of U.S. schools serving the middle grades identified with the middle school concept rather than the former junior high schools.

In 1982, the National Middle School Association (NMSA; now called the Association for Middle Level Education) issued the first of what would be a series of position papers published by national organizations articulating a comprehensive definition of middle schools. *This We Believe: Successful Schools for Young Adolescents* (1982) debuted only months before the
landmark *A Nation at Risk* (U.S. Department of Education, 1983) report that called for sweeping educational reforms, especially at the secondary level. *This We Believe* described the characteristics of young adolescents and provided 10 descriptors of “true” middle schools: (1) educators knowledgeable about and committed to young adolescents, (2) a balanced curriculum based on student needs, (3) a range of organizational arrangements, (4) varied instructional strategies, (5) a full exploratory program, (6) comprehensive advising and counseling, (7) continuous progress for students, (8) evaluation procedures compatible with the nature of young adolescents, (9) cooperative planning, and (10) positive school climate (NMSA, 1982, 10-15). These features became a foundational definition of what middle schools should be, with a particular emphasis on schools that are, above all, equipped to meet the distinctive developmental needs of young adolescents and provide a supportive, collaborative learning environment.

Similarly concerned with reforms in public education and in the middle grades in particular, the Carnegie Corporation through its Council on Adolescent Development issued *Turning Points: Preparing American Youth for the 21st Century* (1989), another foundational work for middle grades innovation. The 1989 version of *Turning Points* made eight recommendations for improving middle grades education: (1) divide students into smaller units, (2) teach a common core to all students, (3) organize to ensure success for all students, (4) share leadership, (5) employ teachers who are experts at teaching young adolescents, (6) promote good health, (7) promote alliance of families and school, and (8) partner with the community (Carnegie Council, 1989). The original *Turning Points* description of middle school features reflects the core ideas of *This We Believe*, focusing on social and emotional developmental needs, shared leadership, and a nurturing school climate.

Other organizations have issued documents articulating various features of the middle school concept. Capelluti and Stokes (1991), for example, edited a volume for the National Association of Secondary School Principals (NASSP) that describes the development of the middle school concept and expands upon the major middle school features recommended by *This We Believe* and *Turning Points*. *This We Believe* and *Turning Points*, however, are considered to be the seminal position papers most often cited as authoritative descriptions of the middle school concept (Heller, Calderon, & Medrich, 2003).
Middle Grades in the Standards Movement Era

The *Turning Points* and *This We Believe* emphases on creating schools designed to meet the developmental needs of middle school students came onto the national scene just as political winds in the U.S. were taking a decided shift toward academic reform in the nation’s schools. In the shadow of the publication of *A Nation at Risk* (1983) and its calls for improved academic standards, President George Bush invited the nation’s governors to an education summit at the University of Virginia in Charlottesville, Virginia in 1989. The governors, led by Governor Bill Clinton of Arkansas, drafted a set of six national goals, two of which called for improved academic achievement in U.S. schools (Ravitch, 2000). In the years that followed, national and state curriculum standards were adopted in the various content areas, culminating in the 2001 federal No Child Left Behind act, requiring testing of standards along with new measures of accountability for the nation’s schools.

Against this backdrop of calls for increased academic achievement, critics of the middle school concept (Bradley, 1998; Cooney, 1998; Heller et al., 2003; Juvonen et al., 2004; Ruenzel, 1998; Yecke, 2003, 2006) claimed that the middle school concept emphasized students’ self esteem and egalitarianism at the expense of academic rigor and competition. Critics wrote of “the muddle in the middle” (Bradley), the “mayhem in the middle” (Yecke), “education’s weak link” (Cooney), and “the rising tide of mediocrity in America’s middle schools” (Yecke). Yecke (2003) wrote: “it appears that the American public can expect little change from the leading advocates of the middle school concept—unless the standards and accountability movement succeeds in returning middle schools to an academic mission,” (p. 227). Some research also began to emerge (Byrnes & Ruby, 2007; Howley, 2002; Juvonen et al., 2004; Offenberg, 2001; Rockoff & Lockwood, 2010) suggesting that, in certain settings, 6-8 middle schools may be less effective in creating supportive environments or improving student achievement than other models such as schools with a K-8 grade configuration.

Within the context of the standards-based movement, Jackson et al. (2000) issued an updated version of *Turning Points* in which a middle school curriculum based on rigorous standards was prominently listed as the first recommendation. Jackson et al. also talk of preparing all students to achieve higher standards, reflective of the new era of accountability. The NMSA followed in 2003 with a revision of *This We Believe* in which the characteristics of
successful middle schools were expanded to 14 features, up from the previous ten. Though not as direct as *Turning Points* (2000) in emphasizing academic rigor, the new *This We Believe* document included language more reflective of the concern for academic standards. Whereas the 1982 issuance of *This We Believe* called for a “balanced curriculum based on student needs” (pp. 10-15), the 2003 version described successful middle schools as having high expectations, active engagement in learning, a relevant, challenging curriculum, and assessment that promoted quality learning.

Another change reflective of the continuing evolution of middle level philosophy was the 2011 decision of the National Middle School Association (NMSA) to alter its name to become the Association for Middle Level Education (AMLE). According to the AMLE (2011), the name change was made for two primary reasons: to better reflect the international stature of the organization and to be more inclusive of schools implementing middle level philosophy regardless of the grade configuration of the school. “We’re about kids ages 10 to 15, not the name on the school,” reported the AMLE on its website.

In 1997, the National Forum to Accelerate Middle-Grades Reform (National Forum) was created by the Carnegie Corporation and other endowment groups in response to the standards movement and the need to continue reforming education in the middle grades. Members of the National Forum include representatives from the AMLE (formerly NMSA), the National Association of Secondary School Principals (NASSP), the Association for Supervision and Curriculum Development (ASCD), and the Center for Collaborative Education (CCE), a school reform organization that continues the work of *Turning Points*. The core principles advocated by the National Forum were academic excellence, developmental responsiveness, and social equity, and, since 1999, the National Forum has recognized middle schools in the U.S. that demonstrate these principles. These same core principles are endorsed by NASSP through its National Center for Middle Level Leadership and incorporated in its recommendations published in *Breaking Ranks in the Middle: Strategies for Leading Middle-Level Reform* (2006).

Many researchers support the finding that sustained and supported implementation with fidelity of the middle school concept may lead to positive student achievement and behavioral outcomes (Anfara & Lipka, 2003; Backes, Ralston, & Ingwalson, 1999; Cook et al., 2009; Davis & Thompson, 2004; Erb & Stevenson, 1999; Felner et al., 1997; Flowers et al., 2003; Jackson &
Lunenburg, 2010; Lounsbury, 2009; Picucci et al., 2004). Comparing the recommendations of Turning Points (2000), This We Believe (2003), the National Forum (2006) and Breaking Ranks in the Middle (2006), common features begin to emerge that help define what is meant by the middle school concept in a standards-based era: rigorous, relevant curriculum for all students; instruction that promotes achievement and intellectual curiosity; organization for supportive relationships within communities of learners; visionary, participatory leadership; professional staff who are experts on middle grades education; support for social, physical, and emotional wellbeing of young adolescents; and welcome involvement of parents and community.

All of these features fit well within the four broad dimensions articulated by the National Forum: academic excellence, developmental responsiveness, social equity, and organizational structures. Table 2.1 provides a comprehensive listing of the common features of the standards-based middle school concept as articulated by Turning Points, This We Believe, the National Forum, and Breaking Ranks in the Middle.
### Table 2.1

*Features of Standards-based Middle School Concept from Four Major Frameworks.*

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1. <strong>academic excellence</strong></td>
<td>1. educators prepared to work with young adolescents</td>
<td>1. identify and align academically rigorous essential learnings</td>
</tr>
<tr>
<td>2. <strong>developmental responsiveness</strong></td>
<td>2. courageous, collaborative leadership</td>
<td>2. teacher teams with common planning time</td>
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<tr>
<td>3. <strong>social equity</strong></td>
<td>3. shared vision that guides decisions</td>
<td>3. provide collaborative time to align curriculum and coordinate efforts to address developmental needs</td>
</tr>
<tr>
<td>4. <strong>organizational structures</strong></td>
<td>4. inviting, safe, supportive environment</td>
<td>4. comprehensive adult advocacy or advisory program</td>
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<tr>
<td></td>
<td>5. high expectations for every member of learning community</td>
<td>5. teachers assess individual learning needs</td>
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<tr>
<td></td>
<td>6. students and teachers engaged in active learning</td>
<td>6. empower teachers to flex schedules to maximize learning</td>
</tr>
<tr>
<td></td>
<td>7. adult advocate for every student</td>
<td>7. leadership structures that include stakeholders</td>
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<tr>
<td></td>
<td>8. school-initiated family and community partnerships</td>
<td>8. social equity / equal opportunity</td>
</tr>
<tr>
<td></td>
<td>9. curriculum that is relevant, challenging, integrative, and exploratory</td>
<td>9. align school improvement, professional development, and individual professional goals</td>
</tr>
<tr>
<td></td>
<td>10. multiple approaches that respond to student diversity</td>
<td>10. foster health, wellness, and safety</td>
</tr>
<tr>
<td></td>
<td>11. assessment that promote quality learning</td>
<td>11. multifaceted guidance and support services</td>
</tr>
<tr>
<td></td>
<td>12. organizational structures that support meaningful relationships and learning (e.g. teams)</td>
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</table>
Heller et al. (2003) reviewed the literature regarding several of these features of the middle school concept. Interestingly, Heller et al. point out that there exists what they call a “middle school paradox” (p. 3). This paradox, they state, is created by the insistence of middle school proponents that the middle school concept consists of features that are distinctive of the middle grades. Beginning with the junior high school movement and evolving into the middle school movement, a central theme has been that effective education of young adolescents is uniquely tailored to their needs. Heller et al. argue, however, that the very features of effective middle schools are closely aligned with effective education reforms for the other grade levels as well. Thus, the middle school distinctiveness may not be so distinctive after all (Heller et al., 2003). Even if the features identified here as characteristics of successful middle schools prove useful in other grade levels as well, this observation certainly would not diminish the importance of their study and implementation in the middle grades.

Research Examining Middle School Features and Student Outcomes

Evaluating the Features of the Standards-based Middle School Concept

One of the challenges of articulating a definitive list of middle school features is trying to distinguish between common practices associated with middle schools and the ideals they are intended to operationalize. Indeed, many researchers and commentators critical of the middle school concept point to such practices as interdisciplinary team teaching, advisory periods, heterogeneous classes, separate schools with 6-8 grade configuration, and block scheduling as the visible face of the middle school concept and argue that the widespread implementation of such practices has failed to improve student achievement (Juvonen et al., 2004; Morocco et al., 2006; Offenberg, 2001; Rockoff & Lockwood, 2010; Williamson & Johnston, 1999; Yecke, 2006). Some, like Yecke (2006) and Offenberg (2001), have decried such practices as heterogeneous classes and advisory groups, done in the name of being developmentally responsive but at the expense of intellectual rigor, to be part of a larger democratic, egalitarian agenda.

Others (e.g., Clark & Clark, 1993; Maelver & Epstein, 1991, 1993; Morocco et al., 2006; Russell, 1997; Williamson & Johnston, 1999) have recognized that many schools over the years have adopted the structures and practices associated with the middle school concept, but only in
superficial ways. Many schools with “middle school” in their name boast, for example, interdisciplinary teams but the teachers on the teams do not have common planning time. Even if they have been provided common planning time, most teachers lack the support and training to engage in meaningful collaborative work focused on student learning and assessment, (Mergendoller, 1993). Thus, even though the middle school practice of dividing larger groups of students and teachers into interdisciplinary teams should be intuitively closely linked to innovative organizational patterns and practices such as professional learning communities, too often such a natural link is not found in actual practice (Clark & Clark, 2006; DuFour, DuFour, & Eaker, 2008; Erb, 2006; Juvonen et al., 2004). Similarly, many middle schools have advisory or homeroom periods, but time is often taken up with organizational tasks such as attendance or announcements rather than social and academic support activities (Maclver & Epstein, 1991).

In a standards-based era, a well-articulated definition of the middle school concept must extend beyond the original organizational structures suggested by middle school proponents such as Alexander (1964), since the existence of such structures may be no more than a façade masking a lack of understanding of the intent of the early middle school concept and its more recent revisions found in Turning Points (2000). Any attempt to identify middle school features as a single innovative concept should examine the actual language of the salient middle school frameworks.

Furthermore, a review of the literature linking various middle school features, whether considered as an integrated whole or as separable individual components, to student performance outcomes should carefully consider how the degree of implementation of middle school features has been measured. Lounsbury (2009) argues that much of the literature critical of the middle school concept has not duly acknowledged the difference between schools with fully and authentically implemented middle school concept features in the middle grades and middle schools as merely a 6-8 grade configuration with nominal structures such as teaming.

The true middle school concept, it should be recognized, has not been practiced and found wanting; rather, it has been found difficult to implement fully, and is practiced, then, only partially. Putting it all into operation requires making changes that run counter to established school procedures; hence, the concept has not been practiced sufficiently or widely enough to be fairly assessed on a large-scale basis. The obvious success of the
middle school as an organized pattern, however, led those who did not understand the
difference between the middle school concept and the middle school as a grade
configuration to the false conclusion that the middle school concept was being
implemented and was, therefore, the cause of the perceived failings. (Lounsbury, 2009, p.
32)

Clearly, any conclusions drawn from the available research on the middle concept can be
reasonable only to the extent that the fidelity, degree, and context of implementation are fully
understood.

**Overview of Research on Features of Standards-based Middle School Concept**

The research evaluating the effectiveness of features of the middle school concept has
varied in methodology, variables investigated, and findings. For studies involving the selection
of participant middle-grades schools, a formidable challenge has often been assigning participant
schools to quasi-experimental groups, using as criteria the mere existence of certain
organizational structures in the school rather than the quality of implementation. Anfara and
Lipka (2003) noted that the literature relating the middle concept, as articulated specifically by
*Turning Points*, to student achievement can be divided into overlapping categories, including
studies that consider the middle school concept as a whole versus those that examine individual
components, studies that examine specific restructuring programs, studies that recognize that the
*Turning Points* recommendations are “necessary but not sufficient,” and studies that utilize a
dichotomous implemented/non-implemented measure versus those that acknowledge stages of
implementation. For this overview of research examining the middle school concept and student
outcomes, those studies that investigate multiple features of the middle school concept or the
middle school concept as an integrated whole were included.

**MacIver and Epstein (1991).** During the infancy of standards-based reform in
American schools, MacIver and Epstein (1991) used a survey of middle school principals to
provide revealing evidence of the wide variance in implementation of middle school features.
The primary research question was whether recommended middle school features had a positive
effect on student outcomes and the strength of middle school programs. Independent variables
included advisory programs, interdisciplinary teaming, remediation programs, and transition programs.

MacIver and Epstein (1991) used a probability sampling of 2,400 of the 25,000 schools in the U.S. that house grade seven. Of these, surveys were returned by 1,753 principals. The grade configuration of the participant schools included K-8 (32.1%), 6-8 (25.3%), and smaller percentages of less common grade spans.

The survey results that MacIver and Epstein (1991) reported indicated that while many middle grades schools in the U.S. described practices associated with the middle school concept, the manner and depth of implementation varied. For example, while nearly two thirds of middle grades schools reported having a homeroom advisory period, much time was spent on more mechanical tasks such as attendance and record keeping rather than systematically using the time to build relationships and counseling opportunities between students and their mentor. Furthermore, MacIver and Epstein found no evidence of significant variance between schools housing grades 6-8 and schools with other grade configurations with regard to their student advisory programs.

Interdisciplinary teaming was found by MacIver and Epstein (1991) to be a practice in 42% of the sampled schools. The researchers also found that schools that maintained strong departmentalization practices also practiced interdisciplinary teaming. Increased levels of interdisciplinary teaming was associated with the negative outcome of higher dropout rates for boys \( (r=0.08, p<0.01) \) and girls \( (r=0.07, p<0.01) \), though the correlations were small and accounted for little variance in the dropout rates. The frequency of implementation of interdisciplinary teaming may not be indicative of the quality of implementation. Only 36% of schools that used interdisciplinary teaming provided two or more hours weekly of common planning time for teachers and less than 60% of teams had formal leaders. MacIver and Epstein found that these deficits seemed to influence the perception principals had regarding the effective functioning of teams: principals perceived teams with more common planning time and formal leaders to be stronger than teams with less common planning time and without formal leaders.

MacIver and Epstein (1991) indicated that there may be at least modest benefits to implementing features of the middle school concept. They concluded that the results were somewhat mixed, however, and more needed to be understood regarding the importance of
quality implementation of these features. One limitation of the MacIver and Epstein study was that data were limited to survey data completed by principals. The perception of principals regarding what is happening in schools may be somewhat biased toward more positive outcomes. Actual achievement data such as standardized test scores were not reported and may have provided a more objective overview of student outcomes had they been available.

Lee and Smith (1993). Lee and Smith (1993) conducted one of the earlier studies examining multiple features associated with the middle concept and their relationship to student outcomes such as achievement and at-risk behaviors. The researchers were interested, generally, in the broad movements toward school restructuring that began to develop in the early stages of the standards-based era, and especially in innovations occurring in the middle grades. Their principal research question was whether students who attended restructured middle schools would be positively affected in terms of their achievement and their engagement and whether restructured middle schools would have a more socially equitable distribution of achievement and engagement among their students.

Lee and Smith (1993) used existing data from the 1988 National Education Longitudinal Study (NELS) of 25,000 eighth grade students from 1,035 U.S. middle-grades schools. Specifically, the researchers used a subsample consisting of all of the Catholic and independent schools in the NELS data as well as a random sample of 233 of the 761 public schools. In order to be included in the study, schools had to have at least 10 sampled students and students had to have data from all NELS data sources. This resulted in a total of 8,845 students in 377 schools. The independent variable was whether the school was a restructured middle school as indicated by the following four features: (1) reduced departmentalization, (2) heterogeneously grouped instruction, (3) team teaching, and (4) a general index of restructuring composed of 16 available
measures.\(^1\) Dependent variables were student outcomes, including achievement as measured by combined reading and math scores and engagement as measured by academic engagement (e.g. completing homework and frequency of bringing required materials to class), and frequency of at-risk behaviors. Hierarchical linear modeling was employed to analyze possible variance among the variables under consideration.

Lee and Smith (1993) found that certain elements of restructuring in middle schools were positively correlated with achievement at a statistically significant level: reduced departmentalization \((p<.05)\) and team teaching \((p<.05)\). Similarly, middle schools with higher levels of restructuring, as indicated by the composite restructuring measure, were positively correlated with academic engagement \((p<.01)\). Interestingly, the relationship between these elements of restructuring (i.e., team teaching and reduced departmentalization) and at-risk behaviors was also significant, but in a negative direction: reduced departmentalization \((p<.001)\) and team teaching \((p<.01)\). Lee and Smith also found that the size of the eighth grade was negatively related to academic engagement \((p<.01)\) and that achievement gaps among students with different socioeconomic backgrounds widened in schools with larger eighth grade classes \((p<.01)\).

Some elements of the middle school concept were found by Lee and Smith (1993) to be associated with higher student achievement. For example, interdisciplinary team teaching and the associated reduction in departmentalization were found to be related to higher achievement. The

\(^{1}\) The following 16 measures were used as a composite index of restructuring: the school had grouped classes, the school had 40 percent sampled students in no grouped classes, the school had flexible time scheduling, the school had schools within schools, the eighth grade used team teaching, the students had the same homeroom teacher for all middle-grades years, the school had common planning time for departmental members, the school had a staff development program, the school was non- or semi-departmentalized, the school had a policy not to retain eighth graders, interdisciplinary teachers share the same students, eighth graders kept same classmates for all classes, students from different grade levels were in the same classroom, eighth-grade classes were organized for cooperative learning, eighth graders had exploratory classes, and eighth graders did special projects as a regular part of their curriculum.
other specific middle school concept feature specifically examined, heterogeneous grouping, was not related to any of the outcome variables under investigation. Lee and Smith acknowledged that one limitation of their study was that the level of implementation of the middle school features was not known. Therefore, while they concluded that the middle school restructuring features examined were associated with positive as well as negative outcomes, it remains unclear if team teaching practices, for example, were merely superficial or truly collaborative in nature.

Table 2.2
*Summary of Lee and Smith (1993) Findings*

<table>
<thead>
<tr>
<th>Positively related to student achievement</th>
<th>Negatively related to student achievement</th>
<th>Not related to student achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced departmentalization</td>
<td>Larger eighth grade classes</td>
<td>Heterogeneous grouping</td>
</tr>
<tr>
<td>Team teaching</td>
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**Stephens and Jenkins (1994).** Stephens and Jenkins (1994) likewise searched for a relationship between features of the middle school concept and achievement outcomes. Their research hypothesis was that if middle school features affect student achievement, there should be a significant variance in achievement between schools that implement more middle school features as opposed to schools with few middle school features. For independent variables, the researchers chose six practices from the middle school practices survey data collected by Allen and Sheppard (cited in Stephens & Jenkins, 1994) in Georgia middle schools. These practices were articulation strategies, planning prior to middle school implementation, exploratory programs, co-curricular programs, progress reporting, and advisory. Participants in the Allen and Sheppard study had responded to a series of dichotomous questions asking about practices in their schools. To measure achievement as the dependent variable, the researchers examined math, reading, and writing achievement as measured by state achievement tests in Georgia.

Correlation statistics were computed by Stephens and Jenkins (1994) to determine any potential relationships among the variables. The researchers found no correlation among math, reading, or writing scores and five of the six practices associated with middle schools in Georgia. The one practice that did have a relationship with achievement was articulation. Articulation refers to the practice of preparing students for school transitions between school levels such as
that between elementary and middle school or middle school and high school. Articulation was found to be positively correlated with reading \( (r=.3542, p<.05) \), math \( (r=.3357, p<.05) \), and writing \( (r=.2579, p<.05) \).

Based on the results of their study, Stephens and Jenkins (1994) concluded that there is little evidence that middle school practices are associated with student achievement. They did acknowledge, however, that if middle school practices can be shown to be associated with other student outcomes such as higher self esteem, a link could be established between middle school practices and achievement with the intermediate social outcomes as mediating influences. Like the MacIver and Epstein (1991) study and the Lee and Smith (1993) study, conclusions about the effectiveness of middle school practices are limited in that little is known about the level or fidelity of implementation of these practices since the data were self reported.

**Felner, Jackson, Kasak, Mulhall, Brand, and Flowers (1997).** The 1997 Felner et al. longitudinal study was an important contribution to the literature in terms of its depth and comprehensive examination of *Turning Points* recommendations as implemented in Illinois middle schools. The researchers followed over 97 middle schools during a span of six years as these schools restructured to implement the *Turning Points* recommendations as an integrated model of reform. The primary research question was whether implementing the *Turning Points* recommendations with fidelity would be associated with gains in student socio-emotional functioning, academic achievement, changes in school climate, levels of support, and involvement from parents and community. Felner et al. drew upon the work of MacIver and Epstein (1991) to develop their conceptual framework. This framework recognized that in order to evaluate outcomes produced by middle school reform, the research must go beyond a dichotomous implemented/not implemented measure of middle school features. The researchers, therefore, included direct measurements of practices within the schools and within classrooms as a means of accounting for varying degrees (i.e., fidelity) of implementation of middle school concepts.

A compressed longitudinal design was the overall research design employed by Felner et al. (1997). This design involved collecting data from schools at different stages of development as a means of simulating stages of implementation in one school over time. The researchers reported that participant schools were representative of the geographic and demographic
diversity of schools in Illinois. Various statistical analyses were performed with the available data, including correlation, hierarchical regression, and structural modeling approaches. The analysis also included grouping the schools as high implementation, partial implementation, or low implementation schools corresponding to the stage of development of each school.

Based on analysis of the collected data, Felner et al. (1997) concluded that middle schools with high levels of implementation with fidelity of the *Turning Points* recommendations were associated with significantly higher levels of achievement than schools classified as partial implementation or low implementation schools. The data also showed that progress toward fuller implementation of middle school features as recommended by *Turning Points* was positively related to increases in social-emotional health, positive school climate, as well as achievement. The researchers argued that their findings confirmed that implementation of middle school reform would not be effective if done on the basis of checking features off a predetermined list of practices. Rather, these practices should be implemented with full understanding of the purpose for each practice.

Failure to implement middle school features as an integrated model or superficial implementation, in fact, led to negative outcomes in some of the participant schools under study by Felner et al. (1997). The researchers reported, for example, that schools with teaming practices that did not engage in collaboration and curriculum integration were associated with more negative school climate, lower student achievement, and increased behavior problems. These findings underscored the importance of implementation with fidelity of the *Turning Points* recommendations. Furthermore, the Felner et al. study confirmed the critical need for research that examines middle school features to gauge the level of implementation of the features before making conclusions regarding their effectiveness.

**Offenberg (2001).** Among critics of middle schools in the era of standards have been those that focus on the grade levels that ought to be included in schools that serve young adolescents (Juvonen et al., 2004; Stephens & Jenkins, 1994; Yecke, 2006). These critics tend to advocate for K-8 schools rather than placing grades 6-8 in separate middle schools. Offenberg (2001) conducted a study of schools in Philadelphia that converted to a K-8 grade configuration compared to schools that housed grades 6-8. The conceptual framework of this study was that middle grades reform recommendations such as those offered by *Turning Points* are not
dependent on the grade configurations of the schools in which the recommendations are implemented. Citing the findings of MacIver and Epstein (1991) as well as Felner et al. (1997), Offenberg hypothesized that one of the primary concerns of *Turning Points* recommendations was the creation of smaller learning environments for students. His research question was to determine if there was any significant variance in student achievement associated with 6-8 schools versus K-8 schools in Philadelphia.

Offenberg (2001) analyzed available school-level data from 37 to 42 middle schools and 40 to 43 K-8 schools using multiple regression statistical procedures, controlling for socioeconomic variance among the schools. School-level student achievement was the dependent variable and was measured using available data from the school system database, such as grade point average and Stanford Achievement Test scores. The independent variable was the grade configuration of the school: 6-8 versus K-8. Thus, middle schools were defined by the grades housed within the school rather than by any particular practice or feature of the middle school concept.

Offenberg (2001) found that gains in mathematics achievement were greater in K-8 schools than in middle schools at a statistically significant level; though Offenberg did not report the specific statistic. Higher gains in reading and science for K-8 schools were also indicated, though not at a significant level. Another measure of achievement was the grade point average of ninth graders who had attended either a middle school or K-8 school. Offenberg found that the grade point average of students who had attended a K-8 school was significantly higher than grade point averages of students who had attended a middle school (\(p<.02\)).

In an attempt to account for some of the variance in achievement between the school types, Offenberg (2001) also ran statistical analyses comparing the overall size of schools and the number of students in eighth grade that attended the different school types. He reported that K-8 schools in Philadelphia ranged from total enrollments of 252 to 1,419 while middle schools ranged from 389 to 1,489 students. Controlling for socioeconomic status of the schools, Offenberg found no significant interaction among school type and overall school size related to achievement measures. The number of eighth graders attending the different school types ranged from 23 to 147 for K-8 schools and 116 to 421 in middle schools. Offenberg found that there was a significant interaction among school type and the number of eighth graders in the school.
related to science achievement ($p<.05$). Neither reading nor mathematics achievement produced a significant interaction, though the schools with smaller numbers of eighth graders tended to have higher scores.

Offenberg (2001) concluded that K-8 schools were more effective than middle schools in producing the outcomes measured in his study. He observed that K-8 schools were actually better at implementing middle school practices than 6-8 schools, an outcome likely linked to the smaller number of students in each grade level typically found in K-8 schools. Offenberg hypothesized that it may be easier to implement middle school practices in K-8 schools due to the fewer students in each grade level. He suggested that middle schools may nominally have structures that support smaller learning communities, such as teaming, but larger numbers of students in each grade level may stymie the formation of closer relationships among students and teachers. One limitation of the study was that the participant middle schools were assumed to have implemented practices associated with the middle school concept just because they were called middle schools and they housed grades 6-8.

Mertens and Flowers (2003). Mertens and Flowers (2003) focused on potential relationships between middle school practices and student achievement in high poverty schools. Specifically, their research question asked how interdisciplinary teaming practices and classroom practices related to achievement in such schools. The study included a discussion of factors that may influence the implementation of middle school features in schools. Of special concern was how these practices along with poverty levels interact as combined effects.

Mertens and Flowers (2003) used data collected through the School Improvement Self Study which consisted of surveys of parents, teachers, students, and administrators. Schools in Arkansas, Louisiana, and Mississippi participated in the study as part of a reform initiative that targeted student achievement in middle schools. Data were collected from 121 schools, 83% of which had disadvantaged populations of 40% or more. In the 2000-2001 school year, over 3,500 teachers responded to the survey.

Mertens and Flowers (2003) examined two dimensions of the data they assembled: teacher reports of interdisciplinary teaming and classroom practices. Teachers were asked to rate the frequency of their practices, from never to daily, on a seven-point scale. Questions about teaming practices centered on curriculum integration, assignment coordination, parent contact,
and collaboration with resource staff. Questions about classroom practices were grouped in seven domains: small group instruction, interdisciplinary practices, authentic assessment, critical thinking, math skills, reading skills, and writing skills. The dependent variable was student achievement as measured by Normal Curve Equivalency scores for seventh grade math and reading. Teaming and classroom practices were of concern to the researchers based on the middle school reform recommendations from the National Forum. Mertens and Flowers identified the following characteristics of effective teams and classrooms: academic rigor, relevant curriculum, active learning, connection with larger community, and a positive climate.

Mertens and Flowers (2003) found that all four dimensions of teaming practices were individually positively correlated at a statistically significant level with all seven classroom practices, p<.01 for all correlations. The researchers also examined the level of implementation of teaming practices as measured by the amount of common planning time provided to teams. They found that teams with high levels of common planning time, defined as four times per week with 30 minutes per meeting, implemented teaming practices at a higher level and implemented the recommended classroom practices at a higher level. The researchers found, however, that the mere existence of fuller implementation of teaming practices or common planning time was not significantly related to student achievement as a single factor.

Mertens and Flowers (2003) were interested in the combined effects of teaming with common planning time and socioeconomic status on teaming practices, classroom practices, and student achievement. They reported that teaming with high common planning time influenced reading scores in high poverty schools. The researchers claimed that the combined effects of teaming and common planning time when the teams have worked together for longer period of time can produce greater student achievement. One shortcoming of the research, however, was that the claims of associations with achievement were not reported with descriptive statistics which would have allowed consumers of the research to gauge the significance, if any, of the claims.

Cook, Faulkner, and Kinne (2009). A more recent study identifying features of the middle school concept and exploring its relationship to student achievement was the 2009 research study conducted by Cook, Faulkner, and Kinne. Cook et al. investigated levels of implementation of middle school features as defined by This We Believe (2003) in Kentucky
middle schools designated as Schools to Watch (STW). STW is the primary program of the National Forum recognizing middle grades schools that are on a trajectory of excellence toward the three National Forum ideals of academic excellence, developmental responsiveness, and social equity. The aim of the researchers was to also compare the level of student achievement in schools designated as STW schools with non-STW middle schools.

Cook et al. (2009) surveyed teachers and administrators in ten STW middle schools in Kentucky, using the middle schools concept framework articulated by This We Believe. The survey features measured the perceptions of the teachers and administrators of the implementation of these features in their schools. The researchers used state assessment data as their measure of student achievement. For non-STW schools, the researchers chose all schools in Kentucky that housed grade seven as the research population. Schools were included regardless of grade configuration, and Cook et al. identified a stratified random sample of 40 schools to represent the total population of 344 schools. The ten STW schools were also included in the sample for a total of 50 schools. The survey instrument was developed by the researchers to measure eight dimensions of the This We Believe recommendations. These eight dimensions included middle school concept and professional preparation, advisory, school mission, teaming, school environment, expectations, curriculum and instruction, and parental involvement. Reliability of the survey instrument produced a Cronbach’s alpha of .98.

Using multivariate analysis of variance to analyze the eight middle school dimensions as dependent variables and school designation as the independent variable, Cook et al. (2009) found a significant main effect of STW versus non-STW designation, $F(8, 103)=2.27, p<.05, \eta^2=.15$. This statistic indicated that survey respondents perceived a significantly higher level of middle school features in STW schools versus non-STW schools, though the relatively small effect size indicated that the difference may not be particularly meaningful. The researcher also reported that, on average, the STW schools produced student achievement equal to or better than 78% of middle schools in Kentucky. No other statistical analysis of comparative achievement data was reported. The researchers concluded that the selection criteria for the STW program may serve as an effective means of measuring levels of implementation of middle school recommendations.

Jackson and Lunenburg (2010). Another recent study investigating the relationship between student achievement and features of middle level philosophy was one published in 2010.
by Jackson and Lunenburg. Jackson and Lunenburg explored middle level practices in Texas middle schools using the criteria of the National Forum. One of the strengths of this study was that the researchers probed beyond a dichotomous implemented versus not implemented measure of middle level features by attempting to gauge levels of implementation. The degree of implementation of middle level features was compared to levels of designation afforded the schools based on Texas standardized test scores.

Jackson and Lunenburg (2010) developed a sample of middle schools derived from the total population of 797 Texas middle schools housing grades six through eight. Middle schools in Texas earn one of four designations based student performance on the Texas Assessment of Academic Skills (TAKS): Exemplary, Recognized, Academically Acceptable, or Academically Unacceptable. All ten of the Exemplary schools and all eight of the Academically Unacceptable schools were invited to participate along with a random selection of Recognized and Academically Acceptable schools, for a total of 36 middle schools. Usable data was received from 24 of the schools, with a balanced representation from the four school designations.

Jackson and Lunenburg (2010) surveyed principals and teachers from the 24 participant schools using the Middle School Performance Indicator Questionaire (MSPIQ) instrument from the National Forum. Principals and teachers were asked to rate the frequency of implementation of indicators grounded in the four STW criteria categories of the National Forum: academic excellence, developmental responsiveness, social equity, and organizational structures. Participants rated the frequency of implementation of the indicators using a four-point scale: very frequently, frequently, occasionally, or never. The reliability of the survey instrument was reported to have a Cronbach’s alpha coefficient of .97.

Jackson and Lunenburg (2010) analyzed differences among the student achievement levels of the middle schools on each school’s indicator dimensions using an analysis of variance (ANOVA) statistical procedure. The ANOVA results indicated a significant level of variance among Exemplary, Recognized, Academically Acceptable, and Academically Unacceptable schools on all four performance indicators: academic excellence, $F(3,20)=11.86$, $p<.05$, $\eta^2=.64$; developmental responsiveness, $F(3,20)=5.52$, $p<.05$, $\eta^2=.45$; social equity, $F(3,20)=5.66$, $p<.05$, $\eta^2=.46$; and organizational structures, $F(3,20)=9.12$, $p<.05$, $\eta^2=.58$. These statistics indicated that higher levels of implementation of the National Forum criteria in the higher performing schools...
as compared to low performing schools were at a significant level. The strong and moderately strong effect sizes indicated that the variance among the school designations was meaningful.

Jackson and Lunenburg (2010) concluded that high levels of implementation of middle level practices recommended by the National Forum were positively associated with higher student achievement on standardized tests. One limitation of the findings noted by the researchers was that the levels of implementation were self reported. One way to more clearly establish a link between middle level practices and student achievement may be to measure levels of implementation through actual observation rather than using a survey.

**Synthesis and Conclusions**

In the recent era of standards and increased accountability, researchers have investigated possible relationships between elements of the middle level philosophy of education and student outcomes such as student achievement. Researchers have chosen varied features of the middle school concept to examine, though frequently visible structures such as teaming and scheduled time for advisory periods have been included as variables. Overall, the choice of specific independent variables to be used as proxies for full implementation of the middle school concept has been somewhat inconsistent.

In some cases, a dichotomous implemented versus not implemented scale has been used to account for the existence of middle school practices. For these studies, researchers have relied primarily on self-reported data from principals and teachers. Very few studies have probed beyond the surface to report variations in implementation of middle school features as they relate to influence on student outcomes. Reporting such variations, including the fidelity with which middle school practices have been implemented at acceptable levels, is needed in order to accurately draw conclusions about their efficacy.

The review of the literature presented above related to the development of education in the middle grades and to the features associated with the implementation of the middle school concept provides a foundation and theoretical grounding for future research. The description of the historical development of middle-grades education presents the context for recent research studies and ongoing policy debate. The review identifies features of the middle school concept as described within the literature and presents an overview of research findings related to these
features. A synthesis and critical review of previous research methodologies and findings reveal the need for further research.
CHAPTER III
METHODOLOGY

Introduction

Attempts to investigate the efficacy of the practices associated with the middle school concept have resulted in mixed findings (Cook et al., 2009; Jackson & Lunenburg, 2010; Lee & Smith, 1993; Mertens & Flowers, 2003; Offenberg, 2001; Stephens & Jenkins, 1994). Obstacles to definitive findings relating middle school features to student achievement have included the clear identification and enumeration of the characteristics of the middle school concept, and the ability to measure the degree of implementation of these features in actual practice (Lee & Smith, 1993; MacIver & Epstein, 1991; Stephens & Jenkins, 1994). These problems have impeded research efforts to understand and measure the efficacy of the middle school concept as a clearly-defined set of practices.

Purpose of the Instrument Development and Testing Process

The purpose of the instrument development and testing process was to identify critical features of the middle school concept implemented in the context of standards and accountability. While there are many effective school and classroom practices found in schools at all levels, the instrument development and testing process reported narrowly focused on enumerating school characteristics that collectively and uniquely define the middle school concept. Once clearly defined, the middle school concept will more readily lend itself to empirical investigation using rigorous research methodology.

The implementation of change is nonlinear, is characterized by varying stages of adoption, and is subject to multiple adaptations (Fullan, 2001; Hall & Hord, 2006). The instrument development and testing process, therefore, investigated the nature of the implementation of middle school concept features, recognizing that actual practices in schools may vary somewhat without the schools losing their identity as middle schools. The principal product of the process was the development of a diagnostic tool that may be used in future research to identify acceptable forms of implementation of the middle school concept.
The instrument development and testing process proceeded in three phases. Phase One focused on the confirmation of the key features that define the middle school concept as implemented in an era of standards and accountability. Phase Two involved developing a data collection instrument that identified which key features of the middle school concept are operationalized in schools serving the middle grades and the nature of the implementation of those features. In Phase Three, a field test of the data collection instrument developed in Phase Two was conducted.

**Concerns-Based Adoption Model**

The theoretical framework for the development of the data collection instrument was provided by the Concerns-Based Adoption Model (CBAM) developed by Hall and Hord (2006). Hall and Hord describe change as a complex process that occurs in stages over time and results in variations that the original designers of the change may or may not have envisioned. The designers of an innovation conceptualize exactly what form the innovation should take when implemented with fidelity. The designers may offer detailed descriptions and examples of what they intend. Nonetheless, if the innovation is widely implemented across various settings, other people likely become involved in the process of implementation. The implementers receive and interpret the intended innovation through the filter of their own experience, expertise, motivation, and setting. This filtering process results in natural variations in the implementation of the innovation.

In schools and other settings in which an innovation may be implemented, two principal roles influence the manner in which the innovation is operationalized: change facilitators and change implementers (Hall & Hord, 2006). The responsibility of the change facilitator is to communicate with change implementers regarding the characteristics of the innovation and expectations for its use. Furthermore, the change facilitator monitors and evaluates the implementation of the innovation within a continuous cycle of feedback and adjustments to the innovation. In a school setting, the change facilitator role may be filled by the principal or perhaps by teacher leaders such as an instructional committee or an instructional coach. The implementers of the change may be classroom teachers or other staff members. Environmental
factors such as organizational culture also influence the implementation of the innovation. Figure 3.1 illustrates the change implementation process as described by the CBAM framework.

Figure 3.1. The concerns-based adoption model. Adapted from Hall and Hord (2006), Implementing Change: Patterns, Principles, and Potholes, p.252.

Hall and Hord (2006) identify three diagnostic tools used within the CBAM framework that may be used to understand the role that people have in the change process. Stages of Concern is a tool that measures the emotional engagement that people have with an innovation. Understanding the perceptions and concerns that people have with a proposed change allows leaders to make decisions regarding the types of communication and coaching required to help people progress through the change process.

A second tool within the CBAM framework is Levels of Use (Hall & Hord, 2006). While the Stages of Concern tool measures the emotional side of the change process, the Levels of Use tool is intended to measure the behaviors of those implementing an innovation. The Levels of Use tool describes eight levels of practice ranging from nonuse of the innovation to advanced stages of use in which the implementers are engaged in evaluating their practice in a cycle of continuous improvement.
The third CBAM tool, Innovation Configuration (IC) mapping, is used to identify the essential components of the innovation and describe what these components look like when operationalized (Hall & Hord, 2006). IC mapping accounts for variations along a continuum of actual implementation. The IC map provides descriptors ranging from implementation of the innovation components as envisioned by the innovation designers on one end of the continuum to the other end of the continuum where the components are implemented in a form that is something other than the original innovation. Together, these three diagnostic tools provide useful information to leaders charged with facilitating the change process within an organization. Figure 3.1 illustrates how Stages of Concern, Levels of Use, and IC mapping are used within the CBAM framework to measure the implementation of an innovation.

**Innovation Configuration Mapping**

Since the purpose of the instrument development and testing process was to identify components of the middle school concept in a standards-based era and to investigate variations in its implementation, one CBAM tool in particular provided an appropriate methodology: IC mapping. IC mapping is an interactive process that results in a description of the multiple variations of components of an innovation as operationalized in actual practice across different settings (Hall & Hord, 2006). The intent is not to judge whether a particular variation of a change component is good or bad but to acknowledge the reality that different adopters of a change have different interpretations of what the change should look like or may alter one or more components of the change to fit a particular setting. For each component of a change, the IC map describes a range of variations of the component based on documents, expert consensus, and actual observation. After multiple iterations of the IC map, fidelity lines are drawn to indicate which variations are associated with the innovation and which variations have manifested as something different than the innovation.

The first phase of the IC mapping process is to identify the components of the innovation that will be included in the IC map. Hall and Hord (2006) suggest that this initial step be accomplished through interaction with developers of the innovation and other individuals who might be considered experts on the innovation. In addition, a thorough review of key documents
associated with the innovation should be conducted. This CBAM sorting process results in a cluster map made up of the key components of the innovation.

Once the key components of the innovation have been clearly identified and clustered, the second phase of IC mapping begins (Hall & Hord, 2006). In this phase, the researchers developing the IC map describe the manner in which each component of the innovation is manifested in schools and classrooms. The goal of this part of the process is to descriptively account for what the people involved with the innovation actually do when the innovation is in use. What would an observer of the innovation see happening in classrooms and schools? What would teachers and students be doing? Answering these questions and developing the IC map is most effectively done through a collaborative, multiple-iterative process, preferably with three or more people working together as an IC mapping team.

An IC map is the CBAM tool that recognizes that the various components of an innovation will naturally evolve into a variety of forms as a function of the multiplicity of people who adopt the innovation and the variety of settings in which the innovation is adopted (Hall & Hord, 2006). Thus, the work done by the IC mapping team in this second phase constitutes the essence of the process. Depending on the complexity of the innovation, the IC mapping team provides as much detail as needed in order to achieve clarity. For each component, a range of implementation is described, with variation $a$ representing the component in its most developed state, and variation $d$ or $e$ representing the absence of implementation of the component (Hall & Hord, 2006). Table 3.1 provides an example of how an innovation component may be described, accounting for a range of variations. The example in Table 3.1 is derived from an IC map developed by Ceperley and Squires (2000) describing how data are used to improve teaching and learning within a school district.
Table 3.1

IC Map Describing How Data Are Used to Improve Teaching and Learning

<table>
<thead>
<tr>
<th>Component</th>
<th>Variation a</th>
<th>Variation b</th>
<th>Variation c</th>
<th>Variation d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyze instructional unit assessment results</td>
<td>The district sets aside time and resources each year for teacher groups to</td>
<td>Classroom-level instructional unit assessment results for the year are kept</td>
<td>Classroom-level instructional unit assessment results for the year are kept</td>
<td>There is no evidence that student progress is observed by anyone other than</td>
</tr>
<tr>
<td></td>
<td>meet to examine classroom-level instructional unit assessment results,</td>
<td>in a central place, a few use the results to determine which units are</td>
<td>in a central place, but no one uses the results to determine which units are</td>
<td>the classroom teacher.</td>
</tr>
<tr>
<td></td>
<td>determine if high scores on unit assessments helped ensure high scores on</td>
<td>strong and which need revision.</td>
<td>strong and which need revision.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>standardized tests, and set curriculum revision priorities for the next</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>year.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revise curriculum and assessments</td>
<td>The need for revision is well understood, and procedures are in place for</td>
<td>The need for revision is well understood, and procedures are in place for</td>
<td>The need for revision is understood, but time is not built into the budget</td>
<td>Teachers teach the same material year after year.</td>
</tr>
<tr>
<td></td>
<td>accomplishing this. Time and resources are budgeted annually so this</td>
<td>accomplishing this annually. However, no time is budgeted for this activity.</td>
<td>and no procedures are in place for accomplishing this each year.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>activity can take place.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plan professional development</td>
<td>The school improvement process specifies that school professional</td>
<td>Professional development planning is incorporated into curriculum</td>
<td>Professional development is acknowledged as a need, but there is no</td>
<td>Teachers who want to learn more attend college of education courses during</td>
</tr>
<tr>
<td></td>
<td>development goals will emerge from analysis of test data. Resources are</td>
<td>improvement planning, but professional development goals are not funded.</td>
<td>systematic process on the district/school level to address this need.</td>
<td>the summer.</td>
</tr>
<tr>
<td></td>
<td>budgeted to carry out the goals. Professional development is assessed on a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>yearly basis.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Adapted from Ceperley and Squires (2000), Standards Implementation Indicators: Charting Your Course to High Achievement.

Hall and Hord (2006) offer some guiding principles for the development of IC maps. One of these principles cautions against the use of derogatory descriptions of the d and e variations. Rather, these variations merely describe alternatives to the use of the innovation component.
Another principle reminds readers that the purpose of an IC map is to document the manner in which an innovation is being implemented. Another principle of IC mapping is to endeavor to be as descriptive as possible to achieve clarity for each component. Descriptions of the presence and absence of the component should be included. Another principle recommends that each component should have two to four dimensions. A final guiding principle suggests that IC mapping is a process that involves the building of consensus among the mappers.

The third and final phase of IC mapping is a verification process to test the content validity of the newly-created IC map. The verification process is accomplished by observing the innovation components as implemented in schools and classrooms. Hall and Hord caution that the first draft of an IC map almost always needs to be adjusted. Some descriptions may need further clarification in order to render the IC map a more useful diagnostic tool for practitioners facilitating change in the field and researchers studying measurable outcomes of the innovation. Through observation in schools and classrooms, the researcher may also decide that additional components should be added to the IC map to provide a more complete description of the innovation. Figure 3.2 illustrates the key phases of the IC mapping process (Hall & Hord, 2006).
Methodology for the Development of a Middle School Innovation Configuration Map

The instrument development and testing process identified components of a standards-based middle school concept, employing the methodology of Innovation Configuration mapping from the Concerns-Based Adoption Model articulated by Hall and Hord (2006). The instrument development and testing process closely followed the three phases of the IC mapping process as described in the previous section. The first phase involved interaction with a panel of experts and a review of key documents, resulting in a cluster map of components of the standards-based middle school concept. The second phase was the development of an IC map describing variations of the implementation of the components of the standards-based middle school concept. The final phase was a verification of the IC map through observation in actual schools housing the middle grades.

Phase One: Identification of the Components

Hall and Hord (2006) suggest that the first phase of an IC map should be the development of a cluster map of the key components associated with the innovation being studied. The cluster
map is created through interaction with people who are experts on the innovation and through a review of key documents associated with the innovation (Hall & Hord, 2006).

For the instrument development and testing process, the key documents associated with the middle school concept are the four major frameworks summarized in Table 2.1 above. The common features that emerge from the four frameworks help define what is meant by the middle school concept in a standards-based era: rigorous, relevant curriculum for all students; instruction that promotes achievement and intellectual curiosity; organization for supportive relationships within communities of learners; visionary, participatory leadership; professional staff who are experts on middle grades education and the students they serve; support for social, physical, and emotional wellbeing of young adolescents; and welcome involvement of parents and community. The IC mapping process achieves verification of this list of middle school components from the four frameworks through interaction with a panel of experts on the middle school concept.

To attain the interaction with experts prescribed by Hall and Hord (2006), the instrument development and testing process employed a Delphi-like process. A quasi-Delphi methodology was appropriate since one of the guiding principles of IC mapping emphasizes the value of building consensus (Hall & Hord, 2006). Pfeiffer (1968) explains that there are many acceptable variations of the Delphi process, and it can be a successful way of “encouraging convergence of opinion” (p. 153). The Delphi process is a way of collecting opinions from experts, usually via a questionnaire, without forcing the experts to interact in a face-to-face forum. By avoiding face-to-face communication, the pressure to yield to the opinions expressed by other experts at the meeting is somewhat mitigated. The Delphi methodology is an iterative process involving consecutive cycles of questioning of the individual members of the expert panel to arrive at group consensus (Pfeiffer, 1968).

The first round of questioning usually asks open-ended questions to elicit the expertise of the group without unduly influencing their responses. The second round of questions normally asks the member of the expert panel to rate the responses garnered from the first round of questioning. Subsequent rounds of questioning, if employed, serve to achieve further consensus regarding the importance of the features under consideration (Pfeiffer, 1968). Since the primary objective of the first phase of the process was to verify middle school features that arise from the
document review and since interaction with experts is one component of the larger IC mapping methodology, a limited variation of a Delphi exercise was deemed sufficient.

The instrument development and testing process was initiated by inviting current experts on the middle school concept to participate in a quasi-Delphi exercise to identify key components of the middle school concept as operationalized in the standards-based era. These experts were persons of prominence within the field and consisted of middle school reform advocates, university-level researchers, and middle school practitioners. A potential pool of middle school reform advocates from across the United States was identified by consulting current publications and websites of organizations such as the Association for Middle Level Education (AMLE; formerly the National Middle School Association), the National Forum, the National Association of Secondary School Principals (NASSP), and affiliate state organizations. A potential pool of university-level scholars was identified through a search of current research and commentary literature. A potential pool of middle school practitioners was identified through a review of programs recognizing exemplary middle school practices, such as the National Forum’s School to Watch (STW) program and NASSP Middle School Principal of the Year recognitions.

The completed list of potential expert panel candidates included 27 candidates in the advocate group, 25 candidates in the practitioner group, and 35 candidates in the scholar group. An effort was made to include candidates from diverse parts of the United States in the initial pool. In the advocacy group, candidates resided in 23 different states. In the practitioner group, candidates resided in 16 different states. In the university scholar group, candidates worked in 24 different states.

Candidates in each group were placed in alphabetical order and assigned a number. Each candidate was also categorized according to one of 4 regions: South, Northeast, Midwest, West/Pacific. For the advocate group, representation of organizations was the primary concern. Therefore, the first three candidates invited to participate were from as many different organizations as possible. For the practitioner group, candidates were deemed to be of relatively equal stature within the field. Therefore, the candidates were chosen randomly, but with attention paid to geographical representation. Using an online random number generator, three candidates were chosen from each group. If the random number generator chose a candidate from a
geographic region already represented, another number was generated. For the university scholar group, the process used for the practitioner group was repeated, minus the requirement for geographic diversity.

Three members from each of the three representative groups of the pool were contacted via email and follow-up telephone calls to invite participation on the expert panel. The expert panel included at least two but no more than three members from each group, or six to nine total experts. When fewer than two experts from any of the three representative groups agreed to participate, additional members of the pool were contacted until the desired number of panelists and group representation was achieved. Since the quasi-Delphi exercise was limited in scope and duration, it was judged that any panelist who decided to end his or her participation in the process could be replaced with an alternate without substantially jeopardizing the validity of the process.

Linstone and Turoff (1975) advocate the use of blank questionnaires to begin a Delphi exercise in recognition that Delphi statements to which participants are asked to respond inherently reflect the bias and attitudes of the creators of the statements. For the instrument development and testing process, consistent with the recommendation of Linstone and Turoff, the initial questioning in Round One of the quasi-Delphi exercise did not include references to elements of the middle school concept articulated in the literature. Rather, the first round of questioning consisted of an open-ended question designed to elicit responses that arose from the expert perspective of each individual panel member. Beginning with an open-ended question was intended to reduce questioner bias that may otherwise have been introduced by asking panel members to respond to statements posed by the researcher.

Additional rationale for commencing with open-ended questioning was based on the purpose of the first phase of IC mapping. The IC mapping process prescribes a two-pronged approach to the development of the component cluster map in Phase One: interaction with a panel of experts and a document review of key frameworks (Hall & Hord, 2006). Triangulating data from both experts and documents was intended to result in a more accurate and reliable list of components of the middle school concept. The triangulation of data was made more robust by initiating the quasi-Delphi exercise with open-ended questioning rather than only asking experts to verify statements derived from middle school frameworks. Components from key middle
school frameworks were included in the second round of questioning, but starting with a blank slate allowed for potential divergence of opinion that may not otherwise have surfaced.

In the first round of questioning of the instrument development and testing process, panelists were asked to produce a list of essential features of the middle school concept within the current context of standards and accountability. Participants were invited to participate in the exercise via paper correspondence if they preferred, but otherwise the question was sent to the expert panel members by electronic mail and they were asked to respond using an electronic survey instrument. When responses were received from all participants, the combined list of middle school concept features were evaluated to determine the number of responses that duplicated responses from other panelists, and the number of responses that duplicated middle school features derived from the document review.

The evaluation of first-round responses was used to create a new, condensed list of middle school features. All middle school features derived from the document review were included, along with a notation of the number of frameworks naming each feature. Next, any non-duplicate component of the middle school concept named by a member of the expert panel but not included in the list from the document review, was added to the new, condensed list, along with a notation of the number of times the proposed feature was named in the first round of questioning. The newly-created list was sent to the panel of experts for the second round of questioning.

Panelists were asked to rate each component on the second-round list via an electronic survey instrument. The panelists were asked to consider each of the elements listed and rate its importance as a component of the middle school concept within the context of standards and accountability. Participants based their responses on a five-point importance scale, a technique for second-round questioning modeled by Jillson (1975). The following scale was employed: the feature is (5) a crucial component of the middle school concept, (4) an important component of the middle school concept, (3) a desirable but not crucial component of the middle school concept, (2) somewhat related to the middle school concept, or (1) not related to the middle school concept.

The second-round responses were compiled for statistical analysis, using Microsoft Excel. For each component included in second-round questioning, the percentage of panelists
marking the component in one of the two most favorable categories, crucial or important, was computed. All components scoring in one of the two most favorable categories by 80% of the experts were retained for Phase Two of the IC mapping process.

**Phase Two: Developing the IC Map**

The subsequent phases of the IC mapping process involved working with a team of practitioners to describe the possible variations of each middle school component, deciding how each component could be best measured when operationalized, and then verifying the IC map through observation, artifact gathering, and interviews in actual schools housing the middle grades. The mapping of component variations was highly interactive since participants met together in a live, face-to-face format.

In addition to the researcher and an expert facilitator, participants on the IC mapping team were six practitioners who had broad experience in multiple settings with variations of middle school components. The participant pool was middle school principals and teachers who had experience making site visits to middle schools that have applied for recognition for the Schools to Watch (STW) program sponsored by the National Forum. STW application reviewers and site visitors represent high-performing schools that have already been recognized by the STW program as having exemplary middle school practices. The STW program acknowledges that each middle school operates in different geographic and socio-cultural settings, with distinct student demographics, and varying levels of district support (National Forum, 2010). Hence, STW site visitors are trained to accept and expect variation in implementation of middle school features and were, therefore, appropriate participants of the IC mapping team. A more detailed description of the IC mapping team participants is provided in the next chapter.

The researcher arranged the time and place for the IC mapping team to build the IC map of middle school features. Since it was anticipated that not all participants may have been available to physically meet in the same location, arrangements were made for participation through teleconferencing if needed. On the designated day, the IC mapping team met to consider each middle school component identified by the expert panel using the quasi-Delphi exercise in Phase One of the instrument development and testing process. The building of the IC map was
led by a facilitator with experience in IC mapping who could guide the team through the IC mapping process.

Given the number of components included in the IC map, a minimum of six hours was set aside for creating the map. The team was prepared to continue the process on an additional day if needed, though it was acknowledged that participant fatigue and availability could have negatively affected the quality of the IC mapping process and product if precautions, such as ensuring the efficient use of time, were not taken. The researcher consulted with the experienced facilitator to determine the most effective means of maximizing the available time and safeguard the integrity of the IC mapping process. These precautionary actions included: (1) introducing the IC mapping procedures to the participants via electronic communication before the team met, (2) sending the list of middle school features derived from Phase One to the participants ahead of time, and (3) making sure that all materials and equipment needed for building the IC map were in place and operational.

After the team operation was organized, the facilitator methodically proceeded through the list of middle school features identified in Phase One, asking the IC mapping team to create written descriptions of the variations in implementation of each feature that team members had observed in actual practice. For each middle school feature, three to five variations were described with as much detail as required to achieve a consensus of clarity among the team members. The descriptions ranged from variation \(a\), a description of the middle school feature in its most developed state of implementation, to variation \(d\) or \(e\), a description of the absence of implementation of the middle school feature (see Table 3.1). The objective of this step was to reach group consensus rather than unanimity regarding the validity and clarity of each description. If the facilitator sensed that progress was not being made toward group consensus for the description of a particular variation within a reasonable amount of time, he elected to proceed to the next component and return to the disputed component at a later time in the process.

Along with creating written statements describing how each component variation was operationalized in middle schools, the IC mapping team developed criteria for assessing the component implementation. Since the IC map was designed to be a diagnostic tool that could be used to provide feedback to change facilitators within schools (see Figure 3.1) and to serve as an
instrument for scholarly research, the IC map described the evidence that an observer of a school would seek in order to evaluate the implementation of each middle school feature. For example, imagine that interdisciplinary teaming were identified as an organizational feature of middle schools that promoted supportive relationships in communities of learners. An observer using the IC map in a particular middle school would need to know what questions to ask of school staff members and what documents and other artifacts to collect in order to evaluate teaming practices in that school. Accordingly, the IC mapping team specified the data that would be useful to evaluate each middle school component described on the IC map.

**Phase Three: Verifying the IC Map**

The third phase of the instrument development and testing process was a verification of the newly-created IC map describing components of the middle school concept in an era of standards and accountability. Verification of the IC map was conducted through field testing the IC map on site in three schools that house the middle grades. One of the three schools chosen as sites for pilot testing the IC map was a member school of the state middle school association and all three schools were fully accredited by the state. Of the three pilot schools, the school that was a member of the state middle school association was also the only school of the three that had met federal requirements for Adequately Yearly Progress (AYP) for the previous school year under the No Child Left Behind Act (NCLB) of 2001.

One of the problems that arise from the literature and current policy debate is whether the implementation of the middle school concept is limited to schools exclusively housing grades six to eight. In order to verify the validity of the IC map for middle grades housed in elementary settings, a high-performing K-7 school was identified for inclusion in the field testing by reviewing standardized test scores of elementary schools located within feasible proximity to the researcher that also included the middle grades. The selected school was fully accredited by the state for the previous school year, although it had not met requirements for AYP under NCLB.

Once the three schools were selected and arrangements made for field testing the IC map through site visits, the researcher conducted two-day observations at the two 6-8 schools and a one-day observation at the K-7 school. The purpose of the site visits was to attempt to use the IC map to evaluate the implementation of middle school concept features at the pilot schools. The
researcher conducted informal interviews with school staff, observed classes and meetings, and reviewed documents and other artifacts such as handbooks, schedules, and meeting agendas as prescribed by the data collection portion of the IC map. Evidence was documented through field notes and copies of available artifacts.

The researcher subsequently used the data collected from pilot testing the IC map at the three schools to evaluate the validity of the IC map developed by the IC mapping team. Based on data from field testing of the IC map, the researcher concluded that, for 18 of the 27 features described by the IC mapping team, the IC map was a useful tool with minor revisions needed for some components. Revisions included the need for additional descriptors for certain components, further clarification of language, and changes to the descriptions of available evidence.

Summary

The instrument development and testing process described in this chapter identified components of a standards-based middle school concept, employing the methodology of Innovation Configuration (IC) mapping from the Concerns-Based Adoption Model (CBAM) articulated by Hall and Hord (2006). The first phase involved interaction with a panel of experts and a review of key documents, resulting in a cluster map of components of the standards-based middle school concept. The second phase was the development of an IC map describing variations of the implementation of the components of the standards-based middle school concept. The final phase was a verification of the IC map through observation in actual schools housing the middle grades. Findings from this three-phase process are reported in the next chapter.
CHAPTER IV
FINDINGS

Introduction

The previous chapter delineated the three-phase instrument development and testing process employed, grounded in the methodology of Innovation Configuration (IC) mapping (Hall & Hord, 2006). The current chapter begins with a restatement of the purpose and an overview of the methodology used to develop and test the resultant instrument. Findings from each of the three phases of the instrument development and testing process are reported.

Restatement of the Purpose

The purpose of the instrument development and testing process was to identify critical features of the middle school concept implemented in the context of standards and accountability. While there are many effective school and classroom practices found in schools at all levels, the instrument development and testing process narrowly focused on enumerating school characteristics that collectively and uniquely define the middle school concept. Once clearly defined, the features of the standards-based middle school concept will more readily lend itself to empirical investigation using rigorous research methodology.

The implementation of change is nonlinear, is characterized by varying stages of adoption, and is subject to multiple adaptations (Fullan, 2001; Hall & Hord, 2006). The instrument development and testing process, therefore, also investigated the nature of the implementation of middle school concept features, recognizing that actual practices in schools may vary somewhat without the schools losing their identity as middle schools. The principal product of the process was the development of a diagnostic tool that may be used in future research to identify acceptable forms of implementation of the middle school concept and by school leaders seeking to evaluate middle grades practices and facilitate change.

Overview of the Instrument Development and Testing Process

The instrument development and testing process identified components of a standards-based middle school concept, employing the methodology of IC mapping from the Concerns-
Based Adoption Model (CBAM) articulated by Hall and Hord (2006). The first phase involved interaction with a panel of experts and a review of key documents using a quasi-Delphi process. The interaction with the panel of experts resulted in a cluster map of components of the standards-based middle school concept. The second phase was the development of an IC map describing variations of the implementation of the components of the standards-based middle school concept. The IC map was created via face-to-face interaction with an expert facilitator and a team of practitioners with broad experience in the middle grades. The final phase was a verification of the IC map through observation and data collection in three schools housing the middle grades. This third phase of the process was conducted by the researcher.

Phase One Findings: Identification of Key Features of Middle Grades Education

Description of the Participants

Participants with state and national prominence in the field of middle grades education served on the expert panel for the quasi-Delphi exercise. The process used to identify, select, and recruit the expert panel is described in the previous chapter. The expert panel included representatives of state and national middle level advocacy organizations, university scholars who focus on middle grades education, and nationally-recognized practitioners in the field. Each participant on the expert panel was labeled as advocate, scholar, or practitioner for descriptive purposes.

Scholar 1 is a professor at a nationally known university and has published articles in scholarly publications such as Middle School Journal. Scholar 1 is coordinator of middle grades education within a department that has achieved national prominence in this field.

Scholar 2 holds the rank of distinguished professor of elementary and middle grades education. Scholar 2 has published in scholarly journals such as Middle School Journal and is author of a book related to teaching young adolescents.

Scholar 3 is an award-winning professor and serves as executive director of a state middle school association. Scholar 3 has published on the topic of young adolescents and is a past recipient of the National Middle School Association (NMSA) Distinguished Educator award.
Scholar 4 is an assistant professor at a nationally known university and has published numerous articles in scholarly journals on topics related to literacy in the middle grades.

Scholar 5 is a professor of education at a nationally known university. Scholar 5 has published several books on middle grades education and over 80 articles in scholarly journals.

Advocate 1 is the executive director of a state association of middle grades schools. Advocate 1 is a past recipient of the NMSA Distinguished Educator award.

Advocate 2 is the director of the middle grades program of a national education organization. Advocate 2 is a past president of NMSA.

Advocate 3 is the executive director of a state association of middle grades schools. Advocate 3 is a former principal of an award-winning middle school.

Practitioner 1 is a middle school principal and is a past recipient of the National Association of Secondary School Principals (NASSP) National Middle Level Principal of the Year award. Practitioner 1 is author of articles published in journals such as Middle Ground.

Practitioner 2 is a school district director of instruction and past president of a state association of middle level schools. Practitioner 2 has served on national committees related to work done by NASSP in the middle grades.

Practitioner 3 is a retired award-winning middle school teacher. Practitioner 3 is a past recipient of the NMSA Distinguished Educator award and has served on prominent national committees related to middle grades education.

**First Round of the Quasi-Delphi Exercise**

For the first round of the quasi-Delphi exercise, participants were asked to respond to a single open-ended question via an electronic survey instrument. Beginning with an open-ended question was designed to reduce questioner bias that may otherwise have been introduced by asking panel members to respond to statements posed by the researcher. Components from key middle school frameworks were included in the second round of questioning, but starting with a blank slate in the first round allowed for potential divergence of opinion that may not otherwise have surfaced.

In the first round of questioning of the instrument development and testing process, panelists were asked to produce a list of essential features of the middle school concept within
the current context of standards and accountability. The question posed to the panelists read as follows:

Based on your experience and understanding of middle grades education, please list the key features of the middle school concept, as implemented within the context of standards and accountability.

Responses were received from each of the original expert panel participants. Ten of the 11 panelists responded with enumerated lists of middle school features as requested. The eleventh panelist, Scholar 5, declined to provide a listing of middle school components since the major professional middle grades organizations “are in agreement.” Scholar 5 directed the researcher to the frameworks developed by three organizations: NMSA (now AMLE), NASSP, and the National Forum to Accelerate Middle-Grades Reform (National Forum). Practitioner 3 and Advocate 2 also referenced the key frameworks of the major professional organizations in addition to providing a list of middle school features. The list provided by Advocate 2 made a distinction “between the basic concepts of middle level education and the variety of structures used to implement [them].” Appendix A lists the responses received from each panelist.

**Synthesis of Middle Grades Features from Expert Panel and Major Frameworks**

The IC mapping process prescribes a two-pronged approach to the development of the component cluster map in Phase One: interaction with a panel of experts and a document review of key frameworks. Triangulating data from both experts and documents was intended to result in a more accurate and reliable list of components of the middle school concept. The triangulation of data was made more robust by initiating the quasi-Delphi exercise with open-ended questioning rather than only asking experts to verify statements derived from middle school frameworks.

The document review was conducted by examining the four major frameworks that describe the key features of the middle school concept. Comparing the recommendations of *Turning Points* (2000), *This We Believe* (2003), the National Forum (2006) and *Breaking Ranks in the Middle* (2006), common features emerged that define what is meant by the middle school concept in a standards-based era. An informal coding process was employed to create a synthesized list of middle school features, based on the middle level crosswalk published by
NASSP in the recent edition of *Breaking Ranks* developed for general school improvement (NASSP, 2011, pp. 154-158). Whereas the NASSP (2011) middle school matrix compares the other three frameworks to *Breaking Ranks*, the researcher organized the synthesized list using the four broad categories of the National Forum: academic excellence, developmental responsiveness, social equity, and organizational structures that support the other three concepts. Using the four broad categories was intended to promote clarity, since all of the middle school features listed on the four frameworks fit into these four broad categories.

The coding process was initiated by assigning a letter code to each of the four categories on the National Forum framework. The academic excellence category was assigned a code of “A”, the developmental responsiveness category was assigned a code of “B”, the social equity category was assigned a code of “C”, and a code of “D” was assigned to the organizational structures category. Each statement listed on the NASSP (2011) middle school matrix of the four major frameworks was evaluated and assigned a code of A, B, C, or D to identify the category to which the statement corresponded. Each statement was then evaluated a second time and numbered sequentially (e.g. A1, A2, B1, B2, etc.). If a new statement described a feature that had already been numbered in a previously read feature, the new statement was given the same code as the previous statement. If a new statement described a feature that was substantively different than previously read statements, the new statement was assigned a new code. This coding process resulted in a synthesis of features and language of the four major middle school frameworks.

The final step in the synthesis process was to compare the features resulting from the document review with features resulting from the first round responses of the expert panel. The coding process described above was applied to each feature suggested by the members of the expert panel. The researcher found that all but three of the features listed by the expert panel were substantively in agreement with the features resulting from the document review. The three new features resulting from the expert panel were coded and added to the synthesized list of middle school features. Tables 4.1, 4.2, 4.3, and 4.4 list the middle school features resulting from the synthesis of the expert panel responses and the document review by category.
### Table 4.1

**Academic Excellence: Synthesis of Middle School Features from the Expert Panel and the Document Review**

<table>
<thead>
<tr>
<th></th>
<th>Features</th>
<th>Frameworks</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>The curriculum is rigorous and challenging.</td>
<td>(4,6)</td>
<td></td>
</tr>
<tr>
<td>A2</td>
<td>The curriculum is exploratory and relevant to young adolescents.</td>
<td>(3,8)</td>
<td></td>
</tr>
<tr>
<td>A3</td>
<td>The curriculum is integrative and interdisciplinary.</td>
<td>(2,6)</td>
<td></td>
</tr>
<tr>
<td>A4</td>
<td>Assessments are aligned with high standards.</td>
<td>(2,3)</td>
<td></td>
</tr>
<tr>
<td>A5</td>
<td>Instructional strategies are varied, aligned to standards, data informed, and designed to meet the individual needs of all learners.</td>
<td>(4,6)</td>
<td></td>
</tr>
<tr>
<td>A6</td>
<td>Students and teachers are engaged in active learning.</td>
<td>(1,5)</td>
<td></td>
</tr>
<tr>
<td>A7</td>
<td>Students demonstrate mastery of standards in a variety of ways.</td>
<td>(1,2)</td>
<td></td>
</tr>
<tr>
<td>A8</td>
<td>Technology is integrated to enhance learning.</td>
<td>(0,2)</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* The first number in parentheses indicates the number of frameworks that include the feature. The second number in parentheses indicates the number of expert panel participants naming the feature.

### Table 4.2

**Developmental Responsiveness: Synthesis of Middle School Features from the Expert Panel and the Document Review**

<table>
<thead>
<tr>
<th></th>
<th>Features</th>
<th>Frameworks</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>An advisory or advocacy system ensures that every student is known well by at least one adult.</td>
<td>(3,9)</td>
<td></td>
</tr>
<tr>
<td>B2</td>
<td>Comprehensive guidance and support services promote whole-student development.</td>
<td>(3,5)</td>
<td></td>
</tr>
<tr>
<td>B3</td>
<td>Age-appropriate co-curricular activities are provided.</td>
<td>(1,1)</td>
<td></td>
</tr>
<tr>
<td>B4</td>
<td>Students learn in a healthy and safe school environment.</td>
<td>(2,8)</td>
<td></td>
</tr>
<tr>
<td>B5</td>
<td>Students are organized into small(er) learning communities.</td>
<td>(0,3)</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* The first number in parentheses indicates the number of frameworks that include the feature. The second number in parentheses indicates the number of expert panel participants naming the feature.
### Table 4.3

**Social Equity: Synthesis of Middle School Features from the Expert Panel and the Document Review**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
<th>Frameworks</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>School rules are clear, fair, and consistently applied.</td>
<td>(1,1)</td>
<td></td>
</tr>
<tr>
<td>C2</td>
<td>All students, including all social, economic, and ethnic groups, have open and equal access to challenging learning opportunities.</td>
<td>(1,4)</td>
<td></td>
</tr>
<tr>
<td>C3</td>
<td>To the fullest extent possible, all students participate in heterogeneous classes with high academic and behavioral expectations.</td>
<td>(1,3)</td>
<td></td>
</tr>
<tr>
<td>C4</td>
<td>All students have ongoing opportunities to learn about their own and others’ cultures; diversity is valued by the school.</td>
<td>(2,2)</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* The first number in parentheses indicates the number of frameworks that include the feature. The second number in parentheses indicates the number of expert panel participants naming the feature.

### Table 4.4

**Organizational Structures: Synthesis of Middle School Features from the Expert Panel and the Document Review**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
<th>Frameworks</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1</td>
<td>Teachers are organized in teams with common plan time.</td>
<td>(1,6)</td>
<td></td>
</tr>
<tr>
<td>D2</td>
<td>Teachers have plan time to coordinate transitions between grade levels and schools.</td>
<td>(1, 3)</td>
<td></td>
</tr>
<tr>
<td>D3</td>
<td>Organizational structures, including planned time for collaboration, foster purposeful learning and meaningful relationships.</td>
<td>(2,4)</td>
<td></td>
</tr>
<tr>
<td>D4</td>
<td>Teachers are empowered to implement flexible scheduling to promote learning.</td>
<td>(1,3)</td>
<td></td>
</tr>
<tr>
<td>D5</td>
<td>Leaders are knowledgeable about and committed to working with this age group.</td>
<td>(1,2)</td>
<td></td>
</tr>
<tr>
<td>D6</td>
<td>Teachers are knowledgeable about and committed to working with this age group.</td>
<td>(2,7)</td>
<td></td>
</tr>
<tr>
<td>D7</td>
<td>Teachers have time to collaborate within common content areas.</td>
<td>(0,1)</td>
<td></td>
</tr>
<tr>
<td>D8</td>
<td>Students have opportunities to participate in decision making.</td>
<td>(2,4)</td>
<td></td>
</tr>
<tr>
<td>D9</td>
<td>Decision making is democratic and guided by a shared vision.</td>
<td>(3,5)</td>
<td></td>
</tr>
<tr>
<td>D10</td>
<td>Leadership is courageous and collaborative.</td>
<td>(1,3)</td>
<td></td>
</tr>
<tr>
<td>D11</td>
<td>Professional development is aligned to school improvement and best-practice strategies.</td>
<td>(2,4)</td>
<td></td>
</tr>
<tr>
<td>D12</td>
<td>Families and communities participate in decision making.</td>
<td>(2,3)</td>
<td></td>
</tr>
<tr>
<td>D13</td>
<td>Students have the opportunity to engage with the community.</td>
<td>(1,1)</td>
<td></td>
</tr>
<tr>
<td>D14</td>
<td>The community is engaged in providing resources and support.</td>
<td>(3,5)</td>
<td></td>
</tr>
<tr>
<td>D15</td>
<td>Relationships with families are valued in support of students’ success.</td>
<td>(3,1)</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* The first number in parentheses indicates the number of frameworks that include the feature. The second number in parentheses indicates the number of expert panel participants naming the feature.
Second Round of the Quasi-Delphi Exercise

For the second round of the quasi-Delphi exercise, the synthesized list of middle school features was sent via an electronic survey instrument to the expert panel. For each feature on the list, panelists were told how many of the four major frameworks endorsed the feature and how many of the panelists included the feature in their round-one responses. The panelists were asked to consider each of the elements listed and rate its importance as a component of the standards-based middle school concept. Participants based their responses on a five-point importance scale, a technique for second-round questioning modeled by Jillson (1975). The following scale was employed: the feature is (5) a crucial component of the middle school concept, (4) an important component of the middle school concept, (3) a desirable but not crucial component of the middle school concept, (2) somewhat related to the middle school concept, or (1) not related to the middle school concept.

Responses were received from nine of the original 11 expert panel participants. Neither Scholar 4 nor Scholar 5 submitted responses for the second round. Since responses were received from three scholars, three advocates, and three practitioners, however, an adequate balance of representation was maintained. Using Microsoft Excel software, the percentage of panelists marking the feature in one of the two most favorable categories, crucial or important, was computed. Tables 4.5, 4.6, 4.7, and 4.8 report the ratings of each feature resulting from the second round of the quasi-Delphi exercise.
### Table 4.5

*Academic Excellence: Percentage of Panelists Rating Each Feature*

<table>
<thead>
<tr>
<th>Feature</th>
<th>C</th>
<th>I</th>
<th>CF</th>
<th>D</th>
<th>SR</th>
<th>NR</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 The curriculum is rigorous / challenging.</td>
<td>88</td>
<td>13</td>
<td><strong>100</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>A2 The curriculum is exploratory and relevant to young adolescents.</td>
<td>88</td>
<td>13</td>
<td><strong>100</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>A3 The curriculum is integrative / interdisciplinary.</td>
<td>38</td>
<td>50</td>
<td><strong>88</strong></td>
<td>13</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>A4 Assessments are aligned with high standards.</td>
<td>38</td>
<td>25</td>
<td><strong>63</strong></td>
<td>25</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>A5 Instructional strategies are varied, aligned to standards, data informed, and designed to meet the individual needs of all learners.</td>
<td>75</td>
<td>25</td>
<td><strong>100</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>A6 Students and teachers are engaged in active learning.</td>
<td>100</td>
<td>0</td>
<td><strong>100</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>A7 Students demonstrate mastery of standards in a variety of ways.</td>
<td>38</td>
<td>50</td>
<td><strong>88</strong></td>
<td>0</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>A8 Technology is integrated to enhance learning.</td>
<td>25</td>
<td>25</td>
<td><strong>50</strong></td>
<td>38</td>
<td>13</td>
<td>0</td>
</tr>
</tbody>
</table>

*Note. Ratings key: crucial (C), important (I), combined favorable (CF), desirable (D), somewhat related (SR), not related (NR).*

### Table 4.6

*Developmental Responsiveness: Percentage of Panelists Rating Each Feature*

<table>
<thead>
<tr>
<th>Feature</th>
<th>C</th>
<th>I</th>
<th>CF</th>
<th>D</th>
<th>SR</th>
<th>NR</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1 An advisory or advocacy system ensures that every student is known well by at least one adult.</td>
<td>75</td>
<td>25</td>
<td><strong>100</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>B2 Comprehensive guidance and support services promote whole-student development.</td>
<td>75</td>
<td>13</td>
<td><strong>88</strong></td>
<td>13</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>B3 Age-appropriate co-curricular activities are provided.</td>
<td>25</td>
<td>38</td>
<td><strong>63</strong></td>
<td>38</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>B4 Students learn in a healthy and safe school environment.</td>
<td>88</td>
<td>13</td>
<td><strong>100</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>B5 Students are organized into small(er) learning communities.</td>
<td>38</td>
<td>63</td>
<td><strong>100</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*Note. Ratings key: crucial (C), important (I), combined favorable (CF), desirable (D), somewhat related (SR), not related (NR).*
Table 4.7

*Social Equity: Percentage of Panelists Rating Each Feature*

<table>
<thead>
<tr>
<th>Feature</th>
<th>C</th>
<th>I</th>
<th>CF</th>
<th>D</th>
<th>SR</th>
<th>NR</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1 School rules are clear, fair, and consistently applied.</td>
<td>38</td>
<td>50</td>
<td><strong>88</strong></td>
<td>0</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>C2 All students, including all social, economic, and ethnic groups, have open and equal access to challenging learning opportunities.</td>
<td>100</td>
<td>0</td>
<td><strong>100</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>C3 To the fullest extent possible, all students participate in heterogeneous classes with high academic and behavioral expectations.</td>
<td>88</td>
<td>13</td>
<td><strong>100</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>C4 All students have ongoing opportunities to learn about their own and others' cultures; diversity is valued by the school.</td>
<td>38</td>
<td>50</td>
<td><strong>88</strong></td>
<td>13</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*Note.* Ratings key: crucial (C), important (I), combined favorable (CF), desirable (D), somewhat related (SR), not related (NR)
Table 4.8  
*Organizational Structures: Percentage of Panelists Rating Each Feature*

<table>
<thead>
<tr>
<th>Feature</th>
<th>C</th>
<th>I</th>
<th>CF</th>
<th>D</th>
<th>SR</th>
<th>NR</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1 Teachers are organized in teams with common plan time.</td>
<td>75</td>
<td>25</td>
<td><strong>100</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>D2 Teachers have plan time to coordinate transitions between grade levels and schools.</td>
<td>38</td>
<td>63</td>
<td><strong>100</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>D3 Organizational structures, including planned time for collaboration, foster purposeful learning and meaningful relationships.</td>
<td>75</td>
<td>25</td>
<td><strong>100</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>D4 Teachers are empowered to implement flexible scheduling to promote learning.</td>
<td>38</td>
<td>50</td>
<td><strong>88</strong></td>
<td>13</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>D5 Leaders are knowledgeable about and committed to working with this age group.</td>
<td>100</td>
<td>0</td>
<td><strong>100</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>D6 Teachers are knowledgeable about and committed to working with this age group.</td>
<td>88</td>
<td>13</td>
<td><strong>100</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>D7 Teachers have time to collaborate within common content areas.</td>
<td>38</td>
<td>25</td>
<td><strong>63</strong></td>
<td><strong>25</strong></td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>D8 Students have opportunities to participate in decision making.</td>
<td>75</td>
<td>25</td>
<td><strong>100</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>D9 Decision making is democratic and guided by a shared vision.</td>
<td>100</td>
<td>0</td>
<td><strong>100</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>D10 Leadership is courageous and collaborative.</td>
<td>100</td>
<td>0</td>
<td><strong>100</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>D11 Professional development is aligned to school improvement and best-practice strategies.</td>
<td>50</td>
<td>38</td>
<td><strong>88</strong></td>
<td>13</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>D12 Families and communities participate in decision making.</td>
<td>50</td>
<td>25</td>
<td><strong>75</strong></td>
<td><strong>25</strong></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>D13 Students have the opportunity to engage with the community.</td>
<td>50</td>
<td>38</td>
<td><strong>88</strong></td>
<td>13</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>D14 The community is engaged in providing resources and support.</td>
<td>38</td>
<td>50</td>
<td><strong>88</strong></td>
<td>0</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>D15 Relationships with families are valued in support of students' success.</td>
<td>63</td>
<td>38</td>
<td><strong>100</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*Note.* Ratings key: crucial (C), important (I), combined favorable (CF), desirable (D), somewhat related (SR), not related (NR)

All components scored in one of the two most favorable categories by 80% of the experts were retained for Phase Two of the IC mapping process. Five features submitted to the panel of experts in the second round were not rated in the two most favorable categories by at least 80%
of the panelists: assessments are aligned to high standards, technology is integrated to enhance learning, age-appropriate co-curricular activities are provided, teachers have time to collaborate within common content areas, and families and communities participate in decision making. These five features were eliminated from inclusion in the final listing of 27 key features that advanced to Phase Two of the instrument development and testing process.

**Phase Two Findings: Development of the IC Map for the Key Features of the Standards-Based Middle School Concept**

Once the key features of the standards-based middle school concept were clearly identified and clustered, the second phase of IC mapping began. In this phase, the researcher developed an IC map describing the manner in which each component of the middle school concept is manifested in schools and classrooms. The goal of this part of the process was to descriptively account for what the people involved with the innovation, in this case middle grades education, actually do when the innovation is in use. Answering these questions and developing the IC map is ideally done through a collaborative, multiple-iterative process, preferably with three or more people working together as an IC mapping team (Hall & Hord, 2006). For the current instrument development and testing process, a team of six practitioners gathered along with the researcher and an expert facilitator to develop an IC map following the methodology described in the previous chapter.

**Description of the Participants**

The IC mapping team was composed of middle level practitioners who had experience and a demonstrated commitment to working with young adolescents in the middle grades. Diversity of perspective was achieved through including participants on the IC mapping team from a variety of roles within schools. The team composition was further strengthened by the participation of veterans of the early years of implementation of the middle school concept as well as educators whose experience aligns more closely with the era of standards and accountability of the recent decade.

Participant 1 was a retired middle school teacher, a current state director of the Schools to Watch (STW) program, and a current board member for a state middle school association.
Participant 2 was a retired middle school teacher, a past president and current board member of a state middle school association, and frequent participant on site visit teams for the STW program. Participant 3 was a principal of a middle school that had been recognized by the state STW program, and was a frequent participant on site visit teams for the state STW program. Participant 4 was a former special education teacher, a current middle school guidance coordinator, and a past presenter at the national STW conference. Participant 5 was a former middle school social studies teacher and team leader, a current schoolwide instructional coach at a middle school, and a frequent participant on site visit teams for the state STW program. Participant 6 was a current middle school English content leader and teacher, and was past presenter at the state middle school association conference.

**Description of the Process**

After the team operation was organized, the expert facilitator methodically proceeded through the list of middle school features identified in Phase One, asking the IC mapping team to create written descriptions of the variations in implementation of each feature that team members had observed in actual practice. For each middle school feature, three to five variations were described with as much detail as required to achieve a consensus of clarity among the team members. The descriptions ranged from variation $a$, a description of the middle school feature in its most developed state of implementation, to variation $d$ or $e$, a description of the absence of implementation of the middle school feature (see Table 3.1). The objective of this step was to reach group consensus rather than unanimity regarding the validity and clarity of each description.

Along with creating written statements describing how each component variation is operationalized in middle schools, the IC mapping team developed criteria for assessing the component implementation. Since the IC map was designed to be a diagnostic tool that could be used to provide feedback to change facilitators within schools (see Figure 3.1) and to serve as an instrument for scholarly research, the IC mapping team described the evidence that an observer of a school would seek in order to evaluate the implementation of each middle school feature. The IC mapping team prescribed that data be collected primarily through informal interviews, observation of the school and classes, and a review of documents and artifacts. The team
suggested that informal interviews with administrators, teachers, and guidance counselors would produce valid data for certain features. If available, parents would also provide useful data and were suggested as interview subjects for appropriate features. The IC mapping team concluded that direct observation of classes and the school environment would be vital to the evidence collection and evaluation process. Finally, the IC mapping team specified documents and artifacts such as handbooks, websites, and schedules as suggested sources of data to evaluate the implementation of certain features.

The IC mapping team, under the guidance of the expert facilitator, successfully completed the first iteration of the IC map for middle grades education during the day-long, face-to-face meeting. The IC mapping team agreed on a process to produce additional iterations until the team was satisfied that the instrument was ready to be tested. The team agreed that the researcher would edit the first iteration, further clarify the language of each descriptor, and submit the new iteration to the IC mapping team via electronic communication for review.

**IC Map for the Key Features of Middle Grades Education**

After further editing, the researcher submitted a second iteration to the IC mapping team participants via electronic communication. The IC mapping team participants responded, approving the new iteration for pilot testing. Tables 4.9 through 4.35 report the iteration of the IC map resulting from Phase Two of the instrument development and testing process. The IC map is reported here by feature in a series of tables in order to aid readability.
Table 4.9  
*Feature A1: The Curriculum is Rigorous and Challenging*

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>The school offers a rigorous curriculum to all students that includes 21st century skills, differentiated instructional practices, high standards, and a wide array of advanced course offerings. Rigor is supported through assessment rubrics, high levels of engagement, varied assessments, and exemplars of high quality work.</td>
<td>Approximately 30-60% of the components of a rigorous curriculum are evident and are accessible to all students.</td>
<td>Less than 30% of the components of a rigorous curriculum are evident.</td>
<td>Components of a rigorous curriculum are available only to academically advanced students.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:

- walkthrough class observations
- an examination of documents such as curriculum pacing guides, teacher lesson plans, examples of student assessments, assessments rubrics, listing of course offerings, exemplars of high quality work, classroom walkthrough data
- interviews with the building administrators and teachers:
  - What are some of the key components of a rigorous and challenging curriculum?
  - Is the curriculum of this school rigorous and challenging? How do you know?
  - For which students is the curriculum rigorous and challenging?
Table 4.10

Feature A2: The Curriculum is Exploratory and Relevant to Young Adolescents

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
<th>Variation E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exploratory classes such as art and music are offered as well as extracurricular activities. Students are encouraged to explore topics of interest to them within the core curriculum.</td>
<td>Exploratory classes and extracurricular activities are offered.</td>
<td>Extracurricular activities are offered but no exploratory classes.</td>
<td>No exploratory classes or extracurricular activities are offered.</td>
<td></td>
</tr>
</tbody>
</table>

EVIDENCE
Implementation should be determined via:
- an examination of documents such as the master schedule, listing of extracurricular activities, teacher lesson plans, listing of course offerings
- interviews with the building administrators and teachers:
  - In what ways is the curriculum exploratory and relevant to the students?
  - What extracurricular activities are offered?

Table 4.11

Feature A3: The Curriculum is Integrative and Interdisciplinary

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students experience connections among various content areas with a focus on 21st century skills, including authentic learning. Learning revolves around central interdisciplinary themes.</td>
<td>Students learn within departmentalized courses with interdisciplinary activities occurring 2-3 times per year.</td>
<td>Students learn within departmentalized courses with no interdisciplinary activities.</td>
</tr>
</tbody>
</table>

EVIDENCE
Implementation should be determined via:
- an examination of documents such as course descriptions, school or class websites, teacher lesson plans, learning products
- interviews with the building administrators and teachers:
  - In what ways is the curriculum integrative and interdisciplinary?
  - In what ways does learning revolve around interdisciplinary themes or activities?
### Table 4.12

**Feature A4:** Instructional Strategies are Varied, Aligned to Standards, Data Informed, and Designed to Meet the Individual Needs of All Learners

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers collaborate to boost student achievement, continuously assessing student learning to adjust instruction. Teachers employ multiple instructional strategies, integrating technology and tailored to meet individual needs.</td>
<td>Approximately 30-60% of teachers in the school employ a variety of instructional strategies aligned to standards. Data-informed, differentiated instruction is in development.</td>
<td>Teachers generally work in isolation and employ limited strategies which are not aligned to standards. Data are not used to guide instructional practices.</td>
</tr>
</tbody>
</table>

**EVIDENCE**
Implementation should be determined via:
- walkthrough observation of classes, team meetings, or data meetings
- teacher lesson plans
- agenda or minutes from team meetings or data meetings
- interviews with the building administrators and teachers:
  - How are instructional strategies varied and aligned to standards?
  - How is instruction informed by data and differentiated to meet student needs?
  - How do teachers collaborate to improve student achievement?

### Table 4.13

**Feature A5:** Students and Teachers are Engaged in Active Learning

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning experiences for all students are characterized by cooperative learning, physical movement, frequent transitions, abundant interaction, clear procedures, and higher order thinking.</td>
<td>Active learning experiences are the norm in 30-60% of classes.</td>
<td>In 75% or more of classes, students are seated for long periods of time. Whole-class instruction is the primary mode with little interaction among students.</td>
</tr>
</tbody>
</table>

**EVIDENCE**
Implementation should be determined via:
- aggregate classroom walkthrough data
- walkthrough class observation
- interviews with the building administrators and teachers:
  - In most classes, how often do students get to move around within the class period?
  - How many of your teachers encourage a lot of movement in class?
### Table 4.14

**Feature A6: Students Demonstrate Mastery of Standards in a Variety of Ways**

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students are assessed in a variety of ways including the use of portfolios, project-based learning activities, and assessment rubrics, projects that include choice of activities, student reflection, writing, and traditional tests.</td>
<td>Approximately 30-50% of assessments are of a variety other than traditional tests.</td>
<td>More than 75% of assessments are limited to traditional tests.</td>
</tr>
</tbody>
</table>

**EVIDENCE**
Implementation should be determined via:
- teacher lesson plans
- school and/or class websites
- examples of assessments
- classrooms displays of student work
- interviews with the building administrators and teachers:
  - What types of assessments are used in classes?
  - Approximately what percentage of assessments are traditional tests? (ask for examples)

### Table 4.15

**Feature B1: An Advisory or Advocacy System Ensures that Every Student is Known Well By At Least One Adult**

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>The school has a regular student advisory period in which a staff member meets with a small group of students to support the students’ success. Regular evaluation of the program is in place.</td>
<td>Each student in the school is purposefully assigned to an adult advocate who knows that student well. There may not necessarily be scheduled meeting times. Regular evaluation of the program is in place.</td>
<td>Student advocacy is promoted through teams or classes, but may not be personalized or structured.</td>
<td>No student advocacy program is in place.</td>
</tr>
</tbody>
</table>

**EVIDENCE**
Implementation should be determined via:
- the school’s master schedule
- agendas or minutes from team meetings
- interviews with building administrators, teachers, and counselors
  - Are all students in your school known well by at least one adult staff member?
  - What structures or programs are in place to ensure this?
  - How is the advisory/advocacy system effectiveness evaluated?
Table 4.16  
*Feature B2: Comprehensive Guidance and Support Services Promote Whole-Student Development*

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehensive services may include counseling on social relationships, bullying, grief, family conflicts, drug/alcohol use, life skills, anger management, career and academic counseling, goal setting, community resources, individual and group counseling, and classroom instruction. Guidance works closely with teacher teams and participates in school leadership.</td>
<td>Guidance and support services include individual and some group counseling. Counselors may not work closely with teams of teachers or school leadership.</td>
<td>Guidance program is focused on testing and scheduling. Counselors are available for student crises.</td>
<td>No guidance or support services are provided.</td>
</tr>
</tbody>
</table>

**EVIDENCE**  
Implementation should be determined via:  
- copy of guidance curriculum or standards  
- master schedule  
- listing of programs (brochures, school website)  
- interviews with building administrators, teachers, and counselors

What kinds of counseling services are offered?
Table 4.17

Feature B3: Students Learn in a Healthy and Safe School Environment

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
<th>Variation E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Providing a safe, healthy environment is a priority for the school and includes features such as: daily physical activity for students; crisis plan is practiced; crisis/safety team regularly evaluates and revises the crisis plan; crisis planning includes multiple stakeholders; the school is free of persistent violence; there is adequate supervision of students; nutrition guidelines are followed; wellness is promoted; safety measures are appropriate for setting; there is a positive affective climate.</td>
<td>Three of the following four components of a healthy and safe school environment are evident: daily physical activity for students, consistent nutritional and wellness guidelines, crisis planning and evaluation, free of persistent violence.</td>
<td>Two of the following four components of a healthy and safe school environment are evident: daily physical activity for students, consistent nutritional and wellness guidelines, crisis planning and evaluation, free of persistent violence.</td>
<td>Only one of the following four components of a healthy and safe school environment is evident: daily physical activity for students, consistent nutritional and wellness guidelines, crisis planning and evaluation, free of persistent violence.</td>
<td>None of the components of a healthy and safe school environment is evident.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:
- school-collected survey data
- crime and violence data
- school crisis plan
- record of safety drills
- nutrition and wellness guidelines for school or school division
- examples of food available in student vending machines and cafeteria
- master schedule for physical education classes
- walkthrough observation of classes
- interviews with building administrators, teachers, counselors, and, if possible, parents:
  - How is the school crisis plan developed, practiced, and evaluated?
  - In what ways do students engage in daily physical activity?
  - Is the environment safe and healthy for learning?
  - How are wellness and nutrition guidelines followed?
Table 4.18

**Feature B4: Students are Organized into Small(er) Learning Communities**

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
<th>Variation E</th>
</tr>
</thead>
<tbody>
<tr>
<td>In larger schools (&gt;400), students are grouped into smaller units (i.e. teams, clusters, communities) with a common set of teachers advocating for their needs.</td>
<td>The school is small (&lt;400); no further divisions are needed. A common set of teachers advocates for student needs.</td>
<td>Smaller learning communities are achieved through advocacy groups, clubs, tutoring groups, resource groups, differentiated learning, or athletic teams. Students are not organized into interdisciplinary teams with a common set of teachers.</td>
<td>Students are structurally organized into smaller groups such as interdisciplinary teams with a common set of teachers.</td>
<td>No personalization of the school environment exists. There are no smaller groups within larger schools.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:

- agendas or minutes from team meetings
- school handbook
- school, class, or team websites
- master schedule
- observation of team meetings
- interviews with building administrators, teachers, and counselors

Are students organized into smaller groups? If so, how?
What are the primary reasons students are grouped?
How often do teacher teams meet?
Are there other ways the school environment is personalized?
Has there been any change in teaming practices in the past 10 years?
Table 4.19  
*Feature C1: School Rules are Clear, Fair, and Consistently Applied*

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
</tr>
</thead>
<tbody>
<tr>
<td>School rules are clearly stated and communicated through multiple means. Data indicates a lack of disparity among subgroups.</td>
<td>School rules are clearly stated and communicated through multiple means. Data reveals a disparity among subgroups.</td>
<td>School rules are not clear, fair, or consistently applied.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:
- school handbook
- school and class websites; newsletters
- state discipline data
- interviews with building administrators, teachers, counselors, and, if possible, parents

How are school rules communicated to students?
Are school rules fairly applied? Explain.
What happens if students break the rules?
### Table 4.20

**Feature C2: All Students, Including All Social, Economic, and Ethnic Groups, Have Open and Equal Access to Challenging Learning Opportunities**

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
<th>Variation E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students have access to best teaching practices, the opportunity of access to advanced classes, and differentiation of assignments and support to help students do challenging work. There are mechanisms in place for supporting students, such as financial assistance for field trips.</td>
<td>Three of the following components of equal access are evident: access to best teaching practices, access to advanced classes, differentiated instructional practices within classes, and support mechanisms.</td>
<td>Two of the following components of equal access are evident: access to best teaching practices, access to advanced classes, differentiated instructional practices within classes, and support mechanisms.</td>
<td>Only one of the following components of equal access are evident: access to best teaching practices, access to advanced classes, differentiated instructional practices within classes, and support mechanisms.</td>
<td>None of the components of access are evident.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:

- class enrollment data
- master schedule
- policy manual or course registration guide
- student handbook
- walkthrough observations of classes
- interviews with building administrators and teachers:
  - What is the process for students to register for advanced classes?
  - What factors influence the levels of courses to which teachers are assigned?
  - How is instruction differentiated within classes?
  - What happens if a student needs financial assistance to participate in learning opportunities such as school field trips?
Table 4.21

**Feature C3: To the Fullest Extent Possible, All Students Participate in Heterogeneous Classes with High Academic and Behavioral Expectations**

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Courses are accessible to all students.</td>
<td>Students are generally grouped in homogenous classes but students have freedom to choose their classes.</td>
<td>Rigid tracking is prevalent. Students have no choice of levels in core classes.</td>
</tr>
<tr>
<td>Differentiation is emphasized as an instructional model. Barriers to access are eliminated or reduced.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:
- listing of course offerings
- master schedule
- class enrollment data
- policy manual or course registration guide
- interviews with building administrators, teachers, and counselors

How is it decided what levels of classes for which students will register?
How is instruction differentiated within classes?

Table 4.22

**Feature C4: All Students Have Ongoing Opportunities to Learn About Their Own and Others' Cultures; Diversity is Valued by the School**

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>The school culture embraces diversity. Exposure to diverse ideas and cultures is integrated within the curriculum. Learning differences and socioeconomic diversity are embraced.</td>
<td>Ethnic and cultural diversity is not present among the student body in the school, but the school is purposeful about teaching about diversity.</td>
<td>Diversity is acknowledged but not valued.</td>
<td>Diversity is not acknowledged; ethnic tension is evident.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:
- student handbook
- school website
- displays
- school calendar
- student enrollment data
- interviews with building administrators, teachers, counselors, and, if possible, parents:
  - How diverse is the student body and faculty?
  - In what ways are students exposed to diverse cultures or ideas?
  - Is teaching about diversity important to most teachers?
### Table 4.23

**Feature D1: Teachers are Organized in Teams with Common Plan Time**

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>A designated common plan time is provided on a regular basis for core content teachers who share a group of students.</td>
<td>A designated common plan time is provided on a regular basis; not all core teachers are included on the team.</td>
<td>Students and teachers are grouped into teams but no common plan time is provided.</td>
<td>Teachers are not organized into teams.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:
- master schedule
- interviews with building administrators:
  - Are teachers organized into teams?
  - Which teachers are part of the teaming process?
  - Is common plan time provided in the master schedule?
  - How often are teacher teams expected to meet?

### Table 4.24

**Feature D2: Teachers Have Plan Time to Coordinate Transitions Between Grade Levels and Schools**

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers work with guidance and administration to plan for transition. Transition addresses the whole child as well as the family.</td>
<td>Teachers work with guidance and administration to plan for transition. Activities focus primarily on students.</td>
<td>Transition activities are planned by guidance. Teachers are not involved in planning.</td>
<td>There is no transition program.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:
- Schedule of transition activities
- Team meeting minutes or agenda
- Interviews with building administrators, teachers, and counselors:
  - Who plans transition activities?
  - What are the key components of the transition program?
### Table 4.25

**Feature D3: Organizational Structures, Including Planned Time for Collaboration, Foster Purposeful Learning and Meaningful Relationships**

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple structures and processes work together to promote learning and relationships. These structures include the following: the master schedule, the physical layout of building, purposeful room assignments, clustering, co-curricular and extracurricular activities, small communities of students, teaching assignments, and purposeful outreach to special populations (unmotivated, disabled, gifted, behavior).</td>
<td>Of the structures and processes to promote learning and relationships listed in Variation A, approximately 30-60% are evident.</td>
<td>Of the structures and processes to promote learning and relationships listed in Variation A, less than 30% are evident.</td>
<td>There are no structures or processes in place to promote learning and relationships.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:
- master schedule
- observation of facility layout
- handbooks
- school and/or class websites
- school improvement plan
- school calendar

### Table 4.26

**Feature D4: Teachers are Empowered to Implement Flexible Scheduling to Promote Learning**

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers have complete authority to group students as needed for learning.</td>
<td>Teachers can group students within the team or classes as long as master schedule is not changed.</td>
<td>Teachers do not have authority to group students.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:
- meeting minutes or agenda
- interviews with building administrators and teachers:
  - How do teachers use flexible scheduling to promote learning?
  - What limitations of authority do teachers encounter when implementing flexible scheduling?
Table 4.27

Feature D5: Leaders are Knowledgeable About and Committed to Working with this Age Group

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaders take responsibility for their own professional development related to understanding young adolescents and their academic and developmental needs. They are enthusiastic about working with middle schoolers. Leaders influence others to share the commitment and leadership and are involved in middle level advocacy groups.</td>
<td>Leaders are personally committed to and enthusiastic about working with young adolescents within the school.</td>
<td>Leaders have middle school experience but do not interact with the students. Leaders do not further their own professional development.</td>
<td>Leaders have no experience with middle schools and make no effort to learn. It is unclear whether they actually enjoy working with young adolescents.</td>
</tr>
</tbody>
</table>

EVIDENCE
Implementation should be determined via:
- professional development log
- observation of building administrators’ interactions
- interviews with principal and teachers:
  - What is the previous career experience of the principal?
  - What are the key beliefs of the principal regarding middle grades education?
  - What are the professional development priorities of the principal?
Table 4.28

*Feature D6: Teachers are Knowledgeable About and Committed to Working with this Age Group*

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most teachers take responsibility for their own professional development related to understanding young adolescents and their academic and developmental needs. They are enthusiastic about working with middle schoolers. Teachers are involved in school leadership.</td>
<td>Most teachers are personally committed to young adolescents and best practice middle grades instruction within their own classroom.</td>
<td>Most teachers have experience working with middle schoolers but lack enthusiasm for working with this age group.</td>
<td>Most teachers have no experience with middle schoolers and make no effort to learn. It is unclear whether they actually enjoy working with young adolescents.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:

- professional development log
- walkthrough observations of classes
- list of teachers and licensure
- interviews with building administrators and teachers:
  - What do most teachers think about their students?
  - Do they enjoy working with middle schoolers?

Table 4.29

*Feature D7: Students Have Opportunities to Participate in Decision Making*

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students participate meaningfully in decisions that affect the school. This may be done through student representatives. Representation includes diverse voices, representative of the student body.</td>
<td>Students participate meaningfully in decision making within classrooms, clubs, or teams. There is no mechanism for student input into schoolwide decisions.</td>
<td>Student input is not invited in decision making.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:

- schedule of meetings
- interviews with building administrators and teachers:
  - What opportunities do students have for leadership in the school?
  - If a student has an idea for improving the school, how does she share the idea?
Table 4.30

*Feature D8: Decision Making is Democratic and Guided by a Shared Vision*

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
<th>Variation E</th>
</tr>
</thead>
<tbody>
<tr>
<td>The school vision is well known by stakeholders and was jointly developed. Decision making involves a broad spectrum of stakeholders. The school vision is continuously re-evaluated and is underpinned by the school culture.</td>
<td>The school vision is well known and was jointly developed. Decision making is invited but limited to school staff.</td>
<td>The school vision is well known and was jointly developed. Staff input is invited but limited to an advisory capacity.</td>
<td>The school vision was developed by the principal. Staff input is invited but limited to an advisory capacity.</td>
<td>No school vision exists. All decisions are made by the principal.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:

- school website
- handbooks
- meeting schedule and/or agenda
- interviews with building administrators and teachers:
  - What is the vision of the school?
  - How was the school vision developed?
  - Who makes the decisions in the school?
Table 4.31

*Feature D9: Leadership is Courageous and Collaborative*

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership is ethical, inspiring and shared.</td>
<td>The principal demonstrates strong principles and is a change agent. The principal actively seeks the input of staff, but most decisions are made by the principal.</td>
<td>The principal occasionally seeks input from the staff in making decisions. Maintaining the status quo is valued.</td>
<td>The principal does not take risks and her role is limited to managing rather than leading. Input from the staff is not invited.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:
- school improvement plan
- interviews with teachers and staff:
  - How are decisions made in the school? Who makes them?
  - How would you characterize the principal’s leadership style?

Table 4.32

*Feature D10: Professional Development is Aligned to School Improvement and Best-Practice Strategies*

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>The school improvement plan is clearly defined, focused, and continuously revised. Professional development is aligned, job-embedded, differentiated, based on needs of staff, well funded, data informed, and models best-practice instruction.</td>
<td>The school improvement plan is clearly defined, focused, and continuously revised. Professional development is aligned, but does not include coaching or follow through.</td>
<td>Professional development is workshop based with little follow through. There is little or no connection with the school improvement plan.</td>
<td>There is no school improvement plan or professional development.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:
- professional development plan or log
- school improvement plan
- professional development budget
- interviews with building administrators and teachers:
  - How are professional development needs identified?
  - How is professional development provided?
Table 4.33

*Feature D11: Students Have the Opportunity to Engage with the Community*

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students further their understanding of society and the community and the role they play. Students are engaged in authentic learning, solving real-world problems. Students participate in service learning through classes or clubs, field trips, and fundraising for charity, the environment, or political process.</td>
<td>Students learn about their community in class but there are no activities in which student may experience community involvement.</td>
<td>Students have no opportunities to engage with the community.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:
- school and/or class websites
- listing of clubs
- school calendar
- course curriculum
- interviews with building administrators and teachers:
  - In what ways are students involved in solving real-world problems?
  - In what ways do students participate in service learning?

Table 4.34

*Feature D12: The Community is Engaged in Providing Resources and Support*

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community support and involvement are evident through adult volunteerism, junior achievement, job fairs, tutors, food backpacks for the weekend, summer camps, mentoring, job shadowing, seminars, or colleges/universities.</td>
<td>There are 1-2 community partnerships with the school in addition to the PTA.</td>
<td>Community support of the school is channeled primarily through PTA.</td>
<td>There are no community resources available to the school.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:
- website or newsletters
- interviews with building administrators:
  - In what ways does the community support the school?
### Feature D13: Relationships with Families are Valued in Support of Students’ Success

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>The school reaches out to families through multiple avenues such as offering babysitting, transportation, and meals for school events; providing outreach at community centers; offering flexible conference schedules; inviting parents to attend learning activities; communicating effectively (websites, local newspapers, email, phone calls, newsletters, personal contact); offering parent seminars (e.g. parenting, technology). Teachers often attend athletic events and other activities.</td>
<td>The school communicates with families through multiple means. Parent involvement in student learning is encouraged.</td>
<td>Parent involvement in learning is neither encouraged nor discouraged. Teachers respond to parent inquiries but rarely take the initiative in contacting parents.</td>
<td>There is little communication with families.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:
- existing parent survey data
- school and/or class websites
- school improvement plan
- interview with building administrators and teachers:
  - In what ways does the school (including individual teachers) communicate with families?
  - What activities are planned to encourage family involvement?
  - How do parents stay informed about academic progress and student learning?

### Phase Three Findings: Pilot Testing of the IC Map

The third and final phase of IC mapping is a verification process to test the content validity of the newly-created IC map. The verification process is accomplished by observing the innovation components as implemented in schools and classrooms. Hall and Hord (2006) caution that the first draft of an IC map almost always needs to be adjusted. Some descriptions may need further clarification in order to render the IC map a more useful diagnostic tool for practitioners facilitating change in the field and researchers studying measurable outcomes of the innovation. Through observation in schools and classrooms, the researcher may also decide that additional
variations of each feature should be added to the IC map to provide a more complete description of the innovation.

**Description of Pilot Schools**

After undergoing the multiple-iterative process described in Phase Two, the IC map for a standards-based middle school concept was ready to be tested. Arrangements were made for field testing the IC map through site visits at three schools, and the researcher conducted observations and interviews for two days at the two 6-8 schools and observations and one day at the smaller K-7 school. The purpose of the site visits was to attempt to use the IC map to evaluate the implementation of middle school concept features at the pilot schools. The researcher conducted informal interviews with school staff, observed classes and meetings, and reviewed documents and other artifacts such as handbooks, schedules, and meeting agendas as prescribed by the data collection portion of the IC map. Evidence was documented through field notes and copies of available artifacts.

Appendices B-E report the data collected from each site visit. For each middle grades feature, the researcher was able to determine which variation on the IC map was most closely supported by the evidence collected. For some features, the researcher found that the evidence suggested by the IC map was not available, or the prescribed evidence was not a reliable source of information. For some features, the data collected suggested that further revisions of the draft descriptors would improve the descriptive accuracy of the instrument and additional variations would more completely account for how the features may be implemented in schools. Findings from the pilot testing of the IC map in three schools rendered the instrument a more useful diagnostic tool for practitioners facilitating change in the field and researchers studying measurable outcomes of the middle school concept in an era of standards and accountability.

**Findings from Pilot Testing the IC Map**

In order to become a useful tool for practitioners facilitating change with respect to middle grades practices and researchers studying these practices, the IC map descriptors and the prescribed sources of data should be valid. Pilot testing the instrument in three diverse schools housing the middle grades yielded findings that supported the content validity of 18 of the 27
features, but supported additional revisions to nine features. Features with descriptors that required revision were those for which the collected data were not a good fit with the language of the tested descriptors. Features with suggested data sources that required revision were those for which the content validity of the suggested sources was not supported by the available data from the three schools.

**Data sources.** With respect to the sources of data suggested by the IC map to be used to determine the variation of each feature that most closely aligns with a school, data sources corresponded to three types: walkthrough classroom observations, informal interviews with school staff and parents, and a review of documents and artifacts associated with the school. The data from the three pilot schools suggested that walkthrough classroom observations and informal interviews with teachers and administrators are valid sources of data for the features prescribing these sources of data. Among the three pilot schools, parents were available for interviews in only one of the three schools.

The data from the three pilot schools further suggested that reviewing documents and artifacts is a valid source of data; however, the reliability of specific documents and artifacts may vary among the 27 features due to inconsistent availability of specific documents among schools. Table 4.36 reports the features for which all of the suggested documents and artifacts were available from at least two of the three schools, the features for which at least one suggested document or artifact was unavailable in two of the three pilot schools, and the features for which a suggested document or artifact was not available at any of the three schools.

<table>
<thead>
<tr>
<th>All suggested documents and artifacts available in at least two of three pilot schools</th>
<th>At least one suggested document or artifact unavailable in two of three pilot schools</th>
<th>At least one suggested document or artifact unavailable in all three pilot schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2, B1, B2, C2, C3, C4, D1, D4, D9, D12</td>
<td>A3, A6, D3, D11</td>
<td>A1, A5, B3, B4, C1, D2, D5, D6, D7, D8, D10, D13</td>
</tr>
</tbody>
</table>

The lack of availability of certain suggested documents or artifacts affected more than one feature. The use of survey data was suggested as a potential source of data for Features B3 and D13, but was not available in any of the three schools. Class websites were suggested as
potential data sources for Features A3, A6, B4, C1, and D13, but were only accessible in one of the three pilot schools. Class websites existed in the other two pilot schools, but were password protected and not made available to the researcher. Professional development logs were suggested as potential sources of data for Features D5, D6, and D10, but were not available in any of the three pilot schools.

**Variation descriptors.** After data are collected through observations, interviews, and reviews of documents and artifacts, the usefulness of the IC map depends on how well the descriptions of variations within each feature correspond to the data collected. Of the 27 features listed on the IC map tested in the three pilot schools, seven features were found to have descriptor language in need of revision, two features were found to be in need of additional variations, and 18 were found to be valid as originally developed. Appendices B-E provide feature-by-feature descriptions of the data collected from each plot school and the analysis of fit, comparing the data to the descriptors and data sources from the IC map. The analysis of fit supported the need for revision or additions to a total of nine features. Table 4.37 reports the IC map features for which the tested descriptors were valid, the features for which the descriptors required revision of the language of the existing descriptors, and the features that required additional descriptors to fit the collected data from the pilot schools. Suggestions for revision to the features will be discussed in the next chapter.

### Table 4.37

**IC Map Descriptors in Need of Revision.**

<table>
<thead>
<tr>
<th>Features with variation descriptors in need of revision of language</th>
<th>Features in need of additional variations</th>
<th>Features with variation descriptors not in need of revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1, A3, C4, D6, D8, D9, D11</td>
<td>C3, D4</td>
<td>A2, A4, A5, A6, B1, B2, B3, B4, C1, C2, D1, D2, D3, D5, D7, D10, D12, D13</td>
</tr>
</tbody>
</table>

Feature A1: The curriculum is rigorous and challenging. When attempting to compare the data collected for the three pilot schools with Feature A1, the researcher found that the number of variations was adequate to account for the data. The language of the descriptors needed revision, however, since the IC map descriptors measured the extent to which rigorous and
challenging instructional practices were evident in individual classrooms, but did not adequately account for aggregate data needed to measure rigor across classrooms schoolwide.

Feature A3: The curriculum is integrative and interdisciplinary. When attempting to compare the data collected for the three pilot schools with Feature A3, the researcher found that the number of variations was adequate to account for the data. The language of the descriptors needed revising, however, since the IC map descriptor for Variation B most closely corresponded to the type of interdisciplinary learning within departments found in all three pilot schools, yet did not adequately describe the actual practice found in these schools. In all three schools, learning was departmentalized as described in Variation B, but there was an effort to make interdisciplinary connections within individual classrooms.

Feature C3: To the fullest extent possible, all students participate in heterogeneous classes with high academic and behavioral expectations. When attempting to compare the data collected for the three pilot schools with Feature C3, the researcher found that the number of variations was inadequate to account for the data collected from Pilot School 1. Students at Pilot School 1 were generally grouped heterogeneously as described in Variation A; however, some academically advanced students were informally grouped by the school. Students not meeting the criteria informally established by the school did not have access to the advanced classes, thus creating barriers of access. Therefore, revisions to the IC map may need to include an additional variation for Feature C3.

Feature C4: All students have ongoing opportunities to learn about their own and others' cultures; diversity is valued by the school. When attempting to compare the data collected for the three pilot schools with Feature C4, the researcher found that the number of variations was adequate to account for the data. The language of the descriptors needed revising, however, since the IC map descriptor for Variation C most closely corresponded to how teaching about diversity is viewed in two of the three pilot schools, yet did not adequately describe the actual practice found in these schools. In Pilot Schools 2 and 3, teaching about diversity was not a priority for the schools because the schools did not perceive any problems stemming from ethnic tension. The language of Variation C (specifically, the phrase “not valued”) may have conveyed a sense of negativity that did not apply to Pilot Schools 2 and 3, given that a sense of ethnic harmony existed in the schools.
Feature D4: Teachers are empowered to implement flexible scheduling to promote learning. When attempting to compare the data collected for the three pilot schools with Feature D4, the researcher found that the number of variations was inadequate to account for the data collected from Pilot School 1. At Pilot School 1, teachers rarely implemented flexible grouping practices even though barriers to implementing the practice were minimal. Therefore, revisions to the IC map may need to include an additional variation for Feature D4 to account for a relatively strong sense of empowerment, but the absence of the actual practice.

Feature D6: Teachers are knowledgeable about and committed to working with this age group. When attempting to compare the data collected for the three pilot schools with Feature D6, the researcher found that the number of variations was adequate to account for the data collected from the three schools. The language of the descriptors needed revising, however, since the IC map descriptor for Variation B most closely aligned with the data reporting that teachers are personally committed to young adolescents, but may not be involved in leadership or fully implement best practice instructional practices. Variation B would more accurately align with the data if the reference to best practice instructional strategies were shifted to Variation A for Feature D6.

Feature D8: Decision making is democratic and guided by a shared vision. When attempting to compare the data collected for the three pilot schools with Feature D8, the researcher found that the number of variations was adequate to account for the data collected from the three schools. The language of the descriptors needed revising, however, since the IC map descriptors for Feature D8 include two variables: shared decision making and the presence of a shared vision. In all three pilot schools, a high level of shared decision making was present. In none of the three schools, however, was there a formally articulated vision for the school. Teachers in Pilot Schools 1 and 3 reported frequent discussions among the staff regarding school change and improvement, but their attempts to articulate the school vision were vague during the interviews and more closely associated with the idea of school culture than a specific vision. Revisions to the IC map should account for data suggesting that a school vision may not always exist in the form of a formally articulated statement.

Feature D11: Students have the opportunity to engage with the community. When attempting to compare the data collected for the three pilot schools with Feature D11, the
researcher found that the number of variations was adequate to account for the data collected from the three schools. The language of the descriptors needed revising, however, since the data regarding student engagement with the community most closely aligned to Variation B on the IC map, yet the descriptor was not completely accurate. The descriptor for Variation B states that there are “no activities” for community involvement. For Pilot School 3, however, it would be more accurate to state that there are “few activities.” Variation C is sufficient to account for the complete absence of activities in a school.

**Summary of Findings**

The current chapter began with a restatement of the purpose of the research and an overview of the methodology used to develop and test the resultant instrument. Findings from each of the three phases of the instrument development and testing process were reported. The first phase of the development of the IC map for middle grades education was a quasi-Delphi process involving interaction with a panel of experts and a synthesis of the four key frameworks describing the middle grades. The product of Phase One was a verified list of 27 features of the standards-based middle school concept. The second phase of the instrument development and testing process was the construction of an IC map based on the 27 features of the middle school concept. Phase Two involved face-to-face interaction with an IC mapping team comprised of practitioners with broad experience with middle schools. The product of Phase Two was an IC map describing the variations associated with implementation of the 27 features in practice and the delineating suggested sources of data for using the map to evaluate school practices. The third phase of the instrument development and testing process was verification of the IC map through pilot testing in three schools. Pilot testing of the IC map verified the content validity of the variation descriptors for 18 of 27 features and indicated needed revisions for nine of the features. Pilot testing of the IC map also verified appropriate sources of data needed to implement the instrument to evaluate schools. The following chapter will present conclusions from these findings and recommendations for future studies.
CHAPTER V
CONCLUSIONS AND RECOMMENDATIONS

Introduction

The purpose of the instrument development and testing process was to identify critical features of the middle school concept implemented in the context of standards and accountability. While there are many effective school and classroom practices that overlap among school levels, the instrument development and testing process focused on enumerating school characteristics that collectively define the middle school concept. Once clearly defined, the features of the standards-based middle school concept will more readily lend itself to empirical investigation using rigorous research methodology.

The implementation of change is nonlinear, is characterized by varying stages of adoption, and is subject to multiple adaptations (Fullan, 2001; Hall & Hord, 2006). The instrument development and testing process, therefore, also investigated the nature of the implementation of middle school concept features, recognizing that actual practices in schools may vary somewhat without the schools losing their identity as middle schools. The principal product of the process was the development of a diagnostic tool that may be used in future research to identify acceptable forms of implementation of the middle school concept and by school leaders seeking to evaluate middle grades practices and facilitate change in the middle grades.

Findings from each of the three phases of the instrument development and testing process were reported in the previous chapter. The first phase of the development of the innovation configuration (IC) map for middle grades education was a quasi-Delphi process involving interaction with a panel of experts and a synthesis of the four key frameworks describing the middle grades. The second phase of the instrument development and testing process was the construction of an IC map based on the 27 features of the standards-based middle school concept. The third phase of the instrument development and testing process was verification of the IC map through pilot testing in three schools. In this chapter, conclusions will be offered concerning the principal products of the instrument development and testing process and summary recommendations made for future use and study of the instrument.
Conclusions

A Research-Validated List of Middle Grades Features

Obstacles to definitive findings relating middle school features to student achievement have included the clear identification and enumeration of the characteristics of the middle school concept and the ability to measure the degree of implementation of these features in actual practice (Lee & Smith, 1993; MacIver & Epstein, 1991; Stephens & Jenkins, 1994). Another concern that has been raised regarding the middle school concept is whether the recommendations for effective middle schools are truly distinctive from best practices in elementary and high schools (Heller, Calderon, & Medrich, 2003). These problems have impeded research efforts to understand and measure the efficacy of the middle school concept as a clearly-defined set of practices that can be replicated in multiple settings with the expectation of positively influencing student outcomes.

The purpose of the first phase of the instrument development and testing process was to produce a research-validated list of features that uniquely define the middle school concept within the context of standards and accountability. The list of features was developed and validated employing the IC mapping process recommended by Hall and Hord (2006) as part of their Concerns-Based Adoption Model (CBAM) framework. Hall and Hord suggest that the first phase of an IC map should be the development of a cluster map of the key components associated with the innovation being studied. The cluster map is created through interaction with people who are experts on the innovation and through a review of key documents associated with the innovation (Hall & Hord, 2006).

Phase One of the instrument development and testing process presented here achieved the interaction recommended by Hall and Hord (2006) through a triangulation of data derived from a Delphi-like exercise and a synthesis of the four major frameworks describing the middle school concept. Initiating the quasi-Delphi process with an open-ended question asking expert panelists to list key features of the middle school concept within the context of standards and accountability potentially allowed for considerable divergence of opinion. Nonetheless, responses provided by the eleven original panelists were closely aligned with all but three responses directly reflecting language from the four major frameworks. Of the three first-round
responses not directly reflected in the frameworks, two received among the lowest scores in the second-round questioning in which panelists were asked to rate the list of features synthesized from first-round responses and the four major frameworks. This high degree of convergence of opinion among panelists and the major frameworks indicates substantial agreement among the various constituent groups concerning the key components of the standards-based middle school concept as a clearly-defined set of practices.

**IC Map for the Standards-Based Middle School Concept**

The purpose of the instrument development and testing process was to not only identify components of the middle school concept in a standards-based era, but also investigate variations in its implementation. The IC map developed and tested in Phases Two and Three is a description of the multiple variations of the 27 middle grades features as operationalized in actual practice across different settings. The intent is not to judge whether a particular variation of a feature as implemented in a middle grades school is good or bad, but to acknowledge the reality that different adopters of the middle school concept feature have different interpretations of what the feature should look like or may alter one or more components of the feature to fit a particular setting. For each feature of the standards-based middle school concept, the IC map describes a range of variations of the feature based on documents, expert consensus, and actual observation. After multiple iterations of the IC map, fidelity lines are drawn to indicate which variations are associated with the middle school concept and which variations have manifested as something different than the middle school concept (Hall & Hord, 2006).

Findings from the interaction with the IC mapping team and the pilot tests of the instrument suggested additional improvements were needed to the language of the variation descriptors, the number of variations for some features, and the sources of data prescribed in order to use the map as an evaluative tool. These improvements are reflected in a new iteration of the IC map presented in Tables 5.1 through 5.35. Revisions to the IC map are highlighted in bold print. In addition to the revisions, lines of fidelity have been drawn to indicate which variations of each feature are associated with the middle school concept and which variations refer to practices not associated with the standards-based middle school concept. The placement of
fidelity lines for each feature was proposed by the researcher based on pilot test data, but need to be verified through further testing and use of the instrument.
Table 5.1

*Feature A1: The Curriculum is Rigorous and Challenging*

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>The school offers a rigorous curriculum to all students that includes 21st century skills, differentiated instructional practices, high standards, and a wide array of advanced course offerings. Rigor is supported through assessment rubrics, high levels of engagement, varied assessments, and exemplars of high quality work. <strong>Rigor is evident in at least 50% of classes.</strong></td>
<td><strong>In at least 50% of classes,</strong> approximately 3-5 components of a rigorous curriculum are evident and are accessible to all students.</td>
<td><strong>In at least 50% of classes,</strong> fewer than 3 components of a rigorous curriculum are evident.</td>
<td>Components of a rigorous curriculum are available only to academically advanced students.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:

- walkthrough class observations
- an examination of documents such as division curriculum guides, teacher lesson plans, examples of student assessments, assessments rubrics, listing of course offerings, exemplars of high quality work, websites, newsletters
- interviews with the building administrators and teachers:
  - What are some of the key components of a rigorous and challenging curriculum?
  - Is the curriculum of this school rigorous and challenging? How do you know?
  - For which students is the curriculum rigorous and challenging?

*Note:* The vertical dotted line indicates the proposed line of fidelity of implementation for this feature. Highlighted phrases indicate changes to the IC map presented in the previous chapter.
Table 5.2

**Feature A2: The Curriculum is Exploratory and Relevant to Young Adolescents**

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
<th>Variation E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exploratory classes such as art and music are offered as well as extracurricular activities. Students are encouraged to explore topics of interest to them within the core curriculum.</td>
<td>Exploratory classes and extracurricular activities are offered.</td>
<td>Exploratory classes are offered but no extracurricular activities.</td>
<td>Extracurricular activities are offered but no exploratory classes.</td>
<td>No exploratory classes or extracurricular activities are offered.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:
- an examination of documents such as the master schedule, listing of extracurricular activities, teacher lesson plans, listing of course offerings, newsletters, websites
- interviews with the building administrators and teachers:
  - In what ways is the curriculum exploratory and relevant to the students?
  - What extracurricular activities are offered?

*Note:* The vertical dotted line indicates the proposed line of fidelity of implementation for this feature.

Table 5.3

**Feature A3: The Curriculum is Integrative and Interdisciplinary**

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students experience connections among various content areas with a focus on 21st century skills, including authentic learning. Learning revolves around central interdisciplinary themes.</td>
<td>Students learn within departmentalized courses with interdisciplinary connections made within classrooms.</td>
<td>Students learn within departmentalized courses with no interdisciplinary activities.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:
- an examination of documents such as course descriptions, school or class websites, teacher lesson plans
- interviews with the building administrators and teachers:
  - In what ways is the curriculum integrative and interdisciplinary?
  - In what ways does learning revolve around interdisciplinary themes or activities?

*Note:* The vertical dotted line indicates the proposed line of fidelity of implementation for this feature. Highlighted phrases indicate changes to the IC map presented in the previous chapter.
Table 5.4

*Feature A4: Instructional Strategies are Varied, Aligned to Standards, Data Informed, and Designed to Meet the Individual Needs of All Learners*

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers collaborate to boost student achievement, continuously assessing student learning to adjust instruction. Teachers employ multiple instructional strategies, integrating technology, tailored to meet individual needs.</td>
<td>Approximately <strong>40-60%</strong> of teachers in the school employ a variety of instructional strategies aligned to standards. Data-informed, differentiated instruction is in development.</td>
<td>Teachers generally work in isolation and employ limited strategies which are not aligned to standards. Data are not used to guide instructional practices.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:

- walkthrough observation of classes, team meetings, or data meetings
- teacher lesson plans
- agenda or minutes from team meetings or data meetings
- interviews with the building administrators and teachers:
  - How are instructional strategies varied and aligned to standards?
  - How is instruction informed by data and differentiated to meet student needs?
  - How do teachers collaborate to improve student achievement?

*Note:* The vertical dotted line indicates the proposed line of fidelity of implementation for this feature. Highlighted phrases indicate changes to the IC map presented in the previous chapter.

Table 5.5

*Feature A5: Students and Teachers are Engaged in Active Learning*

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning experiences for all students are characterized by cooperative learning, physical movement, frequent transitions, abundant interaction, clear procedures, and higher order thinking.</td>
<td>Active learning experiences are the norm in <strong>40-60%</strong> of classes.</td>
<td><strong>In more than 60%</strong> of classes, students are seated for long periods of time. Whole-class instruction is the primary mode with little interaction among students.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:

- walkthrough class observation
- interviews with the building administrators and teachers:
  - In most classes, how often do students get to move around within the class period?
  - How many of your teachers encourage a lot of movement in class?

*Note:* The vertical dotted line indicates the proposed line of fidelity of implementation for this feature. Highlighted phrases indicate changes to the IC map presented in the previous chapter.
Table 5.6  
**Feature A6: Students Demonstrate Mastery of Standards in a Variety of Ways**

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students are assessed in a variety of ways including the use of portfolios, project-based learning activities, and assessment rubrics, projects that include choice of activities, student reflection, writing, and traditional tests.</td>
<td>Approximately 40-60% of assessments are of a variety other than traditional tests.</td>
<td>More than 60% of assessments are limited to traditional tests.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:
- a review of documents and artifacts such as teacher lesson plans, school and/or class websites, examples of assessments, classrooms displays of student work
- interviews with the building administrators and teachers:
  - What types of assessments are used in classes?
  - Approximately what percentage of assessments are traditional tests? (ask for examples)

*Note:* The vertical dotted line indicates the proposed line of fidelity of implementation for this feature. Highlighted phrases indicate changes to the IC map presented in the previous chapter.

Table 5.7  
**Feature B1: An Advisory or Advocacy System Ensures that Every Student is Known Well By At Least One Adult**

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>The school has a regular student advisory period in which a staff member meets with a small group of students to support the students’ success.</td>
<td>Each student in the school is purposefully assigned to an adult advocate who knows that student well. There may not necessarily be scheduled meeting times.</td>
<td>Student advocacy is promoted through teams or classes, but may not be personalized or structured.</td>
<td>No student advocacy program is in place.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:
- a review of documents and artifacts such as the master schedule, agendas or minutes from team meetings
- interviews with building administrators, teachers, and counselors
  - Are all students in your school known well by at least one adult staff member?
  - What structures or programs are in place to ensure this?
  - How is the advisory/advocacy system effectiveness evaluated?

*Note:* The vertical dotted line indicates the proposed line of fidelity of implementation for this feature. References to evaluation were deleted from the previous iteration of the IC map.
Table 5.8

*Feature B2: Comprehensive Guidance and Support Services Promote Whole-Student Development*

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehensive services may include counseling on social relationships, bullying, grief, family conflicts, drug/alcohol use, life skills, anger management, career and academic counseling, goal setting, community resources, individual and group counseling, and classroom instruction. Guidance works closely with teacher teams and participates in school leadership.</td>
<td>Guidance and support services include individual and some group counseling.</td>
<td>Guidance program is focused on testing and scheduling. Counselors are available for student crises.</td>
<td>No guidance or support services are provided.</td>
</tr>
</tbody>
</table>

**EVIDENCE**
Implementation should be determined via:
- a review of documents such as the master schedule, listing of programs
- interviews with building administrators, teachers, and counselors

**Note:** The vertical dotted line indicates the proposed line of fidelity of implementation for this feature. A reference to working with teachers in Variation B was deleted from the previous iteration of the IC map.
### Table 5.9  
**Feature B3: Students Learn in a Healthy and Safe School Environment**

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
<th>Variation E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Providing a safe, healthy environment is a priority for the school and includes features such as: daily physical activity for students; crisis plan is practiced; crisis/safety team regularly evaluates and revises the crisis plan; crisis planning includes multiple stakeholders; the school is free of persistent violence; there is adequate supervision of students; nutrition guidelines are followed; wellness is promoted; safety measures are appropriate for setting; there is a positive affective climate.</td>
<td>Three of the following four components of a healthy and safe school environment are evident: daily physical activity for students, consistent nutritional and wellness guidelines, crisis planning and evaluation, free of persistent violence.</td>
<td>Two of the following four components of a healthy and safe school environment are evident: daily physical activity for students, consistent nutritional and wellness guidelines, crisis planning and evaluation, free of persistent violence.</td>
<td>Only one of the following four components of a healthy and safe school environment is evident: daily physical activity for students, consistent nutritional and wellness guidelines, crisis planning and evaluation, free of persistent violence.</td>
<td>None of the components of a healthy and safe school environment is evident.</td>
</tr>
</tbody>
</table>

#### EVIDENCE

Implementation should be determined via:

- a review of documents and artifacts such as school-collected survey data, crime and violence data, school crisis plan, record of safety drills, nutrition and wellness guidelines for school or school division, examples of food available in student vending machines and cafeteria, master schedule for physical education classes
- walkthrough observation of classes
- interviews with building administrators, teachers, counselors, and, if possible, parents:
  - How is the school crisis plan developed, practiced, and evaluated?
  - In what ways do students engage in daily physical activity?
  - Is the environment safe and healthy for learning?
  - How are wellness and nutrition guidelines followed?

*Note:* The vertical dotted line indicates the proposed line of fidelity of implementation for this feature.
<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
<th>Variation E</th>
</tr>
</thead>
<tbody>
<tr>
<td>In larger schools (&gt;400), students are grouped into smaller units (i.e. teams, clusters, communities) with a common set of teachers advocating for their needs.</td>
<td>The school is small (&lt;400); no further divisions are needed. A common set of teachers advocates for student needs.</td>
<td>Smaller learning communities are achieved through advocacy groups, clubs, tutoring groups, resource groups, differentiated learning, or athletic teams. Students are not organized into interdisciplinary teams with a common set of teachers.</td>
<td>Students are structurally organized into smaller groups such as advocacy groups, clubs, tutoring groups, resource groups, differentiated learning, or athletic teams. Teachers do not regularly collaborate to advocate for student needs.</td>
<td>No personalization of the school environment exists. There are no smaller groups within larger schools.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:

- a review of documents and artifacts such as agendas or minutes from team meetings, school handbook, websites, master schedule, observation of team meetings
- interviews with building administrators, teachers, and counselors

  Are students organized into smaller groups? If so, how?
  What are the primary reasons students are grouped?
  How often do teacher teams meet?
  Are there other ways the school environment is personalized?
  Has there been any change in teaming practices in the past 10 years?

**Note:** The vertical dotted line indicates the proposed line of fidelity of implementation for this feature.
Table 5.11

Feature C1: School Rules are Clear, Fair, and Consistently Applied

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
</tr>
</thead>
<tbody>
<tr>
<td>School rules are clearly stated and communicated through multiple means. Data indicates a lack of disparity among subgroups.</td>
<td>School rules are clearly stated and communicated through multiple means. Data reveals a disparity among subgroups.</td>
<td>School rules are not clear, fair, or consistently applied.</td>
</tr>
</tbody>
</table>

EVIDENCE
Implementation should be determined via:
- a review of documents and artifacts such as school handbook, websites, newsletters, state discipline data
- interviews with building administrators, teachers, counselors, and, if possible, parents
  - How are school rules communicated to students?
  - Are school rules fairly applied? Explain.
  - What happens if students break the rules?

Note: The vertical dotted line indicates the proposed line of fidelity of implementation for this feature.
Table 5.12

**Feature C2: All Students, Including All Social, Economic, and Ethnic Groups, Have Open and Equal Access to Challenging Learning Opportunities**

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
<th>Variation E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students have access to best teaching practices, the opportunity of access to advanced classes, and differentiation of assignments and support to help students do challenging work.</td>
<td>Three of the following components of equal access are evident: access to best teaching practices, access to advanced classes, and differentiated instructional practices within classes, and support mechanisms.</td>
<td>Two of the following components of equal access are evident: access to best teaching practices, access to advanced classes, and differentiated instructional practices within classes, and support mechanisms.</td>
<td>Only one of the following components of equal access are evident: access to best teaching practices, access to advanced classes, and differentiated instructional practices within classes, and support mechanisms.</td>
<td>None of the components of access are evident.</td>
</tr>
<tr>
<td>There are mechanisms in place for supporting students, such as financial assistance for field trips.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:

- a review of documents and artifacts such as master schedule, policy manual or course registration guide, student handbook
- walkthrough observations of classes
- interviews with building administrators and teachers:
  - What is the process for students to register for advanced classes?
  - What factors influence the levels of courses to which teachers are assigned?
  - How is instruction differentiated within classes?
  - What happens if a student needs financial assistance to participate in learning opportunities such as school field trips?

*Note:* The vertical dotted line indicates the proposed line of fidelity of implementation for this feature.
Table 5.13

*Feature C3: To the Fullest Extent Possible, All Students Participate in Heterogeneous Classes with High Academic and Behavioral Expectations*

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Courses are accessible to all students.</td>
<td>Students are generally grouped in homogenous classes but students have freedom to choose their classes.</td>
<td><strong>Students are generally heterogeneous, but some students are homogeneously grouped informally by the school. Other students do not have access to these groups.</strong></td>
<td>Rigid tracking is prevalent. Students have no choice of levels in core classes.</td>
</tr>
<tr>
<td>Differentiation is emphasized as an instructional model.</td>
<td>Barriers to access are eliminated or reduced.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:
- a review of documents and artifacts such as listing of course offerings, master schedule, class enrollment data, policy manual or course registration guide
- interviews with building administrators, teachers, and counselors

How is it decided what levels of classes for which students will register?
How is instruction differentiated within classes?

*Note:* The vertical dotted line indicates the proposed line of fidelity of implementation for this feature. Highlighted phrases indicate changes to the IC map presented in the previous chapter.
**Table 5.14**

*Feature C4: All Students Have Ongoing Opportunities to Learn About Their Own and Others' Cultures; Diversity is Valued by the School*

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>The school culture embraces diversity. Exposure to diverse ideas and cultures is integrated within the curriculum. Learning differences and socioeconomic diversity are embraced.</td>
<td>Ethnic and cultural diversity is not present among the student body in the school, but the school is purposeful about teaching about diversity.</td>
<td><strong>Diversity education is not a priority for the school but there is no ethnic tension.</strong></td>
<td>Diversity education is not a priority and ethnic tension is evident.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:
- a review of documents and artifacts such as student handbook, school website, displays, school calendar, student enrollment data
- interviews with building administrators, teachers, counselors, and, if possible, parents:
  - How diverse is the student body and faculty?
  - In what ways are students exposed to diverse cultures or ideas?
  - Is teaching about diversity important to most teachers?

**Note:** The vertical dotted line indicates the proposed line of fidelity of implementation for this feature. Highlighted phrases indicate changes to the IC map presented in the previous chapter.

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**Table 5.15**

*Feature D1: Teachers are Organized in Teams with Common Plan Time*

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>A designated common plan time is provided on a regular basis for core content teachers who share a group of students.</td>
<td>A designated common plan time is provided on a regular basis; not all core teachers are included on the team.</td>
<td>Students and teachers are grouped into teams but no common plan time is provided.</td>
<td>Teachers are not organized into teams.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:
- master schedule
- interviews with building administrators:
  - Are teachers organized into teams?
  - Which teachers are part of the teaming process?
  - Is common plan time provided in the master schedule?
  - How often are teacher teams expected to meet?

**Note:** The vertical dotted line indicates the proposed line of fidelity of implementation for this feature.
Table 5.16

*Feature D2: Teachers Have Plan Time to Coordinate Transitions Between Grade Levels and Schools*

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers work with guidance and administration to plan for transition. Transition addresses the whole child as well as the family.</td>
<td>Teachers work with guidance and administration to plan for transition. Activities focus primarily on students.</td>
<td>Transition activities are planned by guidance. Teachers are not involved in planning.</td>
<td>There is no transition program.</td>
</tr>
</tbody>
</table>

**EVIDENCE**
Implementation should be determined via:
- a review of documents such as a schedule of transition activities
- Interviews with building administrators, teachers, and counselors:
  - Who plans transition activities?
  - What are the key components of the transition program?

*Note:* The vertical dotted line indicates the proposed line of fidelity of implementation for this feature.

Table 5.17

*Feature D3: Organizational Structures, Including Planned Time for Collaboration, Foster Purposeful Learning and Meaningful Relationships*

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple structures and processes work together to promote learning and relationships. These structures include the following: the master schedule, the physical layout of building, purposeful room assignments, clustering, co-curricular and extracurricular activities, small communities of students, teaching assignments, and purposeful outreach to special populations (unmotivated, disabled, gifted, behavior).</td>
<td>Of the structures and processes to promote learning and relationships listed in Variation A, approximately <strong>50-75%</strong> are evident.</td>
<td>Of the structures and processes to promote learning and relationships listed in Variation A, less than <strong>25%</strong> are evident.</td>
<td>There are no structures or processes in place to promote learning and relationships.</td>
</tr>
</tbody>
</table>

**EVIDENCE**
Implementation should be determined via:
- a review of documents and artifacts such as the master schedule, observation of facility layout, handbooks, websites, school improvement plan, school calendar

*Note:* The vertical dotted line indicates the proposed line of fidelity of implementation for this feature. Highlighted phrases indicate changes to the IC map presented in the previous chapter.
Table 5.18
**Feature D4: Teachers are Empowered to Implement Flexible Scheduling to Promote Learning**

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers have complete authority to group students as needed for learning.</td>
<td>Teachers can group students within the team or classes as long as master schedule is not changed.</td>
<td><strong>There are few barriers to implementing flexible grouping but it is not common practice.</strong></td>
<td>Teachers do not have authority to group students.</td>
</tr>
</tbody>
</table>

**EVIDENCE**
Implementation should be determined via:
- meeting minutes or agenda
- interviews with building administrators and teachers:
  - How do teachers use flexible scheduling to promote learning?
  - What limitations of authority do teachers encounter when implementing flexible scheduling?

*Note:* The vertical dotted line indicates the proposed line of fidelity of implementation for this feature. Highlighted phrases indicate changes to the IC map presented in the previous chapter.

Table 5.19
**Feature D5: Leaders are Knowledgeable About and Committed to Working with this Age Group**

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaders take responsibility for their own professional development related to understanding young adolescents and their academic and developmental needs. They are enthusiastic about working with middle schoolers. Leaders influence others to share the commitment and leadership and are involved in middle level advocacy groups.</td>
<td>Leaders are personally committed to and enthusiastic about working with young adolescents within the school.</td>
<td>Leaders have middle school experience but do not interact with the students.</td>
<td>Leaders have no experience with middle schools and make no effort to learn. It is unclear whether they actually enjoy working with young adolescents.</td>
</tr>
</tbody>
</table>

**EVIDENCE**
Implementation should be determined via:
- observation of building administrators’ interactions with students
- interviews with principal and teachers:
  - What is the previous career experience of the principal?
  - What are the key beliefs of the principal regarding middle grades education?
  - What are the professional development priorities of the principal?

*Note:* The vertical dotted line indicates the proposed line of fidelity of implementation for this feature.
Table 5.20

Feature D6: Teachers are Knowledgeable About and Committed to Working with this Age Group

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most teachers take responsibility for their own professional development related to teaching young adolescents. They are enthusiastic about working with middle schoolers. Teachers <strong>employ best practice instruction within their classroom.</strong></td>
<td>Most teachers are enthusiastic about teaching young adolescents</td>
<td>Most teachers have experience working with middle schoolers but lack enthusiasm for working with this age group.</td>
<td>Most teachers have no experience with middle schoolers and make no effort to learn. It is unclear whether they actually enjoy working with young adolescents.</td>
</tr>
</tbody>
</table>

EVIDENCE
Implementation should be determined via:
- walkthrough observations of classes
- list of teachers and licensure
- interviews with building administrators and teachers:
  What do most teachers think about their students?
  Do they enjoy working with middle schoolers?

Note: The vertical dotted line indicates the proposed line of fidelity of implementation for this feature. Highlighted phrases indicate changes to the IC map presented in the previous chapter. A reference to leadership from the previous iteration of the IC map was deleted.

Table 5.21

Feature D7: Students Have Opportunities to Participate in Decision Making

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students participate meaningfully in decisions that affect the school. This may be done through student representatives. Representation includes diverse voices, representative of the student body.</td>
<td>Students participate meaningfully in decision making within classrooms, clubs, or teams. There is no mechanism for student input into schoolwide decisions.</td>
<td>Student input is not invited in decision making.</td>
</tr>
</tbody>
</table>

EVIDENCE
Implementation should be determined via:
- schedule of meetings
- interviews with building administrators and teachers:
  What opportunities do students have for leadership in the school?
  If a student has an idea for improving the school, how does she share the idea?

Note: The vertical dotted line indicates the proposed line of fidelity of implementation for this feature.
Table 5.22

*Feature D8: Decision Making is Democratic and Guided by a Shared Vision*

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
<th>Variation E</th>
</tr>
</thead>
<tbody>
<tr>
<td>The school vision is well known by stakeholders and was jointly developed. Decision making involves a broad spectrum of stakeholders. The school vision is continuously re-evaluated and is underpinned by the school culture.</td>
<td>The school vision is well known, but may not be formally stated. Decision making is invited but limited to school staff.</td>
<td>The school vision is well known, but may not be formally stated. Staff input is invited but limited to an advisory capacity.</td>
<td>Staff input into decision making is invited but limited to an advisory capacity.</td>
<td>No school vision exists. All decisions are made by the principal.</td>
</tr>
</tbody>
</table>

**EVIDENCE**

Implementation should be determined via:

- a review of documents and artifacts such as websites, handbooks, meeting schedule, and/or agenda
- interviews with building administrators and teachers:
  - What is the vision of the school?
  - How was the school vision developed?
  - Who makes the decisions in the school?

*Note: The vertical dotted line indicates the proposed line of fidelity of implementation for this feature. Highlighted phrases indicate changes to the IC map presented in the previous chapter.*
### Table 5.23
*Feature D9: Leadership is Courageous and Collaborative*

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership is ethical, inspiring and shared.</td>
<td>The principal demonstrates strong principles and is a change agent. The principal actively seeks the input of staff, but most decisions are made by the principal.</td>
<td>The principal occasionally seeks input from the staff in making decisions. Maintaining the status quo is valued.</td>
<td>The principal does not take risks and her role is limited to managing rather than leading. Input from the staff is not invited.</td>
</tr>
</tbody>
</table>

**EVIDENCE**
Implementation should be determined via:

- school improvement plan
- interviews with teachers and staff:
  - How are decisions made in the school? Who makes them?
  - How would you characterize the principal’s leadership style?

**Note:** The vertical dotted line indicates the proposed line of fidelity of implementation for this feature.

### Table 5.24
*Feature D10: Professional Development is Aligned to School Improvement and Best-Practice Strategies*

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>The school improvement plan is clearly defined, focused, and continuously revised. Professional development is aligned, job-embedded, differentiated, based on needs of staff, well funded, data informed, and models best-practice instruction.</td>
<td>The school improvement plan is clearly defined, focused, and continuously revised. Professional development is aligned, but does not include coaching or follow through.</td>
<td>Professional development is workshop based with little follow through. There is little or no connection with the school improvement plan.</td>
<td>There is no school improvement plan or professional development.</td>
</tr>
</tbody>
</table>

**EVIDENCE**
Implementation should be determined via:

- school improvement plan
- interviews with building administrators and teachers:
  - How are professional development needs identified?
  - How is professional development provided?

**Note:** The vertical dotted line indicates the proposed line of fidelity of implementation for this feature.
Table 5.25

Feature D11: Students Have the Opportunity to Engage with the Community

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students further their understanding of society and the community and the role they play. Students are engaged in authentic learning, solving real-world problems. Students participate in service learning through classes or clubs, field trips, and fundraising for charity, the environment, or political process.</td>
<td>Students learn about their community in class but there are few activities in which student may experience community involvement.</td>
<td>Students have no opportunities to engage with the community.</td>
</tr>
</tbody>
</table>

EVIDENCE
Implementation should be determined via:
- a review of documents and artifacts such as websites, listing of clubs, school calendar, course curriculum
- interviews with building administrators and teachers:
  * In what ways are students involved in solving real-world problems?
  * In what ways do students participate in service learning?

Note: The vertical dotted line indicates the proposed line of fidelity of implementation for this feature. Highlighted phrases indicate changes to the IC map presented in the previous chapter.

Table 5.26

Feature D12: The Community is Engaged in Providing Resources and Support

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community support and involvement are evident through adult volunteerism, junior achievement, job fairs, tutors, food backpacks for the weekend, summer camps, mentoring, job shadowing, seminars, or colleges/universities.</td>
<td>There are 1-2 community partnerships with the school in addition to the PTA.</td>
<td>Community support of the school is channeled primarily through PTA.</td>
<td>There are no community resources available to the school.</td>
</tr>
</tbody>
</table>

EVIDENCE
Implementation should be determined via:
- website or newsletters
- interviews with building administrators:
  * In what ways does the community support the school?

Note: The vertical dotted line indicates the proposed line of fidelity of implementation for this feature.
Table 5.27

Feature D13: Relationships with Families are Valued in Support of Students' Success

<table>
<thead>
<tr>
<th>Variation A</th>
<th>Variation B</th>
<th>Variation C</th>
<th>Variation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>The school reaches out to families through multiple avenues such as offering babysitting, transportation, and meals for school events; providing outreach at community centers; offering flexible conference schedules; inviting parents to attend learning activities; communicating effectively (websites, local newspapers, email, phone calls, newsletters, personal contact); offering parent seminars (e.g. parenting, technology). Teachers often attend athletic events and other activities.</td>
<td>The school communicates with families though multiple means. Parent involvement in student learning is actively encouraged.</td>
<td>Parent involvement in learning is neither encouraged nor discouraged. Teachers respond to parent inquiries but rarely take the initiative in contacting parents.</td>
<td>There is little communication with families.</td>
</tr>
</tbody>
</table>

EVIDENCE
Implementation should be determined via:
- a review of documents and artifacts such as existing parent survey data, websites, school improvement plan
- interview with building administrators and teachers:
  - In what ways does the school (including individual teachers) communicate with families?
  - What activities are planned to encourage family involvement?
  - How do parents stay informed about academic progress and student learning?

Note: The vertical dotted line indicates the proposed line of fidelity of implementation for this feature. Highlighted phrases indicate changes to the IC map presented in the previous chapter.

Comparison of Revised IC Map with Pilot School Data

The revised IC map presented above accounts for the variations of implementation of middle school features encountered at the three schools in which the previous iteration of the instrument was pilot tested. When the data collected from the pilot schools were compared to the variation descriptors on the revised IC map, the researcher was able to determine which variation of each feature best described the manner in which the feature was implemented at the schools. Appendix F reports an analysis of fit, comparing the revised IC map with the pilot school data. Based on the proposed lines of fidelity included on the revised map, the percentage of variations associated with acceptable middle school practices was calculated for each school. The
percentage of acceptable standards-based middle school practices was slightly higher at Pilot School 3 than at the other two schools.

One of the problems that arises from the literature and current policy debate is whether the implementation of the middle school concept is limited to schools exclusively housing grades six to eight. In order to verify the content validity of the IC map for middle grades housed in elementary settings, a high-performing K-7 school was identified for inclusion in the pilot testing. The analysis of fit comparison made with the revised IC map indicated that the percentage of acceptable implementation of middle school features at the K-7 school was very similar to the percentages for the two 6-8 schools. Further testing of the revised IC map in various school settings will need to be conducted to allow for definitive conclusions to be made regarding how middle school practices may be implemented in schools with different grade configurations. Nevertheless, the analysis does indicate that the revised IC map looks to be a useful instrument for evaluating standards-based middle school features in K-7 or K-8 schools, as well as 6-8 schools.

**Recommendations**

**Further Testing and Development**

Hall and Hord (2006) intend that IC mapping be a multi-iterative process. The IC map describing implementation of the middle school concept in the context of standards and accountability presented in this chapter is the third iteration of the instrument. It was developed employing a rigorous three-phase methodology involving a review of major middle school frameworks and interaction with experts and experienced practitioners. It was pilot tested in three diverse schools housing the middle grades and revised based on the data collected there. The IC map is presented in its current form as a first step toward a useful instrument to evaluate middle school practices in schools. Additional testing of instrument will be required to establish statistical norms such as internal consistency, predictive validity, and inter-rater reliability.

Use of the instrument for scholarly or practical applications, nonetheless, will likely yield evidence that the instrument needs additional revision. One limitation of the pilot testing was that the three schools were located within a relatively small geographic area in the same state. No urban schools were included in the pilot testing. Further testing and use of the instrument in more
diverse settings may lead to the need for additional variations for certain features and more extensive refinement of the language of the descriptors. Further testing and use of the instrument will also be required to verify where lines of fidelity should be drawn for each feature. The features of middle level education enumerated in the IC map should be revisited periodically through monitoring of future revisions of the major middle school frameworks.

The interviews conducted in the pilot testing of the IC map were conducted utilizing matrix sampling, rather than posing all of the interview questions to every participant. It should be acknowledged that the use of matrix sampling was a limitation in this process since it allows for bias to influence the collection of data. An additional limitation was the use of parent interviews, since bias was inherent in relying on the principal to make parents available and access to parents was limited.

Future Research

Empirical research examining the effectiveness of practices associated with the middle school concept has produced mixed findings (Cook et al., 2009; Jackson & Lunenburg, 2010; Lee & Smith, 1993; Mertens & Flowers, 2003; Offenberg, 2001; Stephens & Jenkins, 1994). Since the 1990s, researchers have focused much attention on student achievement outcomes as indicated by various measures including standards-based testing. Among the challenges of conducting research with the middle school concept, however, have been clearly defining the research variables and accounting for the variance in the implementation of middle school features. Lounsbury (2009) argues that much of the literature critical of the middle school concept has not duly acknowledged the difference between schools with fully and authentically implemented middle school concept features in the middle grades and middle schools as merely a 6-8 grade configuration with nominal structures such as teaming. Any conclusions drawn from the available research on the middle concept can be reasonable only to the extent that the fidelity, degree, and context of implementation are fully understood.

The IC map presented in this chapter clearly defines acceptable variations of implementation of middle school features and is recommended to researchers investigating the relationship between the middle school concept and student outcomes such as student achievement. Future research could involve using the IC map as a primary instrument for
determining fidelity of implementation of middle level features in schools. Alternatively, since use of the IC map is a relatively time and labor intensive process, the IC map may be used to verify data collected through survey instruments. The IC map may be used in its entirety to gauge fidelity of implementation of middle school features as a collective set of practices or limited sections of the IC map may be used to determine fidelity of implementation of specific middle level features. The level of fidelity of implementation of middle level features for a school or sample population of schools could be compared to measures of student achievement such as state standardized tests. Statistical analysis could then be employed to advance our understanding of which middle level features, if any, are related to increased student achievement.

Self Assessment, Professional Development, and School Evaluation

For school leaders implementing any reform or change in schools, understanding the nature of the change process is a key factor that influences whether the intended change succeeds or fails. School leaders that successfully navigate the complexities of the change process recognize that there are various stages of adoption of change that require steady leadership toward long-term and short-term goals (Fullan, 2006; Hall & Hord, 2006). The IC map presented in this chapter attempts to add to the current understanding of what practices constitute the middle school concept to aid school leaders in their decision making. This diagnostic tool should be useful to school leaders in assessing the status of middle school features within schools and making decisions about needed school improvement and related professional development.

For school leaders making decisions about improvement in the middle grades at the school or district level, some possible applications of the IC map seem relevant. At the school building level, the IC map may be used as a self-assessment tool by administrators, instructional coaches, or teacher teams to determine the school’s level of implementation of middle level features. School leaders may choose to use the IC map to decide if the school is implementing middle level features as a collective set of practices or leaders may choose to use sections of the IC map to focus on selected areas. For example, teacher teams may decide to use only the features on the IC map related to academic excellence to determine areas of strength and weakness in the instructional practices employed by the team. Administrators could use the
sections of the IC map related to organizational structures to determine if, for example, sufficient common plan time is in place. For school districts in which fidelity to middle school practices is valued, the IC map could be used to determine the level of implementation of middle school practices in the schools housing the middle grades within the school district and identify areas of needed improvement.

Professional development, whether guided by the district, determined by the school administration, or self-directed via teacher teams operating as professional learning communities, should align with the areas of improvement suggested by use of the IC map. Using the IC map to evaluate the implementation of middle level features within a school or schools within a district may reveal the need to change the manner in which the features are implemented. School leaders or teacher teams may want to attend a conference or engage in a group study of the practices that need to be improved. Peer observations and coaching could be employed to encourage a job-embedded, collaborative approach. Such an approach to professional development could be applied to many of the IC map features including the need for more rigorous instructional practices, interdisciplinary learning, active learning strategies, student advocacy systems, diversity education, and opportunities for students to engage with the community.

Another potential use of the IC map presented in this chapter is as an instrument to evaluate schools for inclusion in such initiatives as state Schools to Watch (STW) programs sponsored by the National Forum to Accelerate Middle-Grades Education (National Forum). Since the IC map closely reflects the criteria established by the National Forum for state STW programs (National Forum, 2011), IC map may be a useful tool for teams making site visits to STW applicant schools. The descriptors of variations of middle level features offered by the IC map provide a different perspective of possible levels of implementation than the self rating guides currently published by the National Forum. The IC map also specifies sources of evidence and suggested interview questions that may be useful in promoting consistency of data collection across school site visits and across state programs.

Conclusion

The product of this instrument development and testing process is a research-validated description of key features of the middle level philosophy of education in an era of standards and
accountability and a diagnostic instrument useful for further research and practical applications. IC maps are intended to undergo multiple iterations in order to improve the instrument and continue adapting the map to changes in the innovation itself. It is hoped that the product resulting from the instrument development and testing process will be the first draft of an instrument that will continue to evolve through subsequent use and refinement by future researchers and practitioners.
REFERENCES


APPENDIX A
DELPHI ROUND ONE RESPONSES FROM THE MIDDLE GRADES EXPERT PANEL

Table A.1

 Responses from Scholars

<table>
<thead>
<tr>
<th>Participant</th>
<th>Key Features of Middle School Concept</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scholar 1</td>
<td>● emphasis on participation of learners in a democratic society by using middle school as the context for enacting democratic practices</td>
</tr>
<tr>
<td></td>
<td>● responsiveness to the range of developmental differences of young adolescents through the use of structures (learning communities, &quot;houses&quot;), organizational features, especially teaching teams, curriculum, assessment, and instructional practices (such as advisory) that attend to social, personal, and nonacademic learning of young adolescents in order to advance their academic learning.</td>
</tr>
<tr>
<td></td>
<td>● educators prepared to be responsive either through teacher preparation and professional development</td>
</tr>
<tr>
<td>Scholar 2</td>
<td>● curriculum responsive to the needs and interests of young adolescents</td>
</tr>
<tr>
<td></td>
<td>● teachers who understand and appreciate the wide range of individual differences in the age group</td>
</tr>
<tr>
<td></td>
<td>● school day organized to support inquiry, socialization, health, exercise</td>
</tr>
<tr>
<td></td>
<td>● support services for the full range of life needs of the age group (guidance, healthcare)</td>
</tr>
<tr>
<td></td>
<td>● advocacy for young adolescents</td>
</tr>
<tr>
<td>Scholar 3</td>
<td>● educators committed to young adolescents</td>
</tr>
<tr>
<td></td>
<td>● high expectations for all</td>
</tr>
<tr>
<td></td>
<td>● advisory: advocacy for every student</td>
</tr>
<tr>
<td></td>
<td>● school, family, community partnerships</td>
</tr>
<tr>
<td></td>
<td>● a positive school climate</td>
</tr>
<tr>
<td></td>
<td>● curriculum that is challenging, integrated, and exploratory</td>
</tr>
<tr>
<td></td>
<td>● variety of teaching and learning approaches</td>
</tr>
<tr>
<td></td>
<td>● assessment and evaluation which promotes learning</td>
</tr>
<tr>
<td></td>
<td>● flexible organizational structures</td>
</tr>
<tr>
<td></td>
<td>● programs and policies that foster health, wellness, and safety</td>
</tr>
<tr>
<td></td>
<td>● comprehensive guidance and support systems</td>
</tr>
</tbody>
</table>

Note. Panelists were asked to list the key features of the middle school concept, as implemented within the context of standards and accountability.
### Responses from Advocates

<table>
<thead>
<tr>
<th>Participant</th>
<th>Key Features of Middle School Concept</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advocate 1</td>
<td>• engaged learning environment</td>
</tr>
<tr>
<td></td>
<td>• culture that encourages learning groups of professional educators working together pushing affective curriculum within the standard based core</td>
</tr>
<tr>
<td></td>
<td>• socially equitable</td>
</tr>
<tr>
<td></td>
<td>• children have a voice within the school</td>
</tr>
<tr>
<td></td>
<td>• development of children takes priority</td>
</tr>
<tr>
<td></td>
<td>• academic rigor and consistent instruction</td>
</tr>
<tr>
<td></td>
<td>• principal is an instructional leader</td>
</tr>
<tr>
<td></td>
<td>• thoughtful consideration for differences</td>
</tr>
<tr>
<td></td>
<td>• civil responsibility</td>
</tr>
<tr>
<td></td>
<td>• community outreach</td>
</tr>
<tr>
<td></td>
<td>• business outreach</td>
</tr>
<tr>
<td></td>
<td>• professional development designed for needs of educators</td>
</tr>
<tr>
<td></td>
<td>• health and wellness issues are important within the school</td>
</tr>
<tr>
<td></td>
<td>• healthy food served</td>
</tr>
<tr>
<td></td>
<td>• physical fitness is encouraged each day</td>
</tr>
</tbody>
</table>

Advocate 2: Basic concepts:

- high expectations for each student is supported by engaging instruction and balanced assessments
- the school's organizational structures promote both academic growth & personal development
- the school's curriculum is challenging, aligned and relevant
- the school's environment is safe, healthy, and personalized to the needs of the students
- teachers are skilled with multiple approaches to teaching and learning
- teachers & principals are specifically prepared and knowledgeable about middle level education and the developmental needs of young adolescents
- leadership is collaborative - gives voice to staff, student, parents, community
- equity and access to all classes, programs and activities for each student

Structures that are commonly promoted and used to achieve these concepts include:

- integrated teaming with common planning time
- an advisory program
- flexible schedules -- including ones that support reteaching and remediation when needed
- students have opportunities for exploratory and enrichment courses
| Advocate 3 | • teams: a group of teachers sharing the same students for the core instruction  
|           | • relevant curriculum: the standards must truly reflect what is most important to achieve success in the world  
|           | • engaging teaching strategies: today's digital natives must be involved and 'own' their learning experiences  
|           | • the students are wired differently and need interactive teaching to keep them engaged and interested in pursuing their own knowledge  
|           | • assessment for learning: the student has to clearly understand the learning targets, know where they are in relationship to the goal, and be given support and instruction that allows them to master the required standards. They must be viewed as one of the most important consumers of the data that is generated as part of the accountability movement.  
|           | • updated and relevant exploratory courses: students need to explore different areas to gain awareness, cultivate interest or enhance skills. These courses should keep up with the changing times and address the needs of the whole student.  
|           | • advocacy/advisory programs: today's youth are facing difficult issues earlier than ever before. They are in need of caring adults to help them process and understand the changes they are experiencing as they develop during adolescence. Adults can be fooled into thinking they are more mature based on looks, academic success, or other factors. Today's adolescent is very much at risk and needs a safe place to share concerns, fears, worries, and to learn about themselves and how to have positive relationships with their peers.  
|           | • caring, knowledgeable adults: these students need adults who want to work with them. The adults in the school should understand their unique characteristics and respect them. Middle school age students can be a challenge and if you do want to teach them or don't understand why they act the way they do, the environment will not be conducive to their development success.  
|           | • instruction technology: a must for today's students at all levels. This is how they learn and relate and teachers must embrace it and help them to understand the power and dangers of technology. |

*Note.* Panelists were asked to list the key features of the middle school concept, as implemented within the context of standards and accountability.
Table A.3

Responses from Practitioners

<table>
<thead>
<tr>
<th>Participant</th>
<th>Key Features of Middle School Concept</th>
</tr>
</thead>
</table>
| Practitioner 1 | ● teacher advisory or personal adult advocate  
| | ● collaborative leadership  
| | ● schools divided into small units (teams) in which anonymity is banished  
| | ● heterogeneous grouping with a focus on differentiated instruction  
| | ● collaboration time for interdisciplinary and curriculum area teams  
| | ● engaging and integrated curriculum that has real life application  
| | ● grade to grade and level to level transitions  
| | ● technology integrated to curriculum, instruction, and assessment  
| | ● courageous leader that provides leadership in vision, direction, and focus for learning  
| | ● professional learning communities  
| | ● community and family partnerships  
| | ● exploratory program that introduces students to a wide variety of activities  
| | ● strong student relationships, supported with advocacy programming  
| | ● teaming - common plan time  
| | ● interdisciplinary unit planning  
| | ● developmentally responsive instruction aligned with the needs of the young adolescent  
| | ● data-focused, individualized and differentiated  
| | ● strong focus on academic excellence - rigor and challenging, conceptual thinking  
| | ● respectful relationships, positive behavior support - climate and culture  
| | ● equitable socially  
| | ● embedded professional development  
| | ● administration that is visible, involved, and actively engaged in creating a whole-school learning culture  

(table continued)
Table A.3 Responses from Practitioners (continued)

| Practitioner 3 | ● a shared vision and set of appropriate goals for middle level education  
|                | ● a safe, supportive, and inclusive environment  
|                | ● knowledgeable leadership – courageous and collaborative leadership  
|                | ● effective guidance services based on students' needs  
|                | ● educators who understand and value young adolescents  
|                | ● an adult advocate for every student  
|                | ● active and purposeful learning  
|                | ● challenging, exploratory, integrative and relevant  
|                | ● the use of varied teaching techniques to meet individuals' differentiated learning  
|                | ● varied assessments that advance learning and measure the progress of the whole child  
|                | ● health/wellness embedded throughout the curriculum and the environment  
|                | ● organizational structures that support all the other characteristics  
|                | ● professional development that both reflects and strengthens best practices/research findings  
|                | ● purposeful involvement of the families – outreach to community partners |

Note. Panelists were asked to list the key features of the middle school concept, as implemented within the context of standards and accountability.
APPENDIX B
TESTING THE IC MAP AT PILOT SCHOOL 1

Description of the School

Pilot School 1 was one of two schools serving the middle grades in a rural school division. Both schools had a 6-8 grade configuration and fed one central high school. Pilot School 1 was a relatively small school with a student enrollment of between 300 and 400 students. The current school building formerly housed a high school, and the building was slated for renovation in the next few years. The school had a principal, an assistant principal, and two guidance counselors.

Procedures

I visited Pilot School 1 on two regular school days: November 28 and December 1, 2011. The primary means of collecting data to evaluate the features on the IC map were walkthrough classroom observations, a review of documents and artifacts, and interviews with school staff. The staff had been informed in advance of my visit, and I was permitted to visit classes and had relatively free access to the building.

I conducted a total of 15 classroom walkthrough observations in classes representing all three grade levels and various content areas. Classroom walkthrough observations lasted approximately four to seven minutes each. During the observations, I took field notes relative to the specifics on the IC map that require walkthrough observations for evidence. I asked the principal for the documents indicated by the IC map, and he provided all the documents that were available. Some documents were available online on the website for the school division or on the school website. I accessed the documents that were available online after the days of the visit to the school.

Individual interviews with staff members were conducted on both days of the school visit. I interviewed 11 teachers, representing core subjects as well as electives. Participants were selected by the principal. Each teacher was asked questions from one section of the IC map; in some cases, questions from a second section were included. A guidance counselor and the principal were also interviewed. Interviews were conducted in a private office to protect confidentiality. After arriving to the designated meeting place, participants were fully informed
of the purpose, procedures, benefits, and risks associated with the research and were given the opportunity to consent or not consent to participation. Interviews lasted approximately 30 minutes each.

**Comparison of Evidence to the IC map**

**Evidence for Feature A1: The Curriculum is Rigorous and Challenging**

Feature A1 evaluates the presence of identified components of a rigorous curriculum within a school and the extent to which a rigorous curriculum is available to all students in the school. Evidence of a rigorous and challenging curriculum at Pilot School 1 was collected through walkthrough class observations, a review of the documents prescribed by the IC map, and interviews with four teachers. These data indicated the presence of 30-60% of the components of a rigorous curriculum at this school, which corresponded to Variation B for this feature.

The components observed in classrooms included some 21st century skills, some examples of high standards, some examples of high levels of student engagement, and some displaying of exemplary student work. The Partnership for 21st Century Skills (2004) identifies the aptitudes students need to develop for success in the 21st century economy. Among these skills are global awareness, financial literacy, civic literacy, creativity, critical thinking and problem solving, communication, collaboration, information and technology literacy, responsibility, and initiative. Examples of 21st century skills observed in classes were critical thinking activities in four of 15 classes, collaboration in two of 15 classes, and communication skill building in two of 15 classes. High standards were evident in six of 15 classes and high levels of student engagement were observable in five of 15 classes. Exemplary student work was displayed in two classes. In summary, components of a rigorous curriculum were evident in approximately eight of the fifteen classes. Of the eight components of a rigorous curriculum indicated on the IC map, four, or approximately 50%, were evident in the walkthrough classroom observations conducted.

A review of key documents associated with Pilot School 1 revealed that there were no advanced courses available at this school, thus suggesting that all students had relatively equal access to any rigor offered. The documents also provided evidence of one additional component of a rigorous curriculum and further examples of 21st skill building. Teacher lesson plans were
required to include an explanation of how each lesson would be differentiated to meet various student needs as well as how technology would be integrated. A small sample of student assessments was provided for review, but these were all traditional tests. Registration forms verified the absence of advanced course offerings. The division did not have pacing guides and samples of student work were not available for close evaluation.

Interviews with members of the school staff suggested that their definition of a rigorous curriculum was somewhat consistent with the components of a rigorous curriculum listed on the IC map. Teachers cited critical thinking, good assessments, differentiation, reading and writing skills, and relevant learning as examples of rigor. The teachers interviewed had a common agreement that the curriculum at this school was challenging for low and average students, but that advanced students were not challenged enough.

Evidence for Feature A2: The Curriculum is Exploratory and Relevant

Feature A2 evaluates the extent to which the curriculum of a school allows students to explore their interests. Evidence of an exploratory curriculum at Pilot School 1 was collected through a review of the documents prescribed by the IC map and interviews with four teachers. These data indicated that both exploratory classes and extracurricular activities were offered at this school, which corresponded to Variation B for this feature.

A review of key documents associated with Pilot School 1 revealed that a wide variety of exploratory classes were available to students. Course registration forms indicated that elective courses were available in art, music, technology, family and consumer sciences, and business. The master schedule of the school showed that world languages and drama were also options for students. The school website provided information about extracurricular activities at this school, although the IC map did not include the school website as a suggested source of this information. There was no indication on teacher lesson plans of activities relating the core curriculum to student interests.

Interviews with members of the school staff confirmed that exploratory classes were offered to students as well as extracurricular activities. Extracurricular activities included athletics, media club, pep club, SCA, Destination Imagination, robotics, and a popular after-school program called NEXT. The NEXT program was funded by a grant and provided the opportunity for students to experience a variety of topics. When asked how learning in the core
classes was made relevant to students, teachers responded that there was not sufficient time for learning beyond the Standards of Learning.

**Evidence for Feature A3: The Curriculum is Integrative and Interdisciplinary**

Feature A3 evaluates the extent to which the curriculum of the school is interdisciplinary. Evidence of a rigorous and challenging curriculum at Pilot School 1 was collected through a review of the documents prescribed by the IC map and interviews with four teachers. These data indicated there were no interdisciplinary themes within grade level teams and the curriculum was not integrated in any coordinated manner. Some interdisciplinary skills such as reading and writing, however, were incorporated within the various content areas. None of the variations for Feature A3 adequately corresponded to the manner in which interdisciplinary learning occurs at Pilot School 1.

A review of key documents associated with Pilot School 1 indicated few opportunities for interdisciplinary learning. No evidence of interdisciplinary learning was found in teacher lesson plans. Displays of student work showed that reading and writing skills were emphasized in classes other than English. The school website did not display any information indicating integrated learning in classes. The website did, nonetheless, mention that the school had hosted two assemblies that exposed students to cultures, music, history, and dance. Class websites were not available for review.

Interviews with members of the school staff confirmed that there were no interdisciplinary themes or activities around which learning revolved. Teachers cited several examples in which skills were connected among content areas. Examples included cooperation between English teachers and science teachers to help students write research papers for science fair projects. Teachers reported that there were natural connections among content areas, but interdisciplinary activities were not intentionally planned.

**Evidence for Feature A4: Instructional Strategies are Varied and Aligned to Standards**

Feature A4 evaluates the extent to which instructional strategies are varied and aligned to standards. Evidence of instructional strategies at Pilot School 1 was collected through walkthrough classroom observations, a review of the documents prescribed by the IC map, and interviews with four teachers. These data indicated instructional strategies were aligned to standards and teachers collaborated to employ a variety of data-informed instructional strategies.
The use of a variety of strategies was observed in approximately 30% of classes, corresponding with Variation B for this feature.

Walkthrough classroom observations indicated that instruction was aligned to standards and there was some variation in instructional strategies employed. Strategies included the use of technology such as interactive whiteboards, cooperative learning, guided practice, modeling, checking for understanding, and sorting. In most classes, though, there was little variation within the time of the observation. In only 30% of classes visited did the teacher use multiple strategies.

A review of key documents associated with Pilot School 1 provided evidence of some variety in the use of instructional strategies. Teacher lesson plans were the most informative and listed strategies to be used. There was no evidence of a variety of instructional strategies in the sample team meeting notes provided.

Interviews with members of the school staff confirmed that instructional strategies were aligned to standards and teachers collaborated to include a variety of strategies. Teachers reported using graphic organizers, research-based strategies, and technology. Teachers confirmed that they were required to use the results of benchmark testing to adjust instruction and that collaboration occurred by content area.
Evidence for Feature A5: Active Learning

Feature A5 evaluates the extent to which teachers and students engage in active learning activities. The descriptors for this feature on the IC map also include the use of higher order thinking activities. Evidence of active learning strategies at Pilot School 1 was collected through walkthrough classroom observations and interviews with four teachers. These data indicated only a minimal use of active learning strategies in classes at this school. The use of a variety of strategies was observed in approximately 20% of classes, corresponding with Variation C for this feature.

Walkthrough classroom observations indicated that, in the majority of classes, students spent most of the instructional time seated and not challenged with higher order thinking activities. Of 15 classroom observations, all students were seated; no activities that prompted students to move physically were observed. Critical thinking was observed in three of the classes. Thus in only 20% of classes visited were students engaged in active learning strategies.

Interviews with members of the school staff confirmed that active learning strategies were not a priority for most teachers. The teachers interviewed reported that there was “too much to be done” and structure was highly valued. When asked how many teachers in the school encourage movement in class, the interviewed teachers responded with estimates of 15% to 30%.

Evidence for Feature A6: Students Demonstrate Mastery of Standards in a Variety of Ways

Feature A6 evaluates the extent to which master of standards is measured using a variety of assessments. Evidence of assessments at Pilot School 1 was collected through a review of the documents prescribed by the IC map and interviews with four teachers. These data indicated that there was some variety of assessments used at this school, but assessments other than traditional tests may have been limited to certain teachers or certain content areas. Traditional tests accounted for over 75% of assessments, corresponding with Variation C for this feature.

A review of key documents associated with Pilot School 1 provided evidence of the type of assessments used in to measure learning. Teacher lesson plans indicated the use of traditional tests and the use writing assignments. Of the assessments made available for review, all were traditional tests. Several examples of displays of student work were observed in classrooms and
hallways. All of these displays were of student projects or writing assignments. There was no evidence on the school website of assessments and class websites were not available. Interviews with members of the school staff indicated that students at this school were assessed primarily through traditional tests, either paper/pencil or online. A science teacher reported that she assigned one project per nine weeks. Teachers reported that there had been a clear focus on multiple choice tests in the past, but they were now encouraged to include more open-ended questions on assessments. When asked what percentage of assessments at this school were traditional tests, the most common response was around 75%.

**Evidence for Feature B1: An Advisory or Advocacy System Ensures that Every Student Is Known Well By At Least One Adult**

Feature B1 evaluates the presence of a student advisory program or other advocacy system via which every student in the school is well known by at least one adult. Evidence of an advisory or advocacy program at Pilot School 1 was collected through a review of the documents prescribed by the IC map and interviews with three teachers and a guidance counselor. These data indicated that there was no student advisory or advocacy system in place at this school. Nevertheless, the staff believed that every student was well known due to the prevailing culture and small size of the school. The culture of caring about students in the absence of structured personalization of the school environment most closely corresponded to Variation C for this feature.

A review of key documents associated with Pilot School 1 provided no evidence of a student advisory or advocacy program. There was no evidence of time designated for student advisory on the master schedule. Sample meeting notes from a grade level team meeting indicated that teachers did spend time discussing and responding to individual student needs. The team process in a school with fewer than 400 students seemed to contribute to the ability of the staff to know students well.

Interviews with members of the school staff confirmed the absence of a structured student advisory or advocacy program. Teachers reported, nevertheless, that every student was well known by at least one adult staff member. When asked how the school ensures that every student was known, the teachers and counselor reported that small classes, teachers teaching
Evidence for Feature B2: Comprehensive Guidance and Support Services Promote Whole-Student Development.

Feature B2 evaluates the provision of a comprehensive program of school counseling services. Evidence of comprehensive school counseling services at Pilot School 1 was collected through a review of the documents prescribed by the IC map and interviews with three teachers and a guidance counselor. These data indicated that this school offered a comprehensive program of school counseling services, corresponding to Variation A for this feature.

A review of key documents associated with Pilot School 1 provided evidence that the school counseling program was multi-faceted and adhered to state guidelines. The school website was the most useful source of data for this feature. Among the services described were classroom guidance activities, group counseling, individual counseling, career planning, testing, exploration of interests, social and emotional support, and parent resources such as books and DVDs available for checkout. The master schedule provided no evidence and may not be a relevant source of information for this feature.

Interviews with members of the school staff confirmed the availability of comprehensive school counseling services. Teachers reported that students were permitted to sign up for individual counseling appointments, counselors collaborate with teachers to promote academic success, and mental health day treatment services were available on site. One teacher reported that she was “very impressed” with the counseling services offered at the school.

Evidence for Feature B3: Students Learn in a Healthy and Safe School Environment

Feature B3 evaluates the extent to which the school provides a healthy and safe school environment for students. Evidence of a healthy and safe school environment at Pilot School 1 was collected through walkthrough classroom observations, a review of the documents prescribed by the IC map and interviews with three teachers and a guidance counselor. These data indicated that the school provided a healthy and safe environment for students, with at least three of four components for this feature clearly in place. The evidence best corresponded to Variation B for this feature.
Walkthrough classroom observations provided evidence of a healthy and safe environment for students. Of 15 classrooms visited, physical safety was evident in all classes and a healthy affective environment was evident in 13 of the classes. Classes were conducted in an orderly manner and students were generally compliant with teacher directions. In two of the classes, the students were physically safe, but the affective environment seemed poor. In one class, for example, the teacher was outwardly pleasant with the students, but her tone seemed somewhat condescending which contributed to a high level of tension in the class.

A review of key documents associated with Pilot School 1 provided evidence that the school provided a healthy and safe environment for students. The master schedule listed physical education classes for all three grade levels and classes met daily. Crime and violence data available on the state Department of Education website indicated that the school was not persistently dangerous. The school crisis plan was available for review and described detailed procedures covering various scenarios. There was no indication of how the plan was evaluated. A copy of the safety drill record was available and was current. The policy manual for the school division indicated that there was no division policy related to wellness; however, there were no vending machines available to students. A visual tour of the school building indicated that the building was physically safe, but I noted that exterior doors were not locked during the school day even though they were not visible from the office.

Interviews with members of the school staff confirmed that the school provided a healthy and safe environment for students. Teachers reported that each teacher had a crisis bag in her classroom and that drills were practiced regularly. One teacher reported that the crisis plan was originally developed by a committee and had been updated annually. Teachers reported that students engaged in daily physical activity, primarily through physical education classes. Teachers believed that the school environment was warm and friendly. The building may not have been secure due to its age, but the surrounding community was considered to be safe. The guidance counselor further noted that student behavior had improved at the school in the past few years which she attributed to the effective discipline administered by the principal.
Evidence for Feature B4: Students are Organized into Small(er) Learning Communities

Feature B4 evaluates the manner in which the school environment is personalized by organizing students into smaller communities. Evidence of smaller learning communities at Pilot School 1 was collected through a review of the documents prescribed by the IC map and interviews with three teachers and a guidance counselor. These data indicated that the school had a student enrollment of less than 400 and a common set of teachers advocated for student needs. The size of the school and the presence of grade level teams corresponded to Variation B for this feature.

A review of key documents associated with Pilot School 1 indicated that the school had a small enrollment and grade level teachers met regularly to respond to student needs. The school report card available on the state Department of Education website confirmed that the school had a steady enrollment of fewer than 400 students. The master schedule indicated that teachers in each grade level had a common plan time available for meetings. The master schedule also included remediation groups that may have contributed to the personalization of the school environment. Sample meeting notes from grade level team meetings indicated that the teams met regularly and discussed individual student needs.

Interviews with members of the school staff confirmed that students were not organized into smaller communities due to the small size of the school. Teachers reported that grade level teams met once per week. Teams coordinated personalization activities such as the 100% Club in sixth grade and the recognition of student birthdays on the morning announcements.

Evidence for Feature C1: School Rules are Clear, Fair, and Consistently Applied

Feature C1 evaluates the extent to which school rules are clear, fair, and consistently applied among students. Evidence of clear and consistently applied school rules at Pilot School 1 was collected through a review of the documents prescribed by the IC map and interviews with three teachers and a guidance counselor. These data indicated that school rules were clear, fair, and consistently applied among students, corresponding to Variation A for this feature.

A review of key documents associated with Pilot School 1 provided evidence that school rules were clearly communicated. The best source of information available was the student handbook. The student handbook clearly stated rules for the school and included a listing of possible consequences. A sample edition of the school newsletter made reference to the 100%
Club which rewarded students with good behavior and attendance. The school website provided no evidence regarding school rules. Data that might have provided evidence of possible disparity of application among subgroups were not available.

Interviews with members of the school staff indicated that school rules were clearly communicated and fairly and consistently applied. Teachers reported that rules were reviewed at orientation sessions and in classes. Rules were posted in classrooms. The teachers and counselor reported that rules were fairly and consistently applied among students. Each grade level team had a high degree of autonomy in setting team rules and enforcing them.

**Evidence for Feature C2: All Students, Including All Social, Economic, and Ethnic Groups, Have Open and Equal Access to Challenging Learning Opportunities**

Feature C2 evaluates the extent to which all students, including various subgroups, have open and equal access to challenging learning opportunities. Evidence of equal access to challenging learning opportunities at Pilot School 1 was collected through walkthrough classroom observations, a review of the documents prescribed by the IC map and interviews with three teachers and a guidance counselor. These data indicated that students had open and equal access to challenging learning opportunities, corresponding to Variation A for this feature.

Walkthrough classroom observations proved to not be a useful source of data for this feature. Since no advanced classes were offered at this school, all students were grouped heterogeneously in classes. Equitable access to advanced classes, therefore, was not a factor at this school.

A review of key documents associated with Pilot School 1 provided evidence of equal access to challenging opportunities. Course registration forms indicated that all students had equal access to the same program since no advanced classes were available on the forms. The master schedule confirmed that no advanced classes were on the schedule other than algebra.

Interviews with members of the school staff confirmed that all students had open and equal access to challenging opportunities. The teachers and counselor reported that there were no advanced classes other than algebra. The counselor reported that teachers make recommendations regarding which students should enroll in algebra, but students and parents had the opportunity to make their own decision. The teachers and counselor reported that students often had choices among assignments to account for different needs and resources and there was...
abundant support to help students with academic and financial needs. Each grade level team hosted a dance to raise money for different needs, including field trip assistance for needy students.

**Evidence for Feature C3: To the Fullest Extent Possible, All Students Participate in Heterogeneous Classes with High Academic and Behavioral Expectations**

Feature C3 evaluates the extent to which students participate in heterogeneous classes with high academic and behavior expectations. Evidence of heterogeneous grouping at Pilot School 1 was collected through a review of the documents prescribed by the IC map and interviews with three teachers and a guidance counselor. These data indicated that students were grouped heterogeneously with some informal grouping of advanced students done by the school. The grouping practices at this school do not correspond to any of the variations for Feature C3.

A review of key documents associated with Pilot School 1 provided evidence that students were grouped heterogeneously. Course registration forms indicated that there were no advanced classes offered other than algebra; therefore, all students were grouped heterogeneously in almost all classes. The master schedule confirmed that no advanced classes were scheduled. The policy manual for the school division included a statement that student grouping should remain flexible.

Interviews with members of the school staff confirmed that students were generally grouped heterogeneously, although there was some internal grouping of advanced students. During the course of the interviews, teachers consistently lamented the lack of advanced classes because they feared that advanced students were not being challenged enough in the homogeneous classes. They viewed the possible addition of advanced classes as a step in the right direction for their school.

**Evidence for Feature C4: All Students Have Ongoing Opportunities to Learn About Their Own and Others' Cultures; Diversity is Valued by the School**

Feature C4 evaluates the extent to which diversity is valued by the school and students have the opportunity to learn about various cultures. Evidence of diversity at Pilot School 1 was collected through a review of the documents prescribed by the IC map and interviews with three teachers and a guidance counselor. These data indicated that the student population and staff of this school had very little diversity. Tolerance of different cultures was not believed to be a
problem for the school, but was addressed sporadically as a school and in individual classes. The school most closely corresponded to Variation B for this feature.

A review of key documents associated with Pilot School 1 provided evidence teaching about diversity was not a priority for this school, although diversity was addressed in some manner. The school website included a note of appreciation for the local education foundation for helping to fund two programs that fostered diversity. One was a magazine subscription called Music Alive that featured various musical genres. The other was an assembly called World Beat Workshop that exposed students to dance and music from all over the world. There was no evidence of an emphasis on diversity included in the student handbook. There was a display of student artwork in the hallway, depicting the PTA Reflections contest theme of “diversity means.” Students in one class completed a project for which they identified points of diversity within the community.

Interviews with members of the school staff confirmed that the student body had very little ethnic, religious, or socioeconomic diversity. Emphasizing diversity was not a priority for the school, although teachers were able to identify specific activities that helped students appreciate diversity. Examples of such activities included the Women in Technology and Science program, tutoring services offered by students at two nearby colleges, the afterschool NEXT program, and world languages classes.

**Evidence for Feature D1: Teachers are Organized in Teams with Common Plan Time**

Feature D1 evaluates whether or not teachers are organized into interdisciplinary teams with common plan time and common students. Evidence of teacher teams with common plan time at Pilot School 1 was collected through a review of the documents prescribed by the IC map and interviews with two teachers and the principal. These data indicated that teachers were organized into one grade level team with common plan time, corresponding to Variation A for this feature.

A review of key documents associated with Pilot School 1 provided evidence of teacher teams with common plan time. The master schedule showed that core teachers in each grade level had the same class periods available for common planning.
Interviews with members of the school staff confirmed that core teachers in each grade had a common plan time. The teachers and the principal reported that teacher teams were required to meet weekly.

**Evidence for Feature D2: Teachers Have Plan Time to Coordinate Transitions Between Grade Levels and Schools**

Feature D2 evaluates teacher involvement in the planning of activities to help students transition from elementary school to middle school. Evidence of teacher involvement in planning transition activities at Pilot School 1 was collected through a review of the documents prescribed by the IC map and interviews with two teachers, the principal, and a guidance counselor. These data indicated that teacher teams were involved in planning transition activities for students, corresponding to Variation B for this feature.

A review of key documents associated with Pilot School 1 provided no evidence of teacher involvement in transition planning. The documents and artifacts prescribed by the IC map were not useful sources of information. Sample team meeting notes indicated that teachers did not discuss transition planning at the meetings included in the sample, though it is likely that transition planning would only be discussed at particular times of the school year. A separate listing of transition activities was not available.

Interviews with members of the school staff indicated that teacher teams were involved in transition planning. Teachers reported that teacher teams worked with counselors to plan for a sixth grade picnic, sign planners, and prepare for orientation. The principal and the counselor reported that teachers were involved in articulating reading and writing portfolios, giving tours, and visiting with students at the elementary schools.

**Evidence for Feature D3: Organizational Structures, Including Planned Time for Collaboration, Foster Purposeful Learning and Meaningful Relationships**

Feature D3 evaluates the extent to which structures within the school foster purposeful and meaningful relationships. Such structures may include the master schedule of classes, the use of physical space, clustering, co-curricular and extracurricular activities, small communities of students, and purposeful outreach to special populations of students. Evidence of these six components at Pilot School 1 was collected through observation and a review of the documents prescribed by the IC map. These data indicated that all six structural components were in place to
foster purposeful and meaningful relationships at this school, corresponding to Variation A for this feature.

Observation and a review of key documents associated with Pilot School 1 provided evidence of structures that fostered purposeful and meaningful relationships. Grade levels were clustered together by hallways and floors of the building. The master schedule indicated that graded level teachers had common plan time and remediation support programs were available to intervene with special populations. The school website listed opportunities for students to participate on athletic teams and afterschool programs. The guidance website included resources to reach out to parents. The student handbook listed extracurricular activities available to students. The school improvement plan was not available.
Evidence for Feature D4: Teachers are Empowered to Implement Flexible Scheduling to Promote Learning

Feature D4 evaluates the autonomy teachers have to group students as needed to improve learning. Evidence of teacher autonomy to implement flexible grouping at Pilot School 1 was collected through a review of the documents prescribed by the IC map and interviews with two teachers and the principal. These data indicated that there were no real barriers to implementing flexible grouping but flexible grouping was practiced rarely, if at all. Flexible grouping would have been supported by the principal if teachers wanted to implement this practice. The descriptors of the variations for Feature D4 did not account for this scenario.

A review of key documents associated with Pilot School 1 provided no evidence of flexible grouping. Sample meeting notes from grade level meetings did not indicate that flexible grouping was part of current practice.

Interviews with members of the school staff indicated that teachers did not currently employ flexible grouping strategies. The teachers and the principal reported that teachers would have needed to seek approval from the principal to implement flexible grouping, but all agreed that the principal would have been very open to the idea.

Evidence for Feature D5: Leaders are Knowledgeable About and Committed to Working with this Age Group

Feature D5 evaluates preparation and commitment level of the principal to working with students in the middle grades. Evidence of the principal’s preparation and commitment to working with young adolescents at Pilot School 1 was collected through an interview with the principal. These data indicated that the principal was experienced in working with young adolescents and enjoyed working with students this age, but did not engage in professional development activities specific to the middle grades. This level of preparation and commitment most closely corresponded to Variation B for this feature.

An interview with the principal and observation of his interactions with students indicated that he was experienced in working with students in the middle grades and enjoyed working with them. The principal interacted freely and comfortably with individual students, calling many of them by name. The principal previously taught at the middle school level for six years, was a high school assistant principal for one year, a middle school assistant principal for
two years, and had been principal of Pilot School 1 for five years. The principal believed that it was important to teach character development to students at this age and affirmed the value of teaming practices. The principal was not active in middle grades organizations, but was pursuing his doctorate in educational leadership with the goal of working in school division administration. He reported that he was happy in his current position but was open to new opportunities at other levels.

**Evidence for Feature D6: Teachers are Knowledgeable About and Committed to Working with this Age Group**

Feature D6 evaluates the preparation and commitment of teachers in the school to working with students in the middle grades. Evidence of the preparation and commitment of teachers to working with young adolescents at Pilot School 1 was collected through walkthrough observations of classes, a review of teacher licensure status for teachers at the school and interviews with two teachers, the principal, and a guidance counselor. These data indicated that most teachers were prepared and committed to working with students in the middle grades, corresponding to Variation B for this feature.

Walkthrough classroom observations provided evidence that most teachers seemed to enjoy working with young adolescents, though they may not have consistently employed best practice strategies for this age group such as active learning, critical thinking, and collaboration. Of 15 classes observed, 13 of the teachers were pleasant with the students and had a positive rapport. Two of the teachers were negative and did not seem to have a good rapport with students. Appropriate middle school practices such as articulating clear expectations and allowing for choice were evident in five of the classes.

The status of teacher licensure for teachers at this school was available on the website of the state Department of Education. Since the school was small, licensure information was reviewed for all core teachers. For this school, 57% of teachers had a middle school endorsement, 36% had a secondary subject area endorsement, and 7% had an elementary endorsement.

Interviews with members of the school staff confirmed that most teachers enjoyed working with students in the middle grades. Responses from teachers indicated that positive attitudes toward students may have been a problem in the past. One teacher commented that the
teachers who did not want to be here had been “weeded out”. Another teacher commented that “teachers are great instructionally but need more relationship building”. Both teachers affirmed, however, that most teachers were positive toward their students. The counselor reported that most teachers enjoyed their work but some did not relate well.

**Evidence for Feature D7: Students Have Opportunities to Participate in Decision Making**

Feature D7 evaluates the extent to which students have the opportunity to participate in decision making at the school. Evidence of student participation in decision making at Pilot School 1 was collected through interviews with two teachers and the principal. These data indicated that students had the opportunity to exercise leadership in student organizations and classes, but there was no formal mechanism in place to invite student participation. This level of student involvement in decision making corresponded to Variation B for this feature. Interviews with members of the school staff provided evidence that students exercised leadership within school organizations, generally felt comfortable in making suggestions informally, but there were no formal mechanisms in place for student input. Teachers reported that SCA and other clubs offered opportunities for student leadership. In class, students were sometimes assigned different leadership roles when doing group activities. One teacher reported that gifted plans were developed with student input. The principal reported that most students felt comfortable talking with administrators if they had ideas or suggestions.

**Evidence for Feature D8: Decision Making is Democratic and Guided by a Shared Vision**

Feature D8 evaluates the extent to which decision making at the school is shared and is guided by a shared vision. Evidence of shared decision making at Pilot School 1 was collected through a review of the documents prescribed by the IC map and interviews with two teachers, the principal, and a guidance counselor. These data indicated that the staff generally shared a common vision for the school and that staff input into decision making was invited. Teacher teams had some autonomy in decision making. This level of shared decision making corresponded to Variation B for this feature.

A review of key documents associated with Pilot School 1 provided little evidence of shared decision making or an articulated school vision. No evidence was found on the school website. Sample meeting notes of team meetings indicated some decision making exercised by
teachers on behalf of their students. The student handbook contained a mission statement, philosophy, and objectives, but these seemed to be division objective rather than school specific.

Interviews with members of the school staff indicated that there was no articulated vision for the school, although there seemed to be an informal vision common to many staff members that included the idea of being recognized for the good quality programs offered to students at the school. The teachers, counselor, and principal all agreed that major decisions were ultimately made by the principal, but input from staff was welcomed. Many decisions about student discipline were made by teachers at the team level and the principal was supportive.

**Evidence for Feature D9: Leadership is Courageous and Collaborative**

Feature D9 evaluates the extent to which school leadership is courageous and collaborative. Evidence of courageous and collaborative leadership at Pilot School 1 was collected through interviews with two teachers, the principal, and a guidance counselor. The school improvement plan indicated for this feature by the IC map was not available. These data indicated that leadership at this school was ethical, inspiring, and shared. Decision making was shared and teachers were encouraged to take risks. This leadership style corresponded to Variation A for this feature.

Interviews with members of the school staff indicated that the principal of this school was a courageous leader who invited collaboration. Teachers characterized the principal’s leadership style as supportive. One teacher commented that the principal gave direction but also “supports our decision making”. The counselor reported that the principal was strong and clear, but “teachers do not feel unempowered”.

**Evidence for Feature D10: Professional Development is Aligned to School Improvement and Best-Practice Strategies**

Feature D10 evaluates the extent to which professional development is aligned to school improvement goals. Evidence of the alignment of professional development at Pilot School 1 was collected through interviews with two teachers and the principal. Documents prescribed by the IC map such as the school improvement plan and the professional development plan were not available. Interview data indicate that professional development was aligned to school improvement but there was no evidence that professional development was job embedded and there was little information available describing the development of the school improvement
plan. Professional development practices seemed to most closely correspond to Variation B for this feature.

Interviews with members of the school staff indicated that professional development needs were identified primarily from SOL data. Professional development was provided through speakers, presentations, and workshops and was largely district directed.

Evidence for Feature D11: Students Have the Opportunity to Engage with the Community

Feature D11 evaluates the extent to which students have the opportunity to engage with the community. Such engagement may take the form of authentic learning experiences, service learning, field trips, or fundraising for charity. Evidence of opportunities for students to engage with the community at Pilot School 1 was collected through a review of the documents prescribed by the IC map and interviews with two teachers and the principal. These data indicated that students had multiple opportunities to engage with the community, corresponding to Variation A for this feature.

A review of key documents associated with Pilot School 1 provided evidence of opportunities for students to engage with the community. The school website referenced the afterschool NEXT program for which students participate in projects on topics of varying interests. The program facilitated by community grants and volunteers.

Interviews with members of the school staff indicated that students had multiple ways to engage with the community. Teachers reported that students had the opportunity to participate in the Model United Nations program through world history classes. Teachers also reported that students participated in a service learning project through civics classes. The principal cited other opportunities for authentic learning experiences including the Chesapeake Bay Foundation, a watershed project at Lake Robertson, and the Trout in the Classroom program.

Evidence for Feature D12: The Community is Engaged in Providing Resources and Support

Feature D12 evaluates the extent to which the community is engaged with the school by providing resources and support. Evidence of community support at Pilot School 1 was collected through a review of the documents prescribed by the IC map and interviews with the principal. These data indicated that the community was highly engaged in providing resources and support to the school, corresponding to Variation A for this feature.
A review of key documents associated with Pilot School 1 provided evidence of community support of the school. The school website referenced the support of community grant funds to help the school offer programs. The school newsletter described a project with Chesapeake Bay Foundation, local education foundation support of a hydroponics project, and fundraisers through Dominos and Papa Johns.

Interviews with the principal indicated multiple ways in which the community provided support to the school. The principal cited grants awarded from the Boxerwood Foundation, partnerships with local colleges, and YMCA parenting classes as examples.

**Evidence for Feature D13: Relationships with Families are Valued in Support of Students' Success**

Feature D13 evaluates the extent to which relationships between the school and families are valued. Evidence of the value placed on family relationships at Pilot School 1 was collected through a review of the documents prescribed by the IC map and interviews with two teachers, the principal, and a guidance counselor. These data indicated that relationships with families were highly valued, corresponding to Variation B for this feature.

A review of key documents associated with Pilot School 1 provided some evidence that family relationships were valued. The school website included a variety of resources available to parents. Communication about school supplies, course descriptions, school calendar, daily announcements, homework help, schedules, cafeteria menus, and library databases indicated that keeping families informed was important to the school. The school had not done any recent surveys and the school improvement plan was not available.

Interviews with members of the school staff indicated that relationships with families were valued. Teachers cited the online Parent Portal and the instant alert systems as examples. Teachers also reported that they communicated with families via email and phone calls. Grades were available online to parents via the Parent Portal. The principal reported that communication was facilitated through Facebook, the newsletter, and the website. An expectation was established with staff that they were to return parent phone calls within 24 hours.
APPENDIX C
TESTING THE IC MAP AT PILOT SCHOOL 2

Description of the School

Pilot School 2 was one of two schools serving the middle grades in a rural school division. Both schools had a K-7 grade configuration and fed separate high schools that housed the eighth grade. The high school associated with Pilot School 2 was adjacent to the school on the same property and both schools shared a cafeteria, gymnasium, and facilities for art and music. Pilot School 2 was a very small school with a total student enrollment of between 200 and 300 students, and fewer than 75 in grades six and seven. The current school building was originally constructed to serve the entire school-age population of this part of the county. The school had a principal and an itinerant guidance counselor that also served the other K-7 school in the school division.

Procedures

I visited Pilot School 2 on a regular school day on December 5, 2011. The primary means of collecting data to evaluate the features on the IC map were walkthrough classroom observations, a review of documents, and interviews with school staff and parents. The staff had been informed in advance of my visit, and I was permitted to visit classes and roam the school freely.

I conducted walkthrough classroom observations in one sixth grade class and one seventh grade class. The school had an additional class in each of the middle grades, but both classes were out of the building at the time of the observations. Classroom walkthrough observations lasted approximately ten minutes each. During the observations, I took field notes relative to the specific features on the IC map that require walkthrough observations for evidence.

I asked the principal for the documents indicated by the IC map, and he provided all the documents that were available. Some documents were available online on the website for the school division or on the school website. I accessed some of the documents that were available online before the day of the visit to the school and some of the documents after the day of the visit to the school. The number of documents and artifacts available from this school was quite limited. Pacing guides, teacher lesson plans, assessment samples, student work samples, a master
schedule, teacher meeting notes, a guidance curriculum, survey data, a school newsletter, and a professional development log were not available for review. In some cases, the lack of documents and artifacts was a factor of being a very small school. Documents such as a master schedule, teacher meeting notes, survey data, and a professional development log simply did not exist. Other documents such as teacher lesson plans were not collected by the principal and were not made accessible. Therefore, for Pilot School 2, interviews proved to be the richest source of evidence, but was also a limitation since the possibility of triangulation of data was reduced.

Individual interviews with staff members and parents were scheduled in advance by the principal. I interviewed the four teachers that taught the sixth and seventh grade students. In both grades, one teacher taught English and social studies and the other teacher taught math and science. The staff members who participated in the interviews were selected by the principal. Each teacher was asked questions from one section of the IC map, and, as time permitted, selected questions from other sections. The guidance counselor and the principal were also interviewed. Interviews were conducted in a private room or office to protect confidentiality. After arriving to the designated meeting place, participants were fully informed of the purpose, procedures, benefits, and risks associated with the research and were given the opportunity to consent or not consent to participation. Interviews lasted approximately 30 minutes each.

**Comparison of Evidence to the IC Map**

**Evidence for Feature A1: The Curriculum is Rigorous and Challenging**

Feature A1 evaluates the presence of identified components of a rigorous curriculum within a school and the extent to which a rigorous curriculum is available to all students in the school. Evidence of a rigorous and challenging curriculum at Pilot School 2 was collected through walkthrough class observations, a review of the documents prescribed by the IC map, and interviews with two teachers and the principal. These data indicated the presence of 30-60% of the components of a rigorous curriculum at this school, which corresponded to Variation B for this feature.

The components observed in classrooms included some 21st century skills, some examples of high standards, and examples of high levels of student engagement. The Partnership for 21st Century Skills (2004) identifies the aptitudes students need to develop for success in the 21st century economy. Among these skills are global awareness, financial literacy, civic literacy,
creativity, critical thinking and problem solving, communication, collaboration, information and technology literacy, responsibility, and initiative. Examples of 21st century skills observed in classes were civic literacy, critical thinking activities in one of two classes, collaboration in two of two classes, differentiated instruction, creativity in two of two classes, and communication skill building in two of two classes. High standards were evident in one of two classes and high levels of student engagement were observable in two of two classes. Displays of exemplary student work were not observed. The creative projects on which students in both classes were working provided evidence of the use of varied assessments. In summary, components of a rigorous curriculum were evident in both classes observed. Of the eight components of a rigorous curriculum indicated on the IC map, five, or approximately 60%, were evident in the walkthrough classroom observations conducted.

A review of key documents associated with Pilot School 2 revealed that there were no advanced courses available at this school, thus suggesting that all students had relatively equal access to any rigor offered. The suggested documents listed on the IC map for this map were largely not available at this school. A program of studies for secondary grades was located on the division website. Although the program of studies did not specifically address the middle grades, the description of courses offered at the high school level provided helpful insight. There were no advanced courses offered in grades nine and ten nor were any Advanced Placement (AP) or International Baccalaureate (IB) courses offered at the high school level. Dual enrollment courses were offered in the upper grades for core subjects. Foreign language instruction was offered through level four in one language: Spanish. The secondary program of studies suggested that the focus of the school division was to offer a basic program of studies. The small student enrollment may have made offering advanced classes impractical and cost prohibitive.

Class websites are not listed as a source of information for this feature on the IC map; however, some information found there provided further evidence of a rigorous curriculum. For example, a seventh grade class participated in a probability activity in which they predicted possible outcomes of toppings for ice cream sundaes. Making the sundaes in class required creativity and likely led to a high level of engagement for students to understand the concept.

Interviews with members of the school staff suggested that their definition of a rigorous curriculum was somewhat consistent with the components of a rigorous curriculum listed on the
IC map. Teachers cited high standards, higher order thinking, writing, and creating work problems in math as examples of rigor. The teachers interviewed and the principal had a common agreement that the curriculum at this school was challenging for low and average students, but that advanced students were not challenged enough. The principal reported that the Response to Intervention (RTI) program was in place to provide intensive support to struggling students, but that advanced students needed to be challenged more.

**Evidence for Feature A2: The Curriculum is Exploratory and Relevant**

Feature A2 evaluates the extent to which the curriculum of a school allows students to explore their interests. Evidence of an exploratory curriculum at Pilot School 2 was collected through a review of the documents prescribed by the IC map and interviews with two teachers and the principal. These data indicated that both exploratory classes and extracurricular activities were offered at this school, which corresponded to Variation B for this feature.

A search for key documents associated with this feature for Pilot School 2 did not provide any evidence of an exploratory curriculum. The lack of evidence was due primarily to documents and artifacts not being available.

Interviews with members of the school staff confirmed that exploratory classes were offered to students as well as extracurricular activities. Teachers reported that 4-H was the only club available at the school, but that middle grades students were permitted to participate on high school athletic teams and the high school marching band. Teachers also reported that the local community college operated a Talent Search program that encouraged students to explore opportunities for post-secondary education. The Talent Search program was open to all students. The principal explained that physical education, art, music, and computers were offered to students as exploratory options. When asked how learning in the core classes was made relevant to students, teachers responded that there was not sufficient time for learning beyond the Standards of Learning.

**Evidence for Feature A3: The Curriculum is Integrative and Interdisciplinary**

Feature A3 evaluates the extent to which the curriculum of the school is interdisciplinary. Evidence of a rigorous and challenging curriculum at Pilot School 2 was collected through a review of the documents prescribed by the IC map and interviews with two teachers and the principal. These data indicated there were no interdisciplinary themes within the middle grades
and the curriculum was not integrated in any coordinated manner. Some interdisciplinary skills such as reading and writing, however, were incorporated within the various content areas. None of the variations for Feature A3 adequately accounted for the manner in which learning was integrated at Pilot School 2.

A search for key documents associated with this feature for Pilot School 2 did not provide any evidence of interdisciplinary activities. The lack of evidence was due primarily to documents and artifacts not being available.

Interviews with members of the school staff confirmed that there were no interdisciplinary themes or activities around which learning revolved. The teachers and the principal cited examples of the use of interdisciplinary skills within individual core classes. These examples included art, music, reading, and writing. Another example cited was the use of math within science class.

**Evidence for Feature A4: Instructional Strategies are Varied and Aligned to Standards**

Feature A4 evaluates the extent to which instructional strategies are varied and aligned to standards. Evidence of instructional strategies at Pilot School 2 was collected through walkthrough classroom observations, a review of the documents prescribed by the IC map, and interviews with two teachers. These data indicated instructional strategies were aligned to standards and teachers collaborated informally to employ a variety of data-informed instructional strategies. The use of a variety of strategies was observed in approximately 50% of classes (one of two), corresponding with Variation B for this feature.

Walkthrough classroom observations indicated that instruction was aligned to standards and there was some variation in instructional strategies employed. Strategies included cooperative learning, storyboarding to demonstrate understanding of concepts, writing, higher order questioning, and student presentations. Variation of strategies was observed in one class but not the other during the time of observation.

A search for key documents associated with this feature for Pilot School 2 provided limited evidence of a variety of strategies. Though not listed as a source of evidence on the IC map for this feature, classroom websites provided some evidence. The seventh grade, for example, did a probability activity for math class, and book reports were also done.
Interviews with members of the school staff confirmed that instructional strategies were
aligned to standards and teachers collaborated to include a variety. Teachers reported using
review games and technology. One teacher reported that students sometimes taught lessons to
promote engagement. Teachers confirmed that they were required to use the results of
benchmark testing to adjust instruction and that vertical collaboration occurred between sixth and
seventh grade teachers.

**Evidence for Feature A5: Active Learning**

Feature A5 evaluates the extent to which teachers and students engage in active learning
activities. The descriptors for this feature on the IC map also include the use of higher order
thinking activities. Evidence of active learning strategies at Pilot School 2 was collected through
walkthrough classroom observations and interviews with two teachers and the principal. These
data indicated that the use of active learning strategies in classes at this school was purposeful
and consistent for most teachers. The use of a variety of strategies was observed in both classes,
corresponding with Variation A for this feature.

Walkthrough classroom observations indicated that active learning strategies were
purposefully and consistently employed in classes. In both classes observed, students were
encouraged to physically move in order to complete learning activities. Cooperative learning was
employed in both classes: in one class to complete a creative writing activity and in the other
class to complete a storyboard which groups would use to present information. Critical thinking
was observed in one of the two classes.

Interviews with members of the school staff confirmed that active learning strategies
were purposefully and consistently employed. One teacher reported that students move
approximately every 20 minutes and the other teacher reported the frequent use of brain breaks
such as having the students stand up or use the interactive whiteboards. The principal reported
that teachers frequently used learning centers, which allowed students to move among various
learning activities.

**Evidence for Feature A6: Students Demonstrate Mastery of Standards in a Variety of
Ways**

Feature A6 evaluates the extent to which master of standards is measured using a variety
of assessments. Evidence of assessments at Pilot School 2 was collected through a review of the
documents prescribed by the IC map and interviews with two teachers and the principal. These data indicated that there was some variety of assessments used at this school, but traditional tests were the predominate mode of assessment. Traditional tests accounted for 50 to 80% of assessments, corresponding most closely to Variation B for this feature.

A review of key documents associated with this feature for Pilot School 2 indicated that traditional tests were the most frequently used type of assessment. Although teacher lesson plans and assessment examples were not available, class websites indicated that assessments included traditional tests and quizzes. An upcoming book report was also mentioned.

Interviews with members of the school staff indicated that students at this school were assessed primarily through traditional tests, either paper/pencil or online, although other assessments were also used. The teachers reported that assessments included traditional tests, writing assignments, projects, experiments in science, and presentations. One teacher estimated that the percentage of traditional tests used to assess was 50% and the other teacher estimated that the percentage was 80%.

**Evidence for Feature B1: An Advisory or Advocacy System Ensures that Every Student Is Known Well By At Least One Adult**

Feature B1 evaluates the presence of a student advisory program or other advocacy system via which every student in the school is well known by at least one adult. Evidence of an advisory or advocacy program at Pilot School 2 was collected through a review of the documents prescribed by the IC map and interviews with a teacher and a guidance counselor. These data indicated that there was no student advisory or advocacy system in place at this school. Nevertheless, the staff believed that every student was well known due to the prevailing culture and small size of the school. The culture of caring about students in the absence of structured personalization of the school environment most closely corresponded to Variation C for this feature.

A search for key documents associated with this feature for Pilot School 2 did not provide any evidence of a student advisory or advocacy program. The lack of evidence was due primarily to documents and artifacts not being available.

Interviews with members of the school staff confirmed the absence of a structured student advisory or advocacy program. The teacher and counselor reported, nevertheless, that
every student was well known by at least one adult staff member. When asked how the school ensures that every student is known, the teacher and counselor reported that the size of the school, with fewer than 40 students per grade level, was the key factor.

**Evidence for Feature B2: Comprehensive Guidance and Support Services Promote Whole-Student Development**

Feature B2 evaluates the provision of a comprehensive program of school counseling services. Evidence of comprehensive school counseling services at Pilot School 2 was collected through a review of the documents prescribed by the IC map and interviews with a teacher and a guidance counselor. These data indicated that this school offered a somewhat comprehensive program of school counseling services, corresponding to Variation B for this feature.

A review of key documents associated with Pilot School 2 provided evidence that the school counseling program was multi-faceted and adhered to state guidelines. The school website was the most useful source of data for this feature. Among the services described were classroom guidance activities, group counseling, individual counseling, character development, parent and teacher consultation, and social and emotional support.

Interviews with members of the school staff confirmed the availability of comprehensive school counseling services. The teacher reported that the counselor provided monthly classroom guidance activities and teachers made referrals for individual counseling for students. The counselor reported that she offered group services on topics as the need arises, such as bereavement counseling.

**Evidence for Feature B3: Students Learn in a Healthy and Safe School Environment**

Feature B3 evaluates the extent to which the school provides a healthy and safe school environment for students. Evidence of a healthy and safe school environment at Pilot School 2 was collected through walkthrough classroom observations, a review of the documents prescribed by the IC map and interviews with two teachers, a guidance counselor, and two parents. These data indicated that the school provided a healthy and safe environment for students, with at least three of four components for this feature clearly in place. The evidence best corresponded to Variation B for this feature.

Walkthrough classroom observations provided evidence of a healthy and safe environment for students. In both classrooms visited, physical safety was evident and a healthy
affective environment was also evident. Classes were conducted in an orderly manner and students were generally compliant with teacher directions. Abundant positive reinforcement of behavior was observed.

A review of key documents associated with Pilot School 2 provided evidence that the school provided a healthy and safe environment for students. Crime and violence data available on the state Department of Education website indicated that the school was not persistently dangerous. The school crisis plan was available for review and described detailed procedures covering various scenarios and listed stakeholders involved. A copy of the safety drill record was available and was current. The policy manual for the school division indicated that there was a division policy related to wellness. The policy encouraged but did not require the cafeteria to avoid serving certain foods. A visual tour of the school building indicated that the building was physically safe.

Interviews with members of the school staff and parents confirmed that the school provided a healthy and safe environment for students. Two teachers interviewed stated that the school environment was safe and healthy for students. They reported that homeroom parents had guidelines that they were supposed to follow for providing snacks. Teachers also reported that safety drills were practiced regularly and there was a school safety committee to evaluate procedures. Teachers reported that students had physical education class two days per week and had recess daily after lunch. The parents and counselor agreed that the environment was safe and healthy for learning. The parents were concerned that the cafeteria did not offer enough healthy choices at lunch.

**Evidence for Feature B4: Students are Organized into Small(er) Learning Communities**

Feature B4 evaluates the manner in which the school environment is personalized by organizing students into smaller communities. Evidence of smaller learning communities at Pilot School 2 was collected through a review of the documents prescribed by the IC map and interviews with a teacher and the counselor. These data indicated that the school had a student enrollment of less than 400 and a common set of teachers advocated for student needs. The size of the school corresponded to Variation B for this feature.
A review of key documents and artifacts associated with Pilot School 2 indicated that the school had a steady enrollment of fewer than 300 students, with fewer than 75 in the middle grades.

Interviews with members of the school staff confirmed that students were not organized into smaller communities due to the small size of the school. There was not a perceived need to organize students into smaller communities because they were already a very small community.

**Evidence for Feature C1: School Rules are Clear, Fair, and Consistently Applied**

Feature C1 evaluates the extent to which school rules are clear, fair, and consistently applied among students. Evidence of clear and consistently applied school rules at Pilot School 2 was collected through a review of the documents prescribed by the IC map and interviews with two teachers, the principal, and a guidance counselor. These data indicated that school rules were clear, fair, and consistently applied among students, corresponding to Variation A for this feature.

A review of key documents associated with Pilot School 1 provided evidence that school rules were clearly communicated. The best source of information available was the student handbook. The student handbook clearly stated rules for the school. The school division website provided access to the division student code of conduct. Data that might provide evidence of possible disparity or application among subgroups were not available.

Interviews with members of the school staff indicated that school rules were clearly communicated and fairly and consistently applied. The teachers reported that teachers explained and posted rules in the classrooms. The principal, one teacher, and the counselor reported that rules were fairly and consistently applied among students. Another teacher reported that she did not believe rules were consistently enforced and cited an example. Each teacher exercised autonomy for enforcing rules within her classroom, with only students with major discipline issues sent to the principal.

**Evidence for Feature C2: All Students, Including All Social, Economic, and Ethnic Groups, Have Open and Equal Access to Challenging Learning Opportunities**

Feature C2 evaluates the extent to which all students, including various subgroups, have open and equal access to challenging learning opportunities. Evidence of equal access to challenging learning opportunities at Pilot School 2 was collected through walkthrough
classroom observations, a review of the documents prescribed by the IC map and an interview with a teacher. These data indicated that students had open and equal access to challenging learning opportunities, corresponding to Variation A for this feature.

Walkthrough classroom observations proved to not be a useful source of data for this feature. Since no advanced classes were offered at this school, all students were grouped heterogeneously in classes. Equitable access to advanced classes, therefore, was not a factor at this school.

A search for key documents associated with this feature for Pilot School 2 did not provide any evidence of equitable access to classes. The lack of evidence was due primarily to documents and artifacts not being available.

An interview with a teacher confirmed that all students had open and equal access to challenging opportunities. The teacher reported that there were no advanced classes, and all students followed the same course of studies, including for electives.

Evidence for Feature C3: To the Fullest Extent Possible, All Students Participate in Heterogeneous Classes with High Academic and Behavioral Expectations

Feature C3 evaluates the extent to which students participate in heterogeneous classes with high academic and behavior expectations. Evidence of heterogeneous grouping at Pilot School 2 was collected through a review of the documents prescribed by the IC map and interviews with a teacher, the principal, and a guidance counselor. These data indicated that students were grouped heterogeneously. The grouping practices at this school most closely corresponded to Variation A for this feature.

A search for key documents associated with this feature for Pilot School 2 did not provide any evidence of heterogeneous classes. The lack of evidence was due primarily to documents and artifacts not being available.

Interviews with members of the school staff confirmed that students were grouped heterogeneously. The teacher reported that there were no advanced classes, but students were permitted to take algebra when they went to the high school for eighth grade. Admission to algebra was based on the student’s grades. The principal and counselor confirmed that all students followed the same program of studies with no choice of classes.
Evidence for Feature C4: All Students Have Ongoing Opportunities to Learn About Their Own and Others' Cultures; Diversity is Valued by the School

Feature C4 evaluates the extent to which diversity is valued by the school and students have the opportunity to learn about various cultures. Evidence of diversity at Pilot School 2 was collected through a review of the documents prescribed by the IC map and interviews with a teacher and the principal. These data indicated that the student population and staff of this school had very little diversity. Tolerance of different cultures was not believed to be a problem for the school and was not addressed purposefully. The data indicated that diversity at the school was acknowledged, but teaching about diversity was not a priority for the school because there were no perceived problems at the school related to diversity. Therefore, none of the variations of Feature C4 adequately described Pilot School 2.

A review of key documents associated with Pilot School 2 provided no evidence with respect to how teaching about diversity was valued at this school.

Interviews with members of the school staff confirmed that the student body had very little ethnic, religious, or socioeconomic diversity. Emphasizing diversity was not a priority for the school, and teacher was only able to cite 1920’s Day as an example of teaching about other cultures. The principal confirmed that there was no racial tension in the school and that teaching about diversity was viewed as a need for the school.

Evidence for Feature D1: Teachers are Organized in Teams with Common Plan Time

Feature D1 evaluates whether or not teachers are organized into interdisciplinary teams with common plan time and common students. Evidence of teacher teams with common plan time at Pilot School 2 was collected through a review of the documents prescribed by the IC map and an interview with a teacher. These data indicated that teachers were not organized into teams, corresponding to Variation D for this feature.

A review of key documents associated with Pilot School 2 provided no evidence of the school using the middle grades idea of teacher teams as an organizational structure.

An interview with a teacher confirmed that core teachers in each grade were not provided a common plan time other than before or after school. There were no requirements in place for teachers in each grade level to meet regularly.
Evidence for Feature D2: Teachers Have Plan Time to Coordinate Transitions Between Grade Levels and Schools

Feature D2 evaluates teacher involvement in the planning of activities to help students transition from elementary school to middle school. Evidence of teacher involvement in planning transition activities at Pilot School 2 was collected through a review of the documents prescribed by the IC map and interviews with a teacher, the principal, and a guidance counselor. These data indicated that there were no transition activities at this school since students moved from elementary grades to middle grades within the same building and students in the middle grades were already accustomed to taking classes and using the facilities in the adjacent high school building. The absence of transition activities corresponded to Variation D for this feature. A search for key documents associated with this feature for Pilot School 2 did not provide any evidence of transition activities. The lack of evidence was due primarily to documents and artifacts not being available.

Interviews with members of the school staff indicated that teacher teams were not involved in transition planning because none is done. The teacher reported that there were no transition activities since students do not change buildings between fifth and sixth grades and the seventh graders were already accustomed to using the facilities in the adjacent high school. The principal reported that prior to the current year, seventh graders were housed in the high school. For the counselor, the idea of transition planning seemed to truly be a topic she had not considered before. When asked who plans transition activities, she stated that she did not know. She did mention that she does a career unit with students.

Evidence for Feature D3: Organizational Structures, Including Planned Time for Collaboration, Foster Purposeful Learning and Meaningful Relationships

Feature D3 evaluates the extent to which structures within the school foster purposeful and meaningful relationships. Such structures may include the master schedule of classes, the use of physical space, clustering, co-curricular and extracurricular activities, small communities of students, and purposeful outreach to special populations of students. Evidence of these six components at Pilot School 2 was collected through observation and a review of the documents prescribed by the IC map. Though not indicated by the IC map, additional evidence was provided through interviews with teachers and the principal, based on questions asked to collect
Evidence for other features. These data indicated that four of six structural components were in place to foster purposeful and meaningful relationships at this school, corresponding to Variation B for this feature.

Observation, a review of key documents associated with Pilot School 2, and interview questions associated with other features on the IC map provided evidence of structures that foster purposeful and meaningful relationships. Grade levels were clustered together in close proximity to one another. Interviews with teachers and the principal indicated that extracurricular and co-curricular activities were available. The school was inherently a small community of students. The school website and interviews indicated that there was purposeful outreach to special populations of students through gifted programs, RTI interventions, special education programs, and needy families. Missing components were the master schedule and the physical layout of the building.

**Evidence for Feature D4: Teachers are Empowered to Implement Flexible Scheduling to Promote Learning**

Feature D4 evaluates the autonomy teachers have to group students as needed to improve learning. Evidence of teacher autonomy to implement flexible grouping at Pilot School 2 was collected through a review of the documents prescribed by the IC map and interviews with a teacher and the principal. These data indicated that teachers had complete autonomy to implement flexible grouping as needed, corresponding to Variation A for this feature.

A review of key documents associated with Pilot School 2 provided no evidence of flexible grouping.

Interviews with members of the school staff indicated that teachers had complete autonomy to implement flexible grouping practices as needed. The teacher reported that she would only need to collaborate with the other teacher in her grade level, but there was no need to seek permission from the principal. The principal confirmed that teachers would not need to seek permission to alter their schedule or implement flexible grouping.

**Evidence for Feature D5: Leaders are Knowledgeable About and Committed to Working with this Age Group**

Feature D5 evaluates preparation and commitment level of the principal to working with students in the middle grades. Evidence of the principal’s preparation and commitment to
working with young adolescents at Pilot School 2 was collected through an interview with the principal. These data indicated that the principal was not experienced in working with students in the middle grades and was not currently engaged with professional development activities specific to the middle grades. The principal did complete doctoral studies related to the middle school concept but did not believe that there were educational practices distinctive to the middle grades. This level of preparation and commitment most closely corresponds to Variation D for this feature, although there was no evidence to suggest that the principal did not enjoy working with young adolescents.

An interview with the principal and observation of his interactions with students indicated that he was an experienced administrator but had no previous experience working with students in the middle or elementary grades. He reported that he was previously a high school teacher, a high school assistant principal, and a central office administrator before retiring. The principal came out of retirement a few years previous to the interview to accept the position at Pilot School 2, calling it an “ideal job”. When asked about his beliefs about middle grades education, he reported that each grade had its own challenges and did not think there was a middle grades distinctive. The principal was observed to be friendly and approachable. He seemed to enjoy his current position working with elementary and middle grades students and seemed to enjoy the community.

Evidence for Feature D6: Teachers are Knowledgeable About and Committed to Working with this Age Group

Feature D6 evaluates the preparation and commitment of teachers in the school to working with students in the middle grades. Evidence of the preparation and commitment of teachers to working with young adolescents at Pilot School 2 was collected through walkthrough observations of classes, a review of teacher licensure status for teachers at the school and interviews with a teacher and a guidance counselor. These data indicated that most teachers were prepared and committed to working with students in the middle grades, corresponding to Variation A for this feature.

Walkthrough classroom observations provided evidence that the teachers seemed to enjoy working with young adolescents and employed best practice strategies for this age group such as active learning, critical thinking, and collaboration. Of two classes observed, both teachers were
pleasant with the students and had a positive rapport. Appropriate middle school practices such as articulating clear expectations, allowing for choice, collaboration, and active learning were evident.

The status of teacher licensure for teachers at this school was available on the website of the state Department of Education. Since the school was small, licensure information was reviewed for all four teachers. For this school, 50% of teachers had a middle school endorsement and 50% had an elementary endorsement.

Interviews with members of the school staff confirmed that most teachers enjoy working with students in the middle grades. The teacher reported that the teachers at this school enjoyed working with young adolescents. The counselor confirmed that the teachers in sixth and seventh grades seemed “well suited” to teaching those grades.

**Evidence for Feature D7: Students Have Opportunities to Participate in Decision Making**

Feature D7 evaluates the extent to which students have the opportunity to participate in decision making at the school. Evidence of student participation in decision making at Pilot School 2 was collected through an interview with a teacher. These data indicated that students had the opportunity to exercise leadership in student organizations and classes, but there was no formal mechanism in place to invite student participation. This level of student involvement in decision making corresponded to Variation B for this feature.

An interview with a teacher provided evidence that students exercised leadership within school organizations, generally felt comfortable in making suggestions informally, but there were no formal mechanisms in place for student input. Teachers reported that 4-H provided some opportunities for student leadership. In class, students had the opportunity to exercise leadership through reading groups. The cafeteria also encouraged suggestions for menus.

**Evidence for Feature D8: Decision Making is Democratic and Guided by a Shared Vision**

Feature D8 evaluates the extent to which decision making at the school is shared and is guided by a shared vision. Evidence of shared decision making at Pilot School 2 was collected through a review of the documents prescribed by the IC map and interviews with a teacher, the principal, and a guidance counselor. These data indicated that the staff generally shared a common, yet informal, vision for the school and that the staff enjoyed substantial autonomy to make decisions. This level of shared decision making corresponded to Variation B for this feature.
A review of key documents associated with Pilot School 2 provided little evidence of shared decision making or an articulated school vision. No evidence was found on the school website or in the student handbook.

Interviews with members of the school staff indicated that there was no articulated vision for the school, although there seemed to be an informal vision common to many staff members that this was a community-based school focused on helping students succeed. The teacher, counselor, and principal all agreed that the principal ultimately reserved the right to make final decisions, most routine decisions were made by the teachers.

**Evidence for Feature D9: Leadership is Courageous and Collaborative**

Feature D9 evaluates the extent to which school leadership is courageous and collaborative. Evidence of courageous and collaborative leadership at Pilot School 2 was collected through a review of the school improvement plan and interviews with a teacher, the principal, and a guidance counselor. These data indicated that leadership at this school was ethical and shared, but the role of the principal seemed focused on managing rather than leading. This leadership style corresponded to Variation D for this feature, with the shared leadership characteristics of Variation A.

Interviews with members of the school staff indicated that the principal of this school was moderate, open, and not given to extremes. The teacher reported that teachers made most decisions in the school, although the principal reserved “the final say.” The counselor reported that the principal was a good communicator, positive, fair, and well liked by students. There was no evidence that the principal was a change agent or risk taker.

**Evidence for Feature D10: Professional Development is Aligned to School Improvement and Best-Practice Strategies**

Feature D10 evaluates the extent to which professional development is aligned to school improvement goals. Evidence of the alignment of professional development at Pilot School 2 was collected through a review of the school improvement plan and interviews with a teacher and the principal. A professional development plan was not available. Interview data indicate that professional development was aligned to school improvement, and there was evidence that professional development was job embedded. Professional development practices seemed to most closely correspond to Variation A for this feature.
The school improvement plan followed a specific format directed by the school division and was focused exclusively on student achievement as measured by SOL tests.

Interviews with members of the school staff indicated that professional development needs were driven primarily by SOL data and directed by the school division. Professional development was provided through conferences, presentations, and workshops and was largely district directed. The district required and funded the participation of each teacher in one conference per year, according to the principal. The teacher and the principal confirmed that job embedded professional development is provided for the implementation of RTI strategies.

**Evidence for Feature D11: Students Have the Opportunity to Engage with the Community**

Feature D11 evaluates the extent to which students have the opportunity to engage with the community. Such engagement may take the form of authentic learning experiences, service learning, field trips, or fundraising for charity. Evidence of opportunities for students to engage with the community at Pilot School 2 was collected through a review of the documents prescribed by the IC map and an interview with a teacher. These data indicated that students have opportunities to engage with the community, corresponding to Variation A for this feature.

A review of key documents associated with Pilot School 2 provided no evidence of opportunities for students to engage with the community.

Interviews with members of the school staff indicated that students had opportunities to engage with the community. The teacher reported that students were involved with solving real-world problems through 4-H and learning about elections. She also cited student participation in toy drives, recycling projects, and collecting supplies for the military.

**Evidence for Feature D12: The Community is Engaged in Providing Resources and Support**

Feature D12 evaluates the extent to which the community is engaged with the school by providing resources and support. Evidence of community support at Pilot School 2 was collected through a review of the documents prescribed by the IC map and interviews with a teacher, the principal, and a counselor. These data indicated that the community was highly engaged in providing resources and support to the school, corresponding to Variation A for this feature.
A review of key documents associated with Pilot School 2 provided little evidence of community support of the school. The school website referenced the work of the Homeroom Parent Association, but provided few details.

Interviews with a teacher, the principal, and the counselor, however, indicated multiple ways in which the community provided support to the school. The teacher described the Christmas shopping project which was occurring the day of the site visit. For this project, the homeroom parents solicited donations from parents and businesses and students had the opportunity to shop for gifts. The teacher also mentioned that for field trips, she had a list of donors she contacted to provide assistance for students who could not otherwise afford to participate. The principal cited the involvement of the local community college in supporting the Talent Search program, the 4-H program, and the DARE program sponsored by the local sheriff’s office. The counselor reported that the school was often used by community groups and the community often rallied around needs that arose.

Evidence for Feature D13: Relationships with Families are Valued in Support of Students' Success

Feature D13 evaluates the extent to which relationships between the school and families are valued. Evidence of the value placed on family relationships at Pilot School 2 was collected through a review of the documents prescribed by the IC map and interviews with a teacher and two parents. These data indicated that relationships with families were highly valued, corresponding to Variation B for this feature.

A review of key documents associated with Pilot School 2 provided some evidence that family relationships were valued. The school and class websites included messages to parents to encourage their involvement at the school and with their child’s academic work. Parent involvement was not addressed in the school improvement plan and no surveys had been conducted.

Interviews with parents and members of the school staff indicated that relationships with families were valued. The teachers cited the homeroom parent structure as a key factor in welcoming families into the school. She reported that conference were held during later hours to provide greater access to parents and that teachers tried to communicate positive news. The parents reported that the school communicated through letters, emails, text messages,
conferences, and the homeroom organization. Parents reported that they felt welcomed at the school and there were multiple events such as movie nights and reading nights to encourage parents to be at the school.
APPENDIX D
TESTING THE IC MAP AT PILOT SCHOOL 3

Description of the School

Pilot School 3 was one of five schools serving the middle grades in a suburban school division. All middle grades schools had a 6-8 grade configuration and each fed separate high schools. Pilot School 3 was a relatively larger school with a student enrollment of between 700 and 800 students. The school building was built in the 1960’s and the school shared a larger campus with the high school. The school had a principal, two assistant principals, and two guidance counselors.

Procedures

I visited Pilot School 3 on two regular school days: December 13 and 15, 2011. The primary means of collecting data to evaluate the features on the IC map were walkthrough classroom observations, a review of documents and artifacts, and interviews with school staff. The staff had been informed in advance of my visit, and I was permitted to visit classes and roam the school freely.

I conducted a total of ten classroom walkthrough observations in classes representing all three grade levels and various content areas. Classroom walkthrough observations lasted approximately four to seven minutes each. During the observations, I took field notes relative to the specific features on the IC map that require walkthrough observations for evidence. I asked the principal for the documents indicated by the IC map, and she provided all the documents that were available. Some documents were available online on the website for the school division or on the school website. I accessed the documents that were available online after the days of the visit to the school.

Individual interviews with staff members were conducted on both days of the school visit. I interviewed 8 teachers, representing core subjects as well as electives. Participants were selected by the principal. Each teacher was asked questions from one section of the IC map; in some cases, questions from a second section were included. A guidance counselor, an assistant principal, and the principal were also interviewed. Interviews were conducted in a private room to protect confidentiality. After arriving to the designated meeting place, participants were fully
informed of the purpose, procedures, benefits, and risks associated with the research and were given the opportunity to consent or not consent to participation. Interviews lasted approximately 30 minutes each.

**Comparison of Evidence to the IC Map**

**Evidence for Feature A1: The Curriculum is Rigorous and Challenging**

Feature A1 evaluates the presence of identified components of a rigorous curriculum within a school and the extent to which a rigorous curriculum is available to all students in the school. Evidence of a rigorous and challenging curriculum at Pilot School 3 was collected through walkthrough class observations, a review of the documents prescribed by the IC map, and interviews with two teachers and an assistant principal. These data indicated the presence of over 60% of the components of a rigorous curriculum at this school, which corresponded to Variation A for this feature.

The components observed in classrooms included some 21st century skills, differentiated instructional practices, some examples of high standards, some examples of high levels of student engagement, and some displaying of exemplary student work. The Partnership for 21st Century Skills (2004) identifies the aptitudes students need to develop for success in the 21st century economy. Among these skills are global awareness, financial literacy, civic literacy, creativity, critical thinking and problem solving, communication, collaboration, information and technology literacy, responsibility, and initiative. Examples of 21st century skills observed in classes were critical thinking activities in five of ten classes, creativity in three of ten classes, collaboration in one of ten classes, and communication skill building in two of ten classes. High standards were evident in six of ten classes and high levels of student engagement were observable in eight of ten classes. Exemplary student work was displayed in three classes. In summary, components of a rigorous curriculum were evident in approximately seven of the ten classes. Of the eight components of a rigorous curriculum indicated on the IC map, six, or approximately 75%, were evident in the walkthrough classroom observations conducted.

A review of key documents associated with Pilot School 3 provided evidence of rigor in the curriculum. Sample teacher lesson plans were required to include an explanation of how each lesson would be differentiated to meet various student needs as well as how technology would be integrated. Sample plans included ample opportunities for students to practice reading and
writing skills. A small sample of student assessments was provided for review, but these were all traditional tests. The registration guide for the division indicated a broad offering of advanced courses, including advanced courses in each core area and an accelerated math program allowing students to take geometry in eighth grade. Pacing guides for the school division closely mirrored state standards. Samples of student work included writing assignments and projects.

Interviews with members of the school staff suggested that their definition of a rigorous curriculum was somewhat consistent with the components of a rigorous curriculum listed on the IC map. Teachers cited critical thinking, high standards, differentiation, and technology skills as examples of rigor. The assistant principal indicated that rigor included the idea of making students inquisitive and developing curiosity. The teachers interviewed had a common agreement that the curriculum at this school was challenging. One teacher commented that there was less rigor in inclusion classes because the focus was on learning the standards which he considered to be basic. The assistant principal stated that the curriculum was challenging for different students for different reasons. Advanced students were challenged to think, whereas learning the basic content of the standards was challenging for average students and struggling students.

**Evidence for Feature A2: The Curriculum is Exploratory and Relevant**

Feature A2 evaluates the extent to which the curriculum of a school allows students to explore their interests. Evidence of an exploratory curriculum at Pilot School 3 was collected through a review of the documents prescribed by the IC map and interviews with two teachers and an assistant principal. These data indicated that both exploratory classes and extracurricular activities were offered at this school and teachers made learning in the core classes relevant to student interests. The curriculum corresponded to Variation A for this feature.

A review of key documents associated with Pilot School 3 revealed that a wide variety of exploratory classes were available to students. The course registration guide indicated that elective courses were available in art, music, technology, family and consumer sciences, photography, world languages, and business. The master schedule of the school confirmed that these courses were scheduled at this school. The school website provided information about extracurricular activities at this school, although the IC map did not include the school website as a suggested source of this information. There was no indication on teacher lesson plans of activities relating the core curriculum to student interests.
Interviews with members of the school staff confirmed that exploratory classes were offered to students as well as extracurricular activities. Extracurricular activities included athletics, SCA, Fellowship of Christian Athletes, YADAPP, Impact, Yearbook, Friends of Rachel, and Walking Club. When asked how learning in the core classes was made relevant to students, teachers cited examples such as using technology, measurement lessons, force and motion lessons, examples involving sports, and making civil war booklets based on students’ own experiences.

**Evidence for Feature A3: The Curriculum is Integrative and Interdisciplinary**

Feature A3 evaluates the extent to which the curriculum of the school is interdisciplinary. Evidence of a rigorous and challenging curriculum at Pilot School 3 was collected through a review of the documents prescribed by the IC map and interviews with two teachers and an assistant principal. These data indicated there were no interdisciplinary themes within grade level teams and the curriculum was not integrated in any coordinated manner. Some interdisciplinary skills such as reading and writing, however, were incorporated within the various content areas and through collaboration among individual teachers. None of the variations for Feature A3 adequately accounted for the manner in which learning was integrated at Pilot School 3.

A review of key documents associated with Pilot School 3 indicated few opportunities for interdisciplinary learning. No evidence of interdisciplinary learning was found in teacher lesson plans. Displays of student work showed that reading and writing skills were emphasized in classes other than English. The school website did not display any information indicating integrated learning in classes.

Interviews with members of the school staff confirmed that there were no interdisciplinary themes or activities around which learning revolved. Teachers, however, cited several examples in which skills were connected among content areas. Examples included plans to coordinate reading assignments between English and science to help reinforce concepts in science and coordination of vocabulary building between English and history. The assistant principal reported that teachers work together among content areas, but interdisciplinary activities were not intentionally planned.
Evidence for Feature A4: Instructional Strategies are Varied and Aligned to Standards

Feature A4 evaluates the extent to which instructional strategies were varied and aligned to standards. Evidence of instructional strategies at Pilot School 3 was collected through walkthrough classroom observations, a review of the documents prescribed by the IC map, and interviews with two teachers and an assistant principal. These data indicated instructional strategies were aligned to standards and teachers collaborated to employ a variety of data-informed instructional strategies. The use of a variety of strategies was observed in approximately 40% of classes, corresponding with Variation B for this feature.

Walkthrough classroom observations indicated that instruction was aligned to standards and there was some variation in instructional strategies employed. Strategies included the use of technology such as interactive whiteboards, writing activities, checking for understanding, presentations, interviewing, assessment, editing, and reading. In most classes, though, there was little variation within the time of the observation. In only 40% of classes visited did the teacher use multiple strategies.

A review of key documents associated with Pilot School 3 provided evidence of some variety in the use of instructional strategies. Sample teacher lesson plans all followed the same format listing a focus activity, instructional delivery plan, and evaluation. Instructional strategies listed included guided reading, journaling, using the interactive whiteboard, writing projects, practice with worksheets, and summarizing. There was no evidence of a variety of instructional strategies in the sample team meeting notes provided.

Interviews with members of the school staff confirmed that instructional strategies were aligned to standards and teachers collaborated to include a variety of strategies. Teachers reported that the school was in the first year following a block schedule with 90-minute classes; thus, employing a variety of instructional strategies, was an imperative. Teachers reported using cooperative learning, learning stations, flexible grouping, and interactive whiteboards. Teachers confirmed that they were required to use the results of benchmark testing to adjust instruction and that collaboration occurs by content area. The assistant principal reported that she was not satisfied with the frequency of flexible grouping and differentiation in the classes. She reported that some teachers differentiated every day and other much less frequently.
Evidence for Feature A5: Active Learning

Feature A5 evaluates the extent to which teachers and students engage in active learning activities. The descriptors for this feature on the IC map also include the use of higher order thinking activities. Evidence of active learning strategies at Pilot School 3 was collected through walkthrough classroom observations and interviews with two teachers and an assistant principal. These data indicated that active learning activities were frequently employed in the school. Use of active learning activities was observed in approximately 60% of classes, corresponding with Variation B for this feature.

Walkthrough classroom observations indicated that, in the majority of classes, students had some opportunity for movement and critical thinking questioning was also evident. In six of the ten classes visited students had the opportunity to physically move. This was accomplished in a variety of ways including allowing groups of students to visit the library, having students get out of their seats to put away books, having students sing, and allowing students to move about as needed when working on a project. Critical thinking was observed in two of the classes. Thus in 60% of classes visited, students were engaged in active learning strategies.

Interviews with members of the school staff produced mixed results regarding the perceived frequency of use of active learning strategies across the school. The teachers interviewed reported a much higher frequency than the assistant principal. When asked how many teachers in the school encourage movement in class, the interviewed teachers responded with estimates of 50-90%, perhaps reflecting their own frequency of use. The assistant principal, however, estimated that the frequency was closer to 20% of teachers. This vast difference could be attributed to differing interpretations of the question or to different opportunities to observe actual practice across classrooms. The difference also indicates the need to collect additional evidence to triangulate the perceptions of teachers and the assistant principal.

Evidence for Feature A6: Students Demonstrate Mastery of Standards in a Variety of Ways

Feature A6 evaluates the extent to which master of standards is measured using a variety of assessments. Evidence of assessments at Pilot School 3 was collected through a review of the documents prescribed by the IC map and interviews with two teachers and an assistant principal. These data indicated that staff members perceived traditional tests to be the predominate mode of
assessment; however, sample lesson plans and observation suggested that other types of assessments were used more frequently than staff members perceived. Aggregate data suggested that traditional tests account for approximately 50% of assessments, corresponding with Variation B for this feature.

A review of key documents associated with Pilot School 3 provided evidence of the type of assessments used in to measure learning. Teacher lesson plans included a variety of assessment types. Of 12 assessments listed in the sample lesson plans, five were traditional tests, four were writing assignments, and three were other types of projects. Samples of student work suggested that writing and projects were used frequently to assess learning. There was no evidence of assessments on the school website and class websites were password protected and not available for review.

Interviews with members of the school staff indicated that students at this school were assessed primarily through traditional tests, either paper/pencil or online, although other types of assessments were also employed. When asked to estimate the percentage of assessments across the school that was traditional tests, one teacher reported that the percentage was 30% and the other teacher reported it to be 80%. The assistant principal perceived the percentage to be approximately 70%, primarily due to the emphasis on achievement on standardized tests. Other types of assessments cited were projects, presentations, science experiments, writing assignments, and oral assessments.

**Evidence for Feature B1: An Advisory or Advocacy System Ensures that Every Student Is Known Well By At Least One Adult**

Feature B1 evaluates the presence of a student advisory program or other advocacy system via which every student in the school is well known by at least one adult. Evidence of an advisory or advocacy program at Pilot School 3 was collected through a review of the documents prescribed by the IC map and interviews with a teacher, the principal and a guidance counselor. These data indicated that there was not a separate advisory period in place, but the schoolwide discipline plan promoted student advocacy for many students. Since there were no programs in place to ensure that every student is well known, the school most closely corresponded to Variation C for this feature.
A review of key documents associated with Pilot School 3 provided no evidence of a student advisory or advocacy program. There was no evidence of time designated for student advisory on the master schedule. Sample meeting notes from a department meeting indicated that teachers did spend time discussing and responding to individual student academic needs. The school website and the student handbook were not indicated as sources of evidence on the IC map for this feature; however, both described the schoolwide discipline program that included a process whereby first block teachers served as behavior advisors for students who earned tickets for negative behaviors. These advisors communicated with parents when students reached certain steps in the discipline plan.

Interviews with members of the school staff confirmed the absence of a structured student advisory or advocacy program for all students. The teacher, principal, and counselor reported, nevertheless, that every student was well known by at least one adult staff member. When asked how the school ensures that every student was known, the teachers and counselor reported that elective and physical education teachers interacted with students during all three years of students’ time in middle school, and, therefore, formed relationships with all students. The teacher and the principal also cited the schoolwide discipline program as a vehicle for ensuring the students were well known. The schoolwide discipline program was evaluated by a committee. The principal and the counselor also reported that activities such as guidance programs and clubs provided outlets for students to interact with adults.

**Evidence for Feature B2: Comprehensive Guidance and Support Services Promote Whole-Student Development**

Feature B2 evaluates the provision of a comprehensive program of school counseling services. Evidence of comprehensive school counseling services at Pilot School 3 was collected through a review of the documents prescribed by the IC map and interviews with a teacher, the principal, and a guidance counselor. These data indicated that this school offered a comprehensive program of school counseling services, corresponding to Variation A for this feature.

A review of key documents associated with Pilot School 3 provided evidence that the school counseling program was multi faceted and adheres to state guidelines. The school website was a useful source of data for this feature. Among the services described were individual
counseling, group counseling, life skills groups, career planning, testing, and a club called Rachel’s Challenge. The website for the school division listed state standards and provided a complete description of the guidance program for the school division. The master schedule provided no evidence and may not be a relevant source of information for this feature.

Interviews with members of the school staff confirmed the availability of comprehensive school counseling services. The teacher described the Student Assistance Program which provided an additional counselor onsite to provide group and individual counseling on topics such as anger management, life skills, and substance abuse. The counselor reported that parent workshops had been offered on conference day and were well attended. The principal confirmed that the guidance program was an important part of the school.

**Evidence for Feature B3: Students Learn in a Healthy and Safe School Environment**

Feature B3 evaluates the extent to which the school provides a healthy and safe school environment for students. Evidence of a healthy and safe school environment at Pilot School 3 was collected through walkthrough classroom observations, a review of the documents prescribed by the IC map and interviews with a teacher, the principal, and a guidance counselor. These data indicated that the school provided a healthy and safe environment for students, with at least three of four components for this feature clearly in place. The evidence best corresponded to Variation B for this feature.

Walkthrough classroom observations provided evidence of a healthy and safe environment for students. Of ten classrooms visited, physical safety was evident in all classes and a healthy affective environment was evident in all of the classes. Classes were conducted in an orderly manner and students were generally compliant with teacher directions.

A review of key documents associated with Pilot School 3 provided evidence that the school provided a healthy and safe environment for students. The master schedule listed physical education classes for all three grade levels; however, classes did not meet daily and physical education was not a requirement for eighth graders. Physical education classes met on alternating days in the block scheduling model adopted by the school division. Crime and violence data available on the state Department of Education website indicated that the school was not persistently dangerous. The school crisis plan was available for review and described detailed procedures covering various scenarios. A copy of the safety drill record was available and was
current. The policy manual for the school division indicated that each school was required to have a wellness committee that submitted reports twice per year. The wellness committee was composed of staff members from a variety of roles, including the school nurse, the cafeteria manager, and teachers. The school did not have vending machines accessible to students other than for water. A visual tour of the school building indicated that the building was physically safe. A fire drill was conducted on one of the days I visited the school. I observed that students exited the building quickly and orderly, but classes returned to the building too quickly to allow for teachers to account for each of their students. I did not observe teachers taking roll and students were not silent, despite indication of this practice from teacher interviews.

Interviews with members of the school staff confirmed that the school provided a healthy and safe environment for students. The teacher and the principal reported that safety drills were conducted on a regular basis. The teacher reported that physical education teachers had provided information for the other teachers regarding active learning strategies in classrooms. The teacher reported that students were physically safe and the school had intentionally worked on the affective environment. The principal reported that the school environment was healthy and safe for learning. She credited the schoolwide discipline plan with bringing a “sense of calmness” to the school.

Evidence for Feature B4: Students are Organized into Small(er) Learning Communities

Feature B4 evaluates the manner in which the school environment is personalized by organizing students into smaller communities. Evidence of smaller learning communities at Pilot School 3 was collected through a review of the documents prescribed by the IC map and interviews with a teacher and the principal. The attempts to personalize the school environment in the absence of interdisciplinary teams corresponded to Variation C for this feature.

A review of key documents associated with Pilot School 3 indicated that the school did not engage in interdisciplinary teaming practices, but did have other structures in place to personalize the school environment. The school report card available on the state Department of Education website confirmed that the school had a steady enrollment of over 700 students. The master schedule did not provide evidence of smaller learning communities. The school website listed athletic teams, clubs, and resource groups available to students. Class websites were password protected and not accessible for review. Sample meeting notes from a content area
meeting suggested that data analysis completed by departments helped focus attention on individual student needs. There was no evidence of smaller communities in the student handbook other than a reference to the schoolwide discipline plan which provided support for students with behavior issues and rewards for students with good behavior.

Interviews with members of the school staff confirmed that students were not organized into smaller communities such as interdisciplinary teams. The teacher reported that the schoolwide discipline plan had helped personalize the environment for many students. She reported that the school had interdisciplinary teams in previous years before the economic downturn forced and increasing pressures to meet testing benchmarks forced the school to abandon the practice. The counselor commented that she missed having the interdisciplinary teams in place. She report that one way sixth grade students currently had a more personalized environment was by dividing the students into two smaller groups for lunch.

Evidence for Feature C1: School Rules are Clear, Fair, and Consistently Applied

Feature C1 evaluates the extent to which school rules are clear, fair, and consistently applied among students. Evidence of clear and consistently applied school rules at Pilot School 3 was collected through a review of the documents prescribed by the IC map and interviews with a teacher and a guidance counselor. These data indicated that school rules were clear, fair, and consistently applied among students, corresponding to Variation A for this feature.

A review of key documents associated with Pilot School 3 provided evidence that school rules were clearly communicated. The best source of information available was the student handbook. The student handbook clearly stated rules for the school and explained the schoolwide discipline plan. The teacher handbook also listed possible dispositions for infractions. A sample edition of the school newsletter provided no evidence of communication of rules. The school website described the schoolwide discipline plan by posting the student handbook. Data from the school database indicated that there was no disparity with respect to the enforcement of rules among ethnic groups: 70% of incidents involved White students and 25% of incidents involved Black students. These data correspond proportionately to the ethnic composition of the school.

Interviews with members of the school staff indicated that school rules were clearly communicated and fairly and consistently applied. The teacher reported that rules were communicated to students via the student handbook which was reviewed by all homeroom
teachers during the first week of school. Extra time was spent this year explaining the
schoolwide discipline program since it was a new feature. The teacher reported that she
perceived that rules were consistently applied nearly all of the time. The counselor confirmed the
perception that rules were communicated clearly and fairly applied.

Evidence for Feature C2: All Students, Including All Social, Economic, and Ethnic Groups,
Have Open and Equal Access to Challenging Learning Opportunities

Feature C2 evaluates the extent to which all students, including various subgroups, have
open and equal access to challenging learning opportunities. Evidence of equal access to
challenging learning opportunities at Pilot School 3 was collected through walkthrough
classroom observations, a review of the documents prescribed by the IC map and interviews with
a teacher and a guidance counselor. These data indicated that students had open and equal access
to challenging learning opportunities, corresponding to Variation A for this feature.

Walkthrough classroom observations provided evidence that students had open access to
challenging learning experiences. Of ten classes observed, four were considered to be advanced
and six regular classes, including collaboratively taught classes for students with disabilities. Out
of the six regular classes, quality teaching practices were observed in all six classes. In the
advanced classes, quality teaching practices were observed in three. There were proportionately
fewer ethnic minority students represented in the four advanced classes: one of 24, one of 26, ten
of 25, and one of 27. In the regular classes, ethnic minority representation was as follows: six of
14, five of 18, two of 20, three of 16, and five of 15. The proportion of ethnic minority students
in one class was not calculated. These data indicated that ethnic minority students had
equal access to quality learning experiences, but may be underrepresented in advanced classes,
possibly leading to disparity in future school years.

A review of key documents associated with Pilot School 3 provided evidence of equal
access to challenging opportunities. Course registration guides and the master schedule indicated
that advanced classes were available to students. The master schedule was evaluated for flow of
course and was found to allow for students to take any combination of regular and advanced
classes. The course registration guide indicated that there are no prerequisites for student
participation in advanced courses in science, social studies, or English. Prerequisites and teacher
recommendation were listed for advanced math courses and a selection process was in place for
the accelerated math program leading the students taking geometry in eighth grade. Ethnic minority breakdown by class was not available in an accessible format from the school database and the student handbook did not provide any evidence with respect to this feature.

Interviews with members of the school staff confirmed that all students have open and equal access to challenging opportunities. The teacher and counselor reported that students registered for classes using a registration form reporting the teacher recommendations for each core class. Students and parents had the opportunity to abide by the teacher recommendation or make their own choice. All students and their parents, whether recommended or not, were required to sign a contract to participate in Pre-AP courses. This requirement was in place in an effort to clearly communicate the expectations of rigor for these courses. The teacher and counselor both reported that barriers to participation in activities such as field trips were reduced by the school providing funding for participation.

**Evidence for Feature C3: To the Fullest Extent Possible, All Students Participate in Heterogeneous Classes with High Academic and Behavioral Expectations**

Feature C3 evaluates the extent to which students participate in heterogeneous classes with high academic and behavior expectations. Evidence of heterogeneous grouping at Pilot School 3 was collected through a review of the documents prescribed by the IC map and interviews with a teacher and a guidance counselor. These data indicated that students were grouped homogeneously through the course registration process with students having the freedom to choose their classes. The grouping practices at this school most closely corresponded to Variation B for this feature.

A review of key documents associated with Pilot School 3 provided evidence that students are grouped homogeneously. The course registration guide and master schedule indicated that advanced courses were offered in core areas. The registration guide indicated that students had the freedom to choose their classes via the absence of prerequisites in English, science, and social studies. The master schedule was evaluated for flow of course and was found to allow for students to take any combination of regular and advanced classes. The division policy manual did not provide evidence with respect to this feature.

Interviews with members of the school staff confirmed that students were generally grouped homogeneously through the course registration process. The teacher and the counselor
reported that students generally registered for advanced classes by teacher recommendations but there was open enrollment.

**Evidence for Feature C4: All Students Have Ongoing Opportunities to Learn About Their Own and Others' Cultures; Diversity is Valued by the School**

Feature C4 evaluates the extent to which diversity was valued by the school and students had the opportunity to learn about various cultures. Evidence of diversity at Pilot School 3 was collected through a review of the documents prescribed by the IC map and interviews with a teacher and a guidance counselor. These data indicated that diversity at the school was acknowledged, but teaching about diversity was not a priority for the school because there were no perceived problems at the school related to diversity. Therefore, none of the variations of Feature C4 adequately described Pilot School 3.

A review of key documents associated with Pilot School 3 provided little evidence that valuing diversity was a priority for this school. Nor was there any evidence of tension among ethnic groups or intolerance of others. There were some hallway displays encouraging respect and tolerance. A display in one class listed the number of days to various holidays including, Christmas, Hanukkah, and Kwanza.

Interviews with members of the school staff confirmed that the student body was somewhat diverse but the staff less so. The principal of the school is African-American and one of the assistant principals is Hispanic. A teacher confirmed that there was no racial tension present and not “an issue.” The teacher cited world languages classes as an opportunity for students to be exposed to other cultures. The counselor reported that students were accepting of each other.

**Evidence for Feature D1: Teachers are Organized in Teams with Common Plan Time**

Feature D1 evaluates whether or not teachers are organized into interdisciplinary teams with common plan time and common students. Evidence of teacher teams with common plan time at Pilot School 3 was collected through a review of the documents prescribed by the IC map and an interview with the principal. These data indicated that teachers were not organized into teams, corresponding to Variation D for this feature.
A review of key documents associated with Pilot School 1 provided no evidence of organizational structures with teachers organized into interdisciplinary teams with common students.

An interview with the principal confirmed that teachers were not organized into teams.

**Evidence for Feature D2: Teachers Have Plan Time to Coordinate Transitions Between Grade Levels and Schools**

Feature D2 evaluates teacher involvement in the planning of activities to help students transition from elementary school to middle school. Evidence of teacher involvement in planning transition activities at Pilot School 3 was collected through a review of the documents prescribed by the IC map and interviews with a teacher, the principal, and a guidance counselor. These data indicated that teacher teams were not involved in planning transition activities for students, corresponding to Variation C for this feature.

A review of key documents associated with Pilot School 3 provided no evidence of teacher involvement in transition planning.

Interviews with members of the school staff indicated that teachers were not involved in transition activities. The teacher interviewed reported that guidance counselors plan transition activities. The teacher was a special education teacher and mentioned that IEP’s had a transition component requiring IEP teams to discuss post-secondary plans. The principal reported that transition activities were planned by guidance and administration and included student tours and visits to classes. The counselor reported that fifth graders toured the building and stayed for lunch in the middle school cafeteria. She reported that tours were hosted by sixth graders and guidance also planned a parent orientation.

**Evidence for Feature D3: Organizational Structures, Including Planned Time for Collaboration, Foster Purposeful Learning and Meaningful Relationships**

Feature D3 evaluates the extent to which structures within the school foster purposeful and meaningful relationships. Such structures may include the master schedule of classes, the use of physical space, clustering, co-curricular and extracurricular activities, small communities of students, and purposeful outreach to special populations of students. Evidence of these six components at Pilot School 3 was collected through observation and a review of the documents prescribed by the IC map. These data indicated that three structural components were in place to
foster purposeful and meaningful relationships at this school, corresponding to Variation B for this feature.

Observation and a review of key documents associated with Pilot School 3 provided evidence of structures that foster purposeful and meaningful relationships. Grade levels were clustered together by hallways and floors of the building. The school website and student handbook listed opportunities for students to participate on athletic teams and afterschool programs. The schoolwide discipline plan fostered positive student behavior. Sample meeting notes from department meetings indicated that teachers were working to provide extra support to students in need of academic support. The school improvement plan was not available. The master schedule indicated that students were not organized into smaller communities.

**Evidence for Feature D4: Teachers are Empowered to Implement Flexible Scheduling to Promote Learning**

Feature D4 evaluates the autonomy teachers have to group students as needed to improve learning. Evidence of teacher autonomy to implement flexible grouping at Pilot School 3 was collected through a review of the documents prescribed by the IC map and interviews with two teachers and the principal. These data indicated that teachers had autonomy to implement flexible grouping, especially through providing remediation during elective classes, corresponding to Variation B.

A review of key documents associated with Pilot School 3 provided no evidence of flexible grouping.

Interviews with members of the school staff indicated that teachers had autonomy to provide remediation during elective classes. Both teachers reported that remediation during electives was a common practice. The principal reported that teachers may regroup students within certain parameters.

**Evidence for Feature D5: Leaders are Knowledgeable About and Committed to Working with this Age Group**

Feature D5 evaluates preparation and commitment level of the principal to working with students in the middle grades. Evidence of the principal’s preparation and commitment to working with young adolescents at Pilot School 3 was collected through an interview with the principal. These data indicated that the principal was experienced in working with young
adolescents, enjoys working with students this age, and engages in some professional
development activities specific to this age group. This level of preparation and commitment most
closely corresponds to Variation A for this feature.

An interview with the principal and observation of her interactions with students indicated that she was experienced in working with students in the middle grades and enjoyed working with them. The principal interacted freely and comfortably with individual students, calling many of them by name. The principal previously taught at the high school level, was a middle school assistant principal for two years, and had been principal of Pilot School 3 for six years. The principal believed that it was important to “mold and influence students.” The principal had attended state middle school conferences and expressed interest in pursuing recognition from the Schools to Watch program. She enjoyed visiting other schools to observe other practices.

**Evidence for Feature D6: Teachers are Knowledgeable About and Committed to Working with this Age Group**

Feature D6 evaluates the preparation and commitment of teachers in the school to working with students in the middle grades. Evidence of the preparation and commitment of teachers to working with young adolescents at Pilot School 3 was collected through walkthrough observations of classes, a review of teacher licensure status for teachers at the school and interviews with two teachers, the principal, and a guidance counselor. These data indicated that most teachers were prepared and committed to working with students in the middle grades, corresponding to Variation A for this feature.

Walkthrough classroom observations provided evidence that most teachers seemed to enjoy working with young adolescents and many employed best practice instructional strategies such as providing clear expectations, allowing students to express their creativity, and incorporating active learning. Of ten classes observed, the teacher was enthusiastic and pleasant with the students in all ten classes.

The status of teacher licensure for teachers at this school was available on the website of the state Department of Education. Since the school was large, licensure information was reviewed for the first ten core teachers listed alphabetically on the school website. For this
school, 70% of teachers in the sample had a middle school endorsement and 30% had a secondary subject area endorsement.

Interviews with members of the school staff confirmed that most teachers enjoyed working with students in the middle grades. One teacher commented that she knew she “made a difference.” Another teacher reported that she “chose this age group.” Teachers agreed that there was “a lot of compassion” for the students. The principal reported that she had worked hard to “get the right people who loved these kids.”

**Evidence for Feature D7: Students Have Opportunities to Participate in Decision Making**

Feature D7 evaluates the extent to which students have the opportunity to participate in decision making at the school. Evidence of student participation in decision making at Pilot School 3 was collected through interviews with two teachers. These data indicated that students had the opportunity to exercise leadership in student organizations and classes, but there was no formal mechanism in place to invite student participation. This level of student involvement in decision making corresponded to Variation B for this feature.

Interviews with members of the school staff provided evidence that students exercised leadership within school organizations, generally felt comfortable in making suggestions informally, but there were no formal mechanisms in place for student input. Teachers reported that SCA and other clubs offered opportunities for student leadership. Teachers also reported that students were able to volunteer in the library. The band teacher mentioned opportunities students had to take initiative with programs like district band.

**Evidence for Feature D8: Decision Making is Democratic and Guided by a Shared Vision**

Feature D8 evaluates the extent to which decision making at the school is shared and is guided by a shared vision. Evidence of shared decision making at Pilot School 3 was collected through a review of the documents prescribed by the IC map and interviews with two teachers. These data indicated that the staff generally shared a common vision for the school and that staff input into decision making was invited. This level of shared decision making corresponded to Variation B for this feature.

A review of key documents associated with Pilot School 3 provided some insight into the culture of the school and decision making process. The school website had a link to the PTA, indicating parental input was welcomed. There was no vision articulated directly on the website,
but the principal’s message was welcoming and enthusiastic. Sample meeting notes from a
teacher departmental meeting indicated that teachers were focused on student needs and success.
The student handbook encouraged support from parents. The handbook referenced having
student input into developing behavior plans if they reached that step on the schoolwide
discipline plan. The handbook also referenced a principal’s council that invited input into
decision making.

Interviews with members of the school staff indicated that there was no articulated vision
for the school, although there seemed to be common goals that were shared by staff members.
One teacher reported that the vision was to give every child the tools needed for success.
Another teacher reported that the teachers had worked very hard to come together as a faculty.
They reported that the new schoolwide discipline plan had helped. Both teachers reported that
the goals for the school were discussed regularly as a faculty and that the principal has exercised
more leadership in the past couple of years. Teachers also reported that the schoolwide discipline
plan was an initiative that came from teachers. They were supported by the principal in their
desire to implement a major change at this school.

**Evidence for Feature D9: Leadership is Courageous and Collaborative**

Feature D9 evaluates the extent to which school leadership is courageous and
collaborative. Evidence of courageous and collaborative leadership at Pilot School 3 was
collected through interviews with two teachers and a review of the school improvement plan.
These data indicated that leadership at this school was ethical, inspiring, and shared. Decision
making was shared and teachers were encouraged to take risks. This leadership style
corresponded to Variation A for this feature.

A review of the school improvement plan indicated that the focus was exclusively on
improving results on standardized tests. The plan indicated that the instructional team met
weekly and departments met weekly to discuss and implement strategies.

Interviews with members of the school staff indicated that the principal of this school was
a courageous leader who invited collaboration. Teachers characterized the principal’s leadership
style as supportive. One teacher commented that ideas came from the bottom up, with teachers
taking their ideas to the administration. An example of this was the schoolwide discipline plan
which was instituted with administrative support after a group of teachers visited another school and observed the benefits.

**Evidence for Feature D10: Professional Development is Aligned to School Improvement and Best-Practice Strategies**

Feature D10 evaluates the extent to which professional development was aligned to school improvement goals. Evidence of the alignment of professional development at Pilot School 3 was collected through interviews with a teacher and a review of documents prescribed by the IC map. A professional development log was not available. Professional development practices seemed to most closely correspond to Variation A for this feature.

A review of the school improvement plan indicated that professional development was job embedded through a collaborative process. Teachers were supposed to meet weekly to discuss student progress with academic goals and instructional strategies. Sample meeting notes from a department meeting confirmed that teachers collaborated to support the goals of the school improvement plan.

Interviews with a teacher provided evidence that the administration took an active role in recommending professional development options for teachers. The teacher cited classroom coaching, conferences, and workshops as examples of professional development activities in which teachers engaged.

**Evidence for Feature D11: Students Have the Opportunity to Engage with the Community**

Feature D11 evaluates the extent to which students have the opportunity to engage with the community. Such engagement may take the form of authentic learning experiences, service learning, field trips, or fundraising for charity. Evidence of opportunities for students to engage with the community at Pilot School 3 was collected through a review of the documents prescribed by the IC map and interviews with two teachers, an assistant principal, and a counselor. These data indicated that students had some opportunities to engage with the community, corresponding most closely to Variation B for this feature.

A review of key documents associated with Pilot School 3 provided evidence of some opportunities for students to engage with the community. The school website listed YADAPP and HOPE as student clubs that were involved with service projects. There was no evidence of student engagement with the community on other school documents.
Interviews with members of the school staff indicated that students had some opportunities such as volunteering in the library and various clubs. Service learning did not seem to be an important part of school life at this school.

**Evidence for Feature D12: The Community is Engaged in Providing Resources and Support**

Feature D12 evaluates the extent to which the community is engaged with the school by providing resources and support. Evidence of community support at Pilot School 3 was collected through a review of the documents prescribed by the IC map. Interviews were not conducted for this feature. These data indicated that the community was highly engaged in providing resources and support to the school, corresponding to Variation A for this feature.

A review of key documents associated with Pilot School 1 provided evidence of community support of the school. The school website listed a grant provided to the school by the Exxon Corporation. A sample newsletter listed a PTA craft show and class participation in a “This We Believe” project sponsored by National Public Radio.

**Evidence for Feature D13: Relationships with Families are Valued in Support of Students' Success**

Feature D13 evaluates the extent to which relationships between the school and families are valued. Evidence of the value placed on family relationships at Pilot School 3 was collected through a review of the documents prescribed by the IC map and interviews with a teacher and a counselor. These data indicated that relationships with families are highly valued, corresponding to Variation B for this feature.

A review of key documents associated with Pilot School 3 provided some evidence that family relationships were valued. The school website invited parents to attend an orientation night to prepare for the registration process for the next school year. The website also had the school newsletter posted and staff email addresses. The staff used Blackboard, a password-protected, web-based tool that allowed students and parents to access assignments and class documents from home.

Interviews with members of the school staff indicated that relationships with families were valued. The teacher reported that Blackboard was an important communication tool for the school. The teacher reported that parents were encouraged to attend concerts, PTA meetings, and
activities such as the annual craft show. The counselor reported that parent workshops had been offered at the school and parents were kept informed about academic progress through midterm reports, conferences, phones calls, and email.
APPENDIX E
SUMMARY OF ANALYSIS OF FIT DATA FROM PILOT SCHOOLS

Table E.1

Summary of Analysis of Fit, Comparing Data Collected from Pilot Schools with the tested IC Map

<table>
<thead>
<tr>
<th>Feature</th>
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<th>Pilot School 2</th>
<th>Pilot School 3</th>
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Note. Variation A, B, C, D, or E is listed, comparing each pilot school with each IC map feature. An asterisk (*) is used to indicate that the data did not correspond to any variation for that feature.
### APPENDIX F
SUMMARY OF ANALYSIS OF FIT DATA FROM PILOT SCHOOLS COMPARED TO REVISED IC MAP

Table F.1

*Summary of Analysis of Fit, Comparing Data Collected from Pilot Schools with the Revised IC Map*

<table>
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Percentage of features associated with the middle school concept, based on the proposed lines of fidelity in the revised IC map: 74% 74% 78%

*Note.* Variation A, B, C, D, or E is listed, comparing each pilot school with each feature from the revised IC map.
Certificate of Completion

This certifies that

Kenneth Edward Nicely

Has completed

Training in Human Subjects Protection

On the following topics:

Historical Basis for Regulating Human Subjects Research
The Belmont Report
Federal and Virginia Tech Regulatory Entities, Policies and Procedures

On

September 8, 2008

David Moore, IRB Chair