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Middle Level Learning: Compendium of Research and Best Practice

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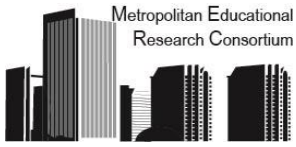

Metropolitan Educational Research Consortium
Virginia Commonwealth University / School of Education

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by

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Metropolitan Educational Research Consortium

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Metropolitan Education Research Consortium

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Background

Virginia Commonwealth University and the school divisions of Chesterfield, Colonial Heights, Goochland, Hanover, Henrico, Powhatan, and Richmond established the Metropolitan Educational Research Consortium (MERC) in 1991. The founding members created MERC to provide timely information to help resolve education problems identified by practicing professional educators. MERC currently provides services to over 12,000 teachers in eight school divisions. MERC has base funding from its membership. Its study teams are composed of university investigators and practitioners from the membership.

MERC is organized to serve the interests of its members by conducting and disseminating research to enhance teaching and learning in metropolitan educational settings. MERC's research and development agenda is built around five goals:

- To improve educational decision-making through the joint development of practice-driven research.
- To anticipate significant educational issues and needs that can be researched.
- To identify proven strategies for improving instruction, leadership, policy and planning.
- To enhance the effective dissemination of research to practitioners.
- To provide research oriented professional development opportunities for school practitioners.

In addition to conducting research, MERC conducts technical and educational seminars, program evaluations, and an annual conference, and publishes reports and research briefs.

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The Ongoing Reform of Middle Level Education

Young adolescence is a time of important transition. It is a time when youth strive to define themselves as individuals while at the same time establishing their relationship within social groups. It is a developmental period characterized by curiosity and exploration. From a certain perspective, these qualities of young adolescents seem to be a good match for school settings. Schools might offer the social spaces for establishing individual and group identity and the academic space that harnesses curiosity and allows youth to find direction as they move toward high school, college and career.

And yet, middle grades education – that is education for students between the ages of 10 and 15 – has consistently emerged within the K-12 educational reform debates as a problem that needs to be solved. Since the early 20th century, the idea has persisted that the structure and the philosophy of schools for young adolescents are grossly mismatched with the needs of youth. Those making the case for the failure of middle grades schools point to declining outcomes in academic achievement and loss of student engagement.

This perceived problem has spurred an on-going effort to reform both the philosophy and the design of middle grades education. Junior high schools were originally proposed in the early 20th century to solve problems related to retention of upper grade students in the traditional K-8 schools. The middle school movement of the 1960s and 1970s was a response to the problem of junior high schools that many considered inattentive to the developmental needs of young adolescents. In the late 1990s, a push to return to the K-8 grade configuration emerged as a solution to the problem of the middle school model, which came under attack for their over-emphasis on the social-emotional dimensions of education and lack of attention to academic rigor. In certain ways, this series of solutions offered by the reform community have

come full circle, yet the problems and possibilities of middle grades education persists.

This paper is designed to serve as a resource for practitioners, administrators, policy makers, and community members from the Richmond-area who are interested in developing a better understanding of the history and core themes of the middle level learning space and grounding their work and decision-making in the national research and literature on best practice for middle level learning.

Middle School, Middle Grades or Middle Level?

Through this paper several different terms are used to represent the educational spaces that serve young adolescents. This includes *middle school*, *middle grades* and *middle level*. Before going on, it is worth clarifying the use of these terms.

- The term "middle school" is used to represent a school reform movement and a particular school model that emerged in the late 1960s and persists today.
- The term "middle grades," as used in this paper, includes any school space that serves students in the period of young adolescence – generally grades five through nine. Middle grades schools include middle schools as well as junior highs, intermediate schools, and the later grades of K-8 schools.
- The term "middle level" is used in the title and throughout this paper to be inclusive of all of the middle grades school models as well as out-of-school learning spaces for this age group (e.g., afterschool, summer school, youth development programs).

While this paper is designed to be applicable to all middle level learning spaces, there will be a specific focus on the middle school model. There are two reasons for this. The first has to do with the broad reach of the model

both nationally and locally. Across the country middle schools comprise almost 60% of middle grade school settings. In Virginia this increases to 64%, and in the eight regional school divisions surrounding Richmond, 89% of the schools serving the middle grades are 6 through 8 middle schools.

The second reason for the middle school focus is the fact that the literature around the middle school model presents the clearest articulation of middle level learning. Although, as suggested above, there are meaningful debates around the soundness of the model, it is, nonetheless, the common reference point. For the supporters, it provides the basic principles for how middle level learning should look. For critics, it is the root of the problem to be solved.

Core Questions of Middle Level Education

Three core tensions drive the debates to reform middle level education. Below these tensions are presented as questions.

1. **Should middle level schools and programs have an academic or developmental focus?** This is the question that drove the development of the junior high model, of the middle school model, and is the question at the center of the current critique of the middle school model. On one side is the belief that young adolescents are in a challenging developmental phase that requires a school and curriculum structure that is responsive to their developmental needs. On the other side is the belief that the academic rigor of middle level learning experiences needs to be enhanced, in recognition of the fact that middle level learning is the foundation for high school, college and career readiness. Although these positions are not necessarily antithetical – e.g., a school could be both developmentally responsive and academically rigorous – they are often pitted against each other in the national debates.

2. **Should the reform of middle level schools and programs focus on structural changes to programs and schools or philosophical changes to teachers and school leaders?** School reform generally involves making policy changes that define the allocation and use of resources. In this way, reform can be measured by evaluating the extent to which policies have been implemented. However, some advocates for middle level reform suggest that this checklist style of accountability fails to account for the degree to which those who are enacting the policies have internalized the values and principle that underlie them. For example, a school could comply with a policy change that mandated an advisory period, without developing a real understanding among the staff about why advisory is important and how it supports the broader goals of the school. As with the previous tension, it is important to note that this does not have to be understood as an either/or proposition. A school reform effort could focus on both structural and philosophical changes in school practice.

3. **Should the reform of middle level schools and programs involve incremental or comprehensive change?** The reform of middle level learning has involved the development of reform strategies that address multiple dimensions of school organization and curriculum. However, in many cases the reforms are not implemented in a comprehensive fashion. Policies are rolled out in isolation or an incremental fashion. Some suggest that the failure of middle level school reform efforts is not a failure of the theory of the reform effort, but rather a failure of implementation.

These tensions, as articulate through these questions, have significant implications for policy and practice at the middle level. They impact the way we think about the design of middle grades schools, the design of curriculum and assessment, and the preparation of teachers and administrators. How we answer these questions may also relate to the way we understand and

evaluate success at the middle level. These tensions are an important frame for the presentation and organization of information in this paper.

The Structure of this Paper

Following this introduction, this paper is divided into three main sections

- **The Middle Level Model** - This section will present a brief history of the middle level model, with a particular focus on the history and the principles of the middle school movement. A focus of this section will be on *This We Believe* and *Turning Points*, the core documents that underlie the middle school movement.

- **Research on the Middle Level Model –** This section will consider how the middle level school philosophy and design principles have been translated into policy, as well as present a review of the research on the impact of various components of the model. This will include subsections discussing (1) grade configuration, (2) interdisciplinary teaming, (3) grouping at the middle level, (4) middle level advisory programs, and (5) training for teachers at the middle level.

- **Comprehensive School Reform at the Middle Level** – One relatively recent development that has impacted the reform of middle level learning is the federal support for the use of comprehensive school reform strategies. This section will examine six comprehensive school reform models that are designed for the middle level learning space. Each model will be briefly described and a review the research on their effectiveness will be presented.

Bridging Richmond's Middle Level Focus

This white paper is an initiative supported by Bridging Richmond (BR), a regional partnership modeled after STRIVE together, a national framework

designed to promote regional, cross-sector collaborations around the cradle-to-career pipeline. BR's vision is that *'every person in our region will have the education and talent necessary to sustain productive lifestyles.'* To realize this vision, Bridging Richmond engages its regional partners from the education, business, government, civic, and philanthropic communities to (1) facilitate community vision and agenda for college- and career-readiness, (2) establish shared measurement and advance evidence-based decision making, (3) align and coordinate strategic action, and (4) mobilize resources and community commitment for sustainable change.

A current focus of BR's work is the middle level learning space. The work in this area has included (1) support for the administration and use of the Gallup Student Poll for middle grade students in surrounding school divisions and communities, (2) planning and hosting a series of middle level learning summits that bring regional stakeholders together to discuss the challenges and opportunities of middle level learning, (4) support for the organization and facilitation of a Middle Level Learning Interest Group comprised of higher education faculty and K-12 researchers to help inform the regional conversations around middle level school reform, and (4) support for the MSR2020 out-of-school time system within Richmond Public Schools.

This paper is part of a series of white papers on research and best practices in middle level education. Other papers in this series include:

- **Best Practice in Out-of-School Time Systems (February 2013)** - Out-of-School Time (OST) programming is defined as both after school and summer learning opportunities for youth designed to offer alternative learning experiences or supplement and support traditional school-based education. This paper presents a review of current research and best practices in the design and implementation of citywide Out-of-School Time Systems as well as an overview of possible performance measures and community indicators for OST systems. The report also includes the

perspectives gained from semi-structured phone interviews with five program leaders from four established OST citywide systems.

- **Middle Level Math (expected August 2014)** – This paper will examine the policies related to middle level math. At the heart of this topic is the question of when and how to integrate algebra into the math course sequence. The paper will give an overview of the national research and best practice in this area, as well an assessment of how this research relates to the current math policy initiatives in the Richmond-area school divisions.

Method

The process for developing this paper involved both a review of national literature on middle level learning as well as an ongoing process of engaging local researchers, practitioners, and policy makers.

The review included scholarly literature, professional literature, and the policy positions and resources provided by national organizations. Sources for the literature review were identified through (1) searches of scholarly databases and general web searches on a variety of topics related to middle level learning, (2) the review of bibliographies of key studies, and (3) a review of websites of national organizations that are focused on middle level learning.

The review of literature and the organization and writing of the paper were also supported by two methods of engaging local stakeholders. First, in December of 2013 a Middle Level Learning Interest Group (MLLIG) was formed. This group initially involved faculty from Virginia Commonwealth University's (VCU) School of Education but quickly expanded to include higher education faculty from other schools and centers within VCU, research and evaluation leads from local school divisions, representatives from the Virginia

Department of Education, and leaders from state organizations on middle level education. At the monthly meetings of the MLLIG, short presentations were made that related to the various topics covered in the paper. The discussions that followed these presentations served as a form of peer review for the ideas presented. In addition to the meetings of the MLLIG, interviews were conducted with individuals representing a range of perspectives on middle level learning. These interviews served as a way of deepening understanding of the topics and themes that emerge in the literature.

Interviews with local scholars and practitioners

- Nora Alder, Associate Professor, VCU Department of Teaching and Learning
- Hillary Hughes, Assistant Professor, VCU Department of Teaching and Learning
- Sandra DuTemple, Director of Virginia Schools to Watch, National Forum to Accelerate Middle Grades Reform
- Meghan Redigar, Teacher, Matoaca Middle School, Chesterfield County Public Schools
- Gayle Sutton, Assistant Principal Matoaca Middle School, Chesterfield County Public Schools, Current President of the Virginia Middle School Association

Members of the Middle Level Learning Interest Group

- Jose Alcaine, VCU School of Education
- Nora Alder, VCU School of Education
- Ann Allen, Richmond Public Schools
- Thomas Beatty, VCU School of Education
- Risha Berry, VCU School of Education
- Yvonne Brandon, VCU School of Education
- Chin-Chih Chen, VCU School of Education

- Leila Christenbury, VCU School of Education
- Donna Dockery, VCU School of Education
- Sandra DuTemple, National Forum to Accelerate Middle Grades Reform
- Aimee Ellington, VCU Department of Mathematics and Applied Mathematics
- Thomas Farmer, VCU School of Education
- William Haver, VCU Department of Mathematics and Applied Mathematics
- Vandi Hodges, VCU Department of Mathematics and Applied Mathematics
- Nancy Hoover, Chesterfield County Public Schools
- Hilary Hughes, VCU School of Education
- Jacquelyn Kelley, Virginia Department of Education
- Katherine Mansfield, VCU School of Education
- Gabriel Reich, VCU School of Education
- Jason Smith, Bridging Richmond
- Kevin Sutherland, VCU School of Education
- Gayle Sutton, President Virginia Middle School Association
- Christine Young, Virginia Training And Technical Assistance Center

The Middle Level Model

Although the labels "elementary school" and "high school" have remained relatively constant through the history of K-12 education in our country, the middle grades space has gone through several waves of reform that have left a complicated landscape of middle grade schools. Some students in the middle grades (5th through 9th) attend elementary schools that go up to grade eight (i.e., K-8 schools), some attend junior high schools (generally 7th through 9th), and others intermediate schools (generally 5th and 6th). However, currently the most popular label and grade configuration in middle grades is the 6th through 8th grade middle school.

More than just a label, the idea of the "middle school" represents both a reform movement in education as well as a philosophy about the appropriate methods for educating young adolescents. Despite the recent push back against the 6th through 8th middle school model, the educational philosophy and design principles that emerged from the middle school movement of the late 1960s and early 1970s have become the basis of what is considered best practice in middle level education. This section will begin by giving (1) a brief overview of the history of middle grades reform, and then discuss (2) the core principles that define the specific middle school model.

History of Middle Grades Reform

Over the last century there have been significant shifts in the grade configurations, the organizational structures, the approaches to teaching and learning, and the educational philosophy of middle grades schools. Below is a brief history of the reform movements that have shaped the current landscape of the middle grades.

The Push for Junior High Schools

The concept of junior high school emerged in the early 20th century out of concerns expressed by education reformers about the effectiveness of the K-8

grade configuration. The concerns included: (1) The rate of academic failure among young adolescents and the high percentage of students dropping out of school before the 8th grade, (2) the effectiveness of K-8 schools in preparing students for the job market, and (3) a rising concern that the education of young adolescents was not designed to meet their developmental needs.

In response to these concerns the Commission on the Reorganization of Secondary Education in 1918 issued a report proposing the reconfiguration of grade structure to create a new level between elementary and high school designated junior high school. The report stated that traditionally the grades seven and eight of elementary school "have not been well adapted to the needs of the adolescent. Many pupils lose interest and either drop out of school or form habits of dawdling to the serious injury of subsequent work . . . Emphasis should be placed on the attempt to help the pupil explore his own aptitude and to make at least provisional choice of the kind of work to which he will devote himself." The junior high was designed as a transitional space that would provide a richer curriculum than elementary school, and a more personal environment than the high school. This push for junior high schools was very successful. Through the first half of the twentieth century the two- or three-year junior high model grew to become the most common model of middle level learning in the country.

The Middle School Movement

Despite the popular support for the junior high, toward the middle of the twentieth century some reformers began to cite a need for changes. In fact the very idea of *junior* high schools came into question. There was a concern that junior highs had become too closely aligned with high school in terms of their grading systems, methods of teaching, time schedules, and student activities. What was lost with junior highs was a unique focus on the needs of

the young adolescent. This concern about the shortcomings of the junior high model led William Alexander in a 1963 speech at Cornell University to propose the establishment of a true "middle" school. Alexander and other middle school proponents felt that the design of the middle school should be based, not on traditional models of schooling, but rather on principles that were grounded in what is known about learning and the nature of children.

Along these lines, the reform ideas of the middle school movement are rooted in three fields: (1) developmental psychology, (2) progressive education, and (3) democratic education. The model that emerged – the core tenets of which will be discussed in more detail in the subsequent section – involved not only another re-configuration of grades, but more importantly a push for distinct organizational structures within the middle grades, such as interdisciplinary teaming, advisory, heterogeneous grouping, and family and community outreach programs. These models were best articulated in two seminal position statements: *Turning Points*, published in 1989 by the Carnegie Council on Adolescent Development, and *This We Believe* published in 1992 by the National Middle School Association (now the Association for Middle Level Education (AMLE)). Like its predecessor, the junior high, the middle school model was supported broadly within the education reform community and over next several decades, middle schools spread and became the dominant model of middle grades education.

The Current Debate over the Middle Level Model

Since in the late 1990s – coinciding with the spread of the standards and accountability movement – there has been a building critique of the middle school model among some education reformers. Their argument is that middle schools have lost their focus on the core mission of academic rigor and student achievement due to the over emphasis on the social-emotional development of youth. As Chester Finn wrote in the 2005 report *Mayhem in the Middle*, middle school "proponents view the purpose of schools as

putting children in touch with their political, social, and psychological selves, eschewing competition and individual achievement, and focusing on identity development and societal needs." Claims such as these were supported by research that highlighted disparities on international math and science assessments such as the Trends in International Mathematics and Science Study (TIMSS) and the Program for International Student Assessment (PISA). These arguments also focused on declines in core academic achievement during the middle grades as found on the National Assessment of Educational Progress (NAEP).

Additional research conducted in several large cities suggested that students attending K-8 schools out performed students in middle schools on standard measures of academic progress. This critique of the middle school model contributed to recent policy movements to return to K-8 grade configurations in cities such as New York City, Boston, Philadelphia, and Cincinnati. It also promoted an increased emphasis on academic rigor in core subjects as defined by state standards and high stakes assessments. While the overall push against the middle level model has been countered by the prominent organizations and mainstream supporters of the middle level reform, it can be said that the critique has led to a re-assessment of the importance of academic rigor in the literature and policy statements within the reform community. This is apparent in the shifts in emphasis that have occurred through the re-writes of the core documents of the middle level model: *This We Believe* and *Turning Points*.

The Principles of Middle Level Learning

One reason that the idea of the "middle school" emerged so quickly to dominate the middle grades learning space was that it was a true *movement* among progressive educators that, like other movements of the time, had a set of high profile leaders (e.g. William Alexander, James Beane, Carl Toepfer, John Lounsbury, Joan Lipsitz, Gordon Vars, Gayle Davis), and spawned successful organizations (e.g. National Middle School Association, National Forum To Accelerate Middle Grades Reform). At the center of this movement were a collection of key principles about the nature of teaching and learning, and the relationship between student, school, and society. The clearest articulation of these principles has occurred in two key publications that have shaped common ideas about the purposes and models of middle grades learning. This section will provide a brief overview of the ideas presented in these seminal documents, discuss the common themes, and outline the implications these ideas have for policy and practice. Box 1 presents a list of organizations that focus on education of students at the middle level and have been instrumental in helping define and promote the middle level model.

Box 1: Organizations Focused on Middle Level Learning

Association for Middle Level Education

Formerly the National Middle School Association (NMSA), this organization aims to improve the educational experiences of children aged ten to fifteen across four main values: integrity, future thinking, respect, and collaboration. AMLE organizes and supports the expansion of knowledge and understanding of issues relevant to middle level education. AMLE has affiliates across the United States.

National Forum to Accelerate Middle Grades Reform

The National Forum to Accelerate Middle Grades Reform brings together educators, researchers, professional organizations and more to promote high academic performance and healthy development of students at the middle level. The Forum holds a vision of high performing schools that are academically excellent, developmentally responsive, and socially equitable. To promote these values, the

Schools to Watch (STW) initiative was launched to provide modeling, feedback, and support to school striving for improvement. Nineteen states currently have STW programs whose schools strive to meet the high goals established by the forum. Currently there are 326 *Schools to Watch* across 19 states. 28 of the *Schools to Watch* are in Virginia.

National Association of Secondary School Principals

The National Association of Secondary School Principals (NASSP) promotes excellence in middle level and high school leadership through professional development opportunities, resources, and advocacy that are based in research. Part of NASSP, the National Center for Middle Level Leadership, offers specific support for schools at the middle level. Another recent definition of the middle school model was provided by NASSP in *Breaking Ranks in the Middle: Strategies for Leading Middle Level Reform.* This publication, which is grounded in the middle school philosophy, presents a set of cornerstone strategies for transforming schools in relation to leadership structures, school environment, and curriculum and assessment.

Virginia Middle School Association

The Virginia Middle School Association (VMSA) is a collection of individuals and organizations that share in advocating for academic excellence in middle level education by striving to create supportive and equitable environments. The association serves as a leader in advancing the mission of academically and developmentally appropriate middle level practice in the state of Virginia. VMSA also has a large role in the support of the Virginia branch of *Schools to Watch*.

Middle Level Education Research Special Interest Group

The Middle Level Education Research (MLER) special interest group is a subset of the American Educational Research Association that focuses on issues relevant to the education and overall wellbeing of young adolescents by providing a common ground and means of sharing important research information. Additionally, the MLER is responsible for the National Middle Grades Research Program, a series of related research projects that aims to provide empirical support for development of middle level education.

National Association of Professors of Middle Level Education
Founded as an affiliate of the AMLE (then NMSA), the association aims to bring together faculty members and universities to further research and training for middle level education. The association also provides a network for the exchange and discussion of information, serves as an advocate for the middle school movement, and shares in promoting the goals of the AMLE.

Affiliation of Middle Level Professors of Education Special Interest Group
A special interest group of the Association of Teacher Educators organized around four main purposes: (1) to provide a professional network that enhances information and idea exchange, (2) to encourage the discussion of topics related to the middle level teacher education, (3) to make a contribution to the further development of the body of research on middle level education, and (4) to serve as a group of advocates for issues pertaining to the middle school movement.

This We Believe

The National Middle School Association (NMSA) emerged in the early 1970s as a group of university professors and researchers who were interested in promoting understanding of the unique developmental needs of middle grade students and reforming schools to meet these needs.[1] In the early 1980s, the NMSA assembled a committee of leaders in the middle school movement to publish a statement of core educational beliefs. The goal was to provide a document that would assist middle grade educators in designing and implementing educational programs that were developmentally

[1] An important note is that National Middle School Association officially changed their name in 2011 to the Association for Middle Level Education (AMLE) to reflect the idea that their organizational focus was not on middle schools per se, but on the education of all students in the middle grades (5th through 9th) regardless of the grade configuration of the they school they attended.

appropriate for young adolescents. The committee published a position statement in 1982 titled *This We Believe* that accomplished this goal. The popularity of the paper through the 1980s led the NMSA to publish it in a more formal fashion in 1992. Since then, *This We Believe* has gone through three additional revisions (1995, 2003, 2010). *This We Believe* has become the basis for the professional development and school improvement resources for middle grades schools.

Key Recommendations of This We Believe

Box 1 presents the key recommendations of *This We Believe* from the most recent publication (2010). These recommendations include four essential attributes and 16 characteristics. The 16 characteristics are divided into three domains: (1) curriculum, instruction, and assessment; (2) leadership and organization; and (3) culture and community.

Box 2 – Key Recommendations of *This We Believe* 2010

Essential Attributes – An education for young adolescents must be:

- **Developmentally Responsive** – Using the nature of young adolescents as the foundation on which all decisions are made.
- **Challenging** – Recognizing that every student can learn and everyone is held to high expectations.
- **Empowering** – Providing all students with the knowledge and skills they need to take control of their lives.
- **Equitable** – Advocating for every student's right to learn and providing challenging and relevant learning opportunities.

16 Characteristics

- **Curriculum, Instruction and Assessment**
  - Value young adolescents – Educators value young adolescents and are prepared to teach them.
  - Active learning – Students and teachers are engaged in active purposeful learning.

- Challenging curriculum – Curriculum is challenging, exploratory, integrative, and relevant.
- Multiple learning approaches – Educators use multiple learning and teaching approaches.
- Varied assessments – Varied and ongoing assessments advance learning as well as measure it.

- **Leadership and Organization**
  - Shared vision – A shared vision developed by all stakeholders guides every decision.
  - Committed leaders – Leaders are committed to and knowledgeable about this age group, educational research, and best practices.
  - Courageous and collaborative leaders – Leaders demonstrate courage and collaboration.
  - Professional development – Ongoing professional development reflects best educational practices.
  - Organizational structures – Organizational structures foster purposeful learning and meaningful relationships.

- **Culture and Community**
  - School environment – The school environment is inviting, safe, inclusive, and supportive of all.
  - Adult advocate – Every student's academic and personal development is guided by an adult advocate.
  - Guidance services – Comprehensive guidance and support services meet the needs of young adolescents.
  - Health and wellness – Health and wellness are supported in curricula, school-wide programs, and related policies.
  - Family involvement – The school actively involves families in the education of their children.
  - Community and business – The school includes business partners.

Turning Points: Preparing American Youth for the 21st Century

In the mid 1980s the Carnegie Council on Adolescent Development assembled a Task Force on the Education of Young Adolescents to discuss the challenges around education in the middle grades and to publish a set of recommendations to guide policy and practice. The task force included high profile leaders from the middle school movement, educational researchers, and elected officials. Published in 1989, *Turning Points: Preparing American Youth for the 21st Century* presented eight primary recommendations related to curriculum, school structure, leadership, teacher preparation, and school/community partnerships. These recommendations led to the development of the Middle Grade School State Policy Initiative (MGSSPI) that supported 225 middle grade schools as they integrated the *Turning Points* recommendations, and assessed their impact.

In 2000, two of the leaders from the MGSSPI, Anthony Jackson and Gayle Davis published *Turning Points 2000*, a book that revisited the original *Turning Points* recommendations in light of the research and experiences in practice that had occurred over the previous decade in the MGSSPI schools. The changes from the original to the second edition reflect a slight shift in focus toward more standards-based academic rigor, toward professional models for in-service teachers, toward equity and community engagement, and toward the idea that school reform needed to be comprehensive, not incremental. Box 2 presents the *Turning Points 2000* recommendations.

Box 3: Turning Points 2000 Recommendations

1. Teach a curriculum grounded in rigorous, public academic standards for what students should know and be able to do, relevant to the concerns of adolescents and based on how student learn best.
2. Use instructional methods designed to prepare all students to achieve higher standards and become lifelong learners.

3. Staff middle grades schools with teachers who are expert at teaching young adolescents, and engage teachers in ongoing, targeted professional development opportunities.
4. Organize relationships for learning to create a climate of intellectual development and a caring community of shared educational purpose.
5. Govern democratically, through direct or representative participation by all school staff members, the adults who know the students best.
6. Provide a safe and healthy school environment as part of improving academic performance and developing caring and ethical citizens.
7. Involve parents and communities in supporting student learning and healthy development.

Conclusion: From Principles to Policy

Although there are some differences in emphasis between *Turning Points* and *This We Believe*, the two documents build upon a common set of principles about middle level learning. These common principles include:

- **Academic Rigor** – The idea that teaching and learning at the middle level should occur in ways that challenge students to think critically about academic content and develop skills that allow them to demonstrate their knowledge.
- **Developmentally Responsive** – The idea that middle level schools should be designed with the developmental needs of the young adolescent in mind.
- **Addressing the Whole Child** – The idea that middle level schools need to support, not just the academic, but also the social, psychological, moral, and physical needs of early adolescents.
- **Importance of Relationships** – The idea that middle level schools should be built on caring and supportive relationships. The push in these schools should be toward personalization rather than anonymity.
- **Democratic Governance** – The idea that middle level schools should be structured on models of shared democratic leadership.
- **Engagement with Family and Community** – The idea that middle level schools should actively engage families and reach out to the community.
- **Promoting Equity** – The idea that middle level schools should be designed to enhance equity within the system.

These principles have been the foundation for a wide range of school reform efforts over the past three decades focused on middle grades education. This includes AMLE's school improvement work, The Forum's *Schools to Watch* initiative, and the NASSP's *Breaking Ranks in the Middle* program. It has also become the basis of a number of Comprehensive School Reform models.

In each case these organizations and reform efforts have taken the principles of middle level education and translated them into recommendations for particular school-level policy initiatives. This includes the adoption of policies such as interdisciplinary teams, integrated curriculum, student advisory periods, flexible scheduling, and middle-level focused in-service and pre-service staff training. These components not only overlap with each other, but are also generally supported by several of the middle level principles stated above. For example, interdisciplinary teaming could be a way of promoting academic rigor, developing more personal relationships, and supporting democratic leadership among teachers.

In the next sections, the focus will be on understanding the general design of this policy components and reviewing what the research and best practice literature has to say about their impact on school and student-level outcomes. This will be dealt with first on a component-by-component basis, and then by examining Comprehensive School Reform models designed for the middle level.

Research on the Middle Level Model

As discussed in the previous section, the middle school movement established a model of education for young adolescents that has grown to shape the principles and the designs of the middle grades. This is true in schools that, by grade configuration, are labeled middle schools, however it is also true for schools that may go by different names. That is to say, junior high schools, intermediate schools, and K-8 schools are still likely to implement many of the middle level reforms born out of the middle school movement.

As with any reform, the question is, has it worked? The purpose of this section and the next section of the paper is to begin to answer that question by providing overviews of the research on the impact of the implementation of key components, as well as comprehensive models, of middle level learning.

Questions Related to Impact

Before outlining the structure of these sections, there are two points that need to be made about the challenges of assessing the impact of middle level reform efforts. While these points apply broadly to most educational programs, below they will be discussed in terms of their relationship to some of the core controversies surrounding the success of middle level reform efforts. Each of these points is presented as a question.

- ***What does it mean for middle level reform to work?*** This is a question about the outcomes that are assessed. While many studies use academic achievement measures as the primary indicator of the impact of middle school reform efforts, there are many dimensions of the middle school model that are not academically focused. For example, would a parental outreach program or a student advisory program that did not impact math and reading scores be deemed ineffective? In that the middle school model presents a whole child approach to education, the issue of

assessing appropriate outcome measures is important. Many within the educational research community are beginning to make cases for the value of assessing the non-academic outcomes of school. In this regard particular focus is being given to student dispositions such as engagement, persistence, and growth mindsets.

- ***How do we know that the program has been implemented?*** To name a school a middle school does not necessarily mean that the school is implementing the middle level model. This has been a common defense among middle school proponents against those who have argued the failure of the middle level reform. In certain cases this is discussed as the difference between a checklist model of reform and true embrace of the principles of the model. For example, many middle school proponents argue that although some schools may have a "student advisory program" they are not fulfilling the spirit of advisory as laid out in the principles of the model. Another dimension of this relates to the level of implementation. The middle level model suggests a set of classroom and organizational practices that can be implemented in isolation. For example, a school could implement advisory periods without it happening in conjunction with interdisciplinary teams. The question then is can the components of the middle school model be assessed separately, or can they only be assessed when they are implemented in a comprehensive fashion?

With these questions in mind, the next section of the paper will consider the individual components of the middle level model. The components covered in this section include (1) grade configuration, (2) interdisciplinary teaming, (3) grouping at the middle level, (4) middle level advisory programs, and (5) training for teachers at the middle level. The nature and values of each component will be discussed, followed by highlights of key research findings, and finally brief overviews of key studies relating to each component.

The next section of the paper will look at comprehensive school reform models that are designed for the middle level. This will include a discussion of the general comprehensive school reform approach and then review six different models currently being implemented.

Grade Configuration

Since the push for junior high school in the early 20th century, one of the key ideas around middle level learning is that there would be benefit in housing the middle grades in a separate school space from either elementary or high school. The rationale behind this idea is that a dedicated middle level learning space would give educators the ability to tailor all the components of the curriculum and organizational structure of the school to the needs of the young adolescent. For this reason the reforms of middle grades are often discussed in terms of shifts in school grade configurations. The grade configurations that are generally discussed are:

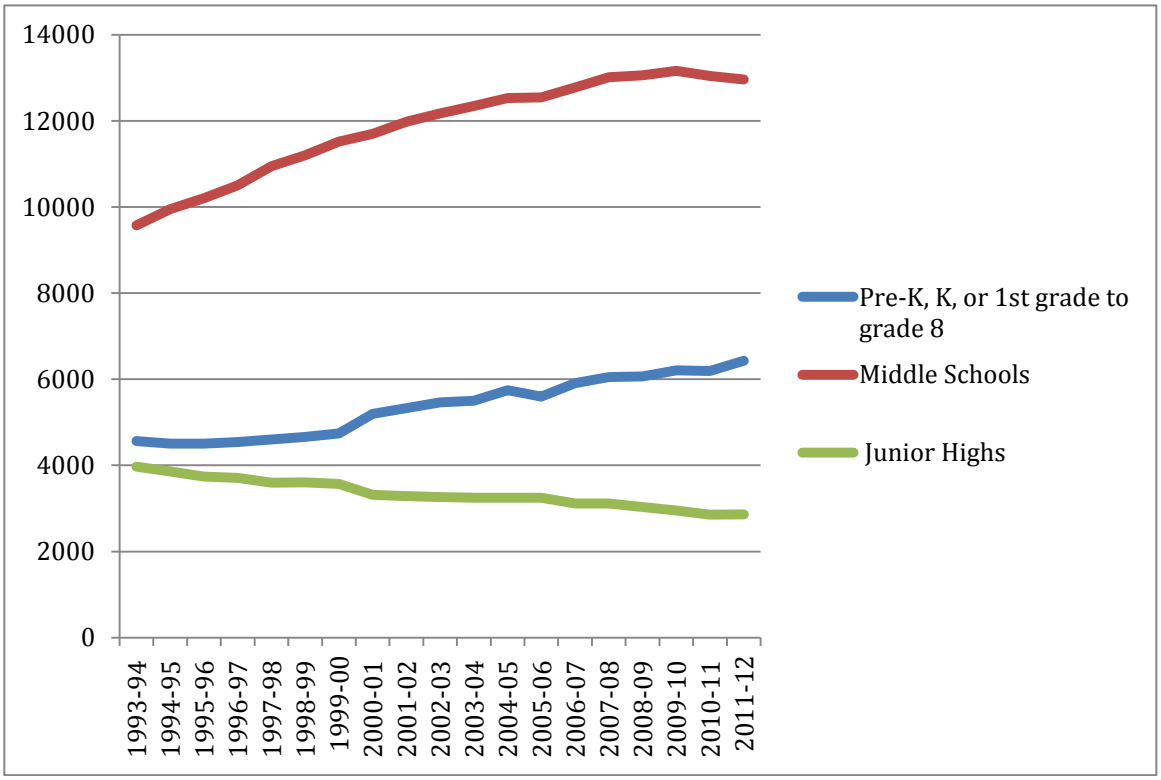
- **K-8** – Originally, schools were divided between elementary (i.e. grades up to grade 8) and high school (grades 9 through 12).

- **Junior High** – With the junior high model, the thought was to divide the 12 grades in half with grades 1 through 6 designated as elementary and 7 through 12 as high school, which included both a junior level (grades 7 through 9) and a senior level (grades 10 through 12).

- **Middle School** – The middle school movement encouraged separating the middle level school from its association with high school altogether and creating a true "middle" school space. Middle schools vary in grade configuration, but generally included some combination of grades between 5th and 9th grade, with the 6th through 8th model being the most popular.

As mentioned above there has been push recently back towards a K-8 model for middle grades. The graph below shows the trends in the growth of K-8, middle school, and junior high school grade configurations over the past twenty years. This graph shows a slight increase in the number of K-8 schools over the past ten years, along with the gradual leveling off and possible decrease in the number of middle schools.

Middle Level Grade Configurations Nationally



Summary of Key Findings from the Research on Grade Configuration

The research around the impact of grade configurations on student outcomes has raised a number of important issues that bear consideration.

- **Focus on transitions** – Many of the studies on the value of various grade configurations focus on the number and timing of school transitions into and out of the middle level grades. Some attribute negative impacts on achievement and non-academic outcomes on the disruption caused by these transitions. However, some studies have suggested that it is the timing, not necessarily the number of transitions that matters.

- **Long-term impacts on academic achievement** – One of the key issues of assessing the impact of grade configurations on student achievement is in

understanding not just the immediate effects of transitions into or out of middle school, but also the long-term effects. Some longitudinal studies have found that drops in achievement persist, while others have found that differences fade as students get to high school. Many studies have found that negative impacts associated with grade configurations have also found increased disparities between socioeconomic and racial ethnic subgroups.

- **Non-academic outcomes** – While many of the studies use student academic achievement as the primary outcome indicator, most also consider the relationship between academic outcomes and social and behavioral outcomes. This includes focus on student attendance, behavior, and engagement.

- **Cohort size, not grade configuration** – A number of the studies which have found a positive effect of K-8 schools, have gone on to determine that it was not the K-8 grade configuration per se, but rather the smaller size and relative stability of the peer cohorts in those school.

Review of Key Studies on the Impact of Grade Configuration

Below is an overview of key studies on the impact of grade configuration on student outcomes. The studies have been organized into two general categories: (1) those that found little or no significant impact on student outcomes, and (2) studies that found possible impacts on student outcomes.

Studies that suggest little or no impact of grade configuration on student outcomes

Williams, T., Kirst, M., Haertel, E., et al. (2010). Gaining ground in the middle grades: Why some schools do better. Mountain View, CA: EdSource.

- A large-scale study of 303 middle grades schools in California found no consistent or strong association between outcomes on standardized tests and school grade configurations.

Carolan, B. V., & Chesky, N. Z. (2012). The relationship among grade configuration, school attachment, and achievement. *Middle School Journal*, 32-39.

- Using longitudinal data from a national data set, no significant difference was found between attendance in K-8 schools as compared to 6-8 schools in relation to achievement in either reading or mathematics.

Studies that suggest possible impact of grade configuration on student outcomes

Schwartz, A. E., Stiefel, L., Rubenstein, R., & Zabel, J. (2011). The path not taken: how does school organization affect eighth-grade achievement? *Educational Evaluation and Policy Analysis*, *33*(3), 293-317.

- Using data from New York City, research found that students moving from K–4 to 5–8 schools or in K–8 schools outperform students on other paths. Results suggest four possible explanations for the findings—the number of school changes, the timing of school changes, the size of within-school cohorts, and the stability of peer cohorts.

Clark, D. M., Slate, J. R., Combs, J. P., & Moore, G. W. (2013). Math and reading differences between 6-8 and K-8 grade span configurations: A multiyear, statewide analysis. *Current Issues in Education*, *16*(2).

- Using data from the Texas public school system, research found that students who were enrolled in K-8 schools had higher average passing rates on the Texas standardized reading and math assessments than did students enrolled in middle schools, based on fewer school transitions and more stable instructional environments in K-8 schools.

Alspaugh, J.W. (1998). Achievement loss associated with the transition to middle school and high school. *Journal of Educational Research, 92*(1), 20–25.

- In a study of 16 rural school districts, research found that students who attended middle schools experienced greater achievement loss in the transition to high school than students making the transition from a K–8 school.

Rockoff, J. E., & Lockwood, B. B. (2010). Stuck in the middle: Impacts of grade configuration in public schools. *Journal of Public Economics, 94*(11), 1051-1061.

- In an examination of New York City Schools, research found that moving students from elementary school to middle school in sixth or seventh grade is connected to significant drops in achievement.

Schwerdt, G., & West, M. R. (2013). The impact of alternative grade configurations on student outcomes through middle and high school. *Journal of Public Economics*, *97*, 308-326.

- Using statewide administrative data from Florida, research found that students moving from elementary to middle school suffer a sharp drop in student achievement in the transition year, a drop that persist through grade 10. It was also found that middle school entry increased student absences and was associated with higher grade 10 dropout rates. Transitions to high school in grade 9 cause a smaller one-time drop in achievement but do not alter students' performance trajectories.

Abella, R. (2005). The effects of small K–8 centers compared to large 6–8 schools on student performance. *Middle School Journal, 37*(1), 29–35.

- Research in Miami-Dade County found that students in middle level grades 6, 7, and 8 obtained higher achievement in K–8 schools than in schools with middle school configurations. K–8 students had significant

short-term beneficial effects on achievement, attendance, and suspension rates. The research also revealed that sixth and seventh grade students showed greater improvement in mathematics and reading compared to the same grades in middle schools, but the two groups had identical scores in ninth grade, so the effects were not long term.

Cook, P. J., MacCoun, R., Muschkin, C., & Vigdor, J. (2008). The negative impacts of starting middle school in sixth grade. *Journal of Policy Analysis and Management, 27*(1), 104-121.

- Using administrative data from North Carolina public schools, it was found that sixth grade students attending middle schools were more likely to be cited for behavioral problems than those attending elementary schools.

Interdisciplinary Teaming

Interdisciplinary teaming involves creating small learning communities that are typically comprised of core subject teachers (English, math, social studies, and science) and approximately 100 students. While certain teaming models use two instead of four teachers (i.e., English/social studies and math/science), the most important factor is that these teachers all teach and interact with the same group of students across the school year. In fact, in some teaming models the teachers follow the students from year to year as well. Interdisciplinary teaming is the policy component most often associated with the middle level model because of the ways in which it supports a number of principles of the middle level philosophy. This is evident when you consider the rationale for establishing teams:

- Teaming supports strong relationships between students and teachers that promote social emotional development
- Teaming allows for flexible scheduling that can be used to promote integrated curriculum
- Teaming allows for common planning time for teachers
- Teaming allows teachers to take leadership roles in the development and delivery of instruction

One of the key issues related to interdisciplinary teaming is how teams are constituted. When selecting students for teams several strategies have been promoted. In some cases teams are used to track students into academic ability groups, however there has been a strong push among many in the middle level community to promote heterogeneous grouping. At the teacher level, there are questions of whether teachers self-select into teams or are assigned by administrators. The issue of grouping is covered in more detail later.

Summary of Key Findings from the Research on Teaming

The research around the impact of teaming has raised a number of important issues that bear consideration.

- **Impact on student outcomes** – Some studies have found that achievement tends to increase in school environments that utilize interdisciplinary teams. Along these lines teaming has been found to be particularly powerful in high poverty schools and often leads to sustained achievement on standardized tests.
- **Non-academic outcomes for students** – If implemented with consistency, being attached to a team is related to increases in student motivation and positive attitudes toward school. Students who operate in a team-based environment are more likely to be engaged in their learning, have more positive self-esteem, and a greater sensitivity toward difference than non-teamed students. The small communities created by teaming lead to higher student perceptions of social bonding to other students, teachers, and the school environment.
- **Impact on teachers use of effective practices** – Teaming is linked with teachers' use of effective classroom practices such as small group instruction and critical thinking enhancement.
- **Impact on teachers work lives** – Teaming is linked to improved work climate and improved job satisfaction.
- **Impact on parental contact** – Some studies have suggested that teaming has a positive effect on frequency and quality of parental contact.
- **Issues related to the implementation of teaming** – Studies have found that certain factors influence the development of successful teams including the size of the team, the level of administrative support, and the quality of the common planning time.

Review of Key Studies on the Impact of Teaming

Below is an overview of key studies on the impact of interdisciplinary teaming. The studies have been organized into two general categories that focus on (1) student outcomes and (2) the implementation of teaming practices.

Research on student outcomes

Mertens, S. B., & Flowers, N. (2003). Middle school practices improve student achievement in high poverty schools. *Middle School Journal, 35*(1), 33-45.

- Using data from the School Improvement Self Study survey collected in three southern states, this research found that family income level plays a large role in students' academic achievement, but schools can work towards balancing any inequalities based on socio-economic status. By introducing common planning time and interdisciplinary teaming in a frequent and sustained way, schools were able to provide stable environments for student learning regardless of family income.

Fleming, J. L., & Monda-Amaya, L. E. (2001). Process variables critical for team effectiveness: A delphi study of wraparound team members. *Remedial and Special Education, 22*(3), 158-171.

- Using a panel of teachers with expertise in teaming, this research defined the most important factors to the success of teaming at the middle level. Critical variables at the team level were determined to be: goals, roles and membership, communication, cohesion, logistics, and outcomes, with outcomes, goals, and cohesion being the most significant factors for success.

Wallace, J. J. (2007). Effects of interdisciplinary teaching team configuration upon the social bonding of middle school students. *Research In Middle Level Education Online, 30*(5), 1-18.

- In a study of two configurations of 6th grade students (teamed and non-teamed), this research found that teaming is valuable not only as a means

to increase student achievement, but also that these increases are coupled with improvements in non-academic outcomes. The small communities created by teaming correlated with higher student perceptions of social bonding to other students, teachers, and the school environment. A practical consideration is that social bonding is inversely related with team size.

Research on teaming practice implementation

Flowers, N., Mertens, S. B., & Mulhall, P. F. (2000). What makes interdisciplinary teams effective? *Middle School Journal, 31*(4), 53-56.

- Using data collected from 155 middle grades schools in Michigan, this study focused on factors that led to effective team practices. Four main conclusions arise: (1) having common planning time increases the number of team activities, (2) smaller teams engage in more team activities, (3) the number of team activities increases the longer a school uses teams, and (4) higher numbers of team interactions lead to higher opinions about teaming among teachers.

Main, K. (2010). Jumping the hurdles: Establishing middle school teams. *Pedagogies: An International Journal,* 5(2), 118-129.

- A year long study of four Australian middle schools reveals how small learning teams can be very valuable when it comes to middle level education and the reform of such models. In order for teams to be successful, both team members and school administration need to be committed to the idea and future development of the team.

Grouping at the Middle Level

In elementary school, students are usually put into classes that have a range of ability levels and learning styles. By the time they reach high school academic classes are generally tracked according to ability level (e.g., regular, honors, IB). This has led to questions about the appropriate methods of student grouping in the middle grades. While some that feel that it is important to begin tracking students according to ability level so teachers can provide more focused attention or content based on the more uniform needs of a class, others feel that there is value in grouping students heterogeneously. In heterogeneous grouping, students are placed in mixed ability classrooms with the idea that allowing a student to learn from others whose abilities are different to their own will promote expanded knowledge and experience. Some argue that especially at the developmental stage of many middle school students, learning from and working with a diverse group of peers can be advantageous.

Another strategy is to group students not according to ability level, but rather a characteristic or interest. Grouping according to gender is one approach that has been experimented with in the middle grades space. When students are grouped based on gender, the aim is to create environments where the social pressure and anxiety created by the opposite gender are removed so that students can focus on academic and social development. Another approach is to develop interest-based groups that students opt into – for example, a middle grades STEM program, or an arts-based program.

Summary of Key Findings from the Research on Grouping

Research on grouping at the middle level highlights several key considerations for success.

- **Implementation is key** – Research has found that school structures and support can both impede and support the implementation of various grouping strategies, so schools need to have a clear vision.

- **The teacher plays an important role** – Teachers can work to moderate the experiences of high and low achieving students in heterogeneous groups or to tailor experiences towards specific audiences in homogeneous groups to maximize student growth.
- **Ability grouping has little overall impact on achievement** – When students are grouped according to ability, both high and low ability students show little change in achievement. Additionally, if students are tracked into a line of coursework for which they are not suited, their academic success could be negatively impacted, both in terms of grades and course pass rate.
- **Non-academic outcomes improve with heterogeneous ability grouping** – Having students in mixed ability level groups relates to academic enjoyment, academic self-concept, and a decrease in disciplinary referrals.
- **Evidence for gender-based grouping is mixed** – Some studies indicate positive effects of gender-based grouping, while others indicate little to no impact.

Review of Key Studies on the Impact of Grouping

The following key studies describe research on strategies for grouping students at the middle level based on academics and on gender.

Research on academically-based grouping

Ireson, J., & Hallam, S. (2009). Academic self-concepts in adolescence: Relations with achievement and ability grouping in schools. *Learning and Instruction*, *19*(3), 201-213.

- Using data from twenty-three middle schools that employed a variety of ability grouping structures, the authors aimed to illustrate the connection between those structures and students' academic self-concepts. Results indicated that the greater the stratification of ability groups, the greater the impact on academic self-concept. High ability students had more

positive outlooks, while low ability students' self-concepts were less positive and these students were more likely to have a significant decline in academic motivation.

Burris, C. C., Heubert, J. P., & Levin, H. M. (2006). Accelerating mathematics achievement using heterogeneous grouping. *American Educational Research Journal*, *43*(1), 137-154.

- Using data from a longitudinal sample of New York middle school students, this study aims to connect heterogeneous grouping with future academic success. Students were followed and their enrollment in advanced mathematics courses and overall academic achievement was examined in light of the heterogeneous grouping used by the school. Results indicate that enrollment in advanced courses increased as did achievement across ability level.

Nolan, F. (1998). Ability grouping plus heterogeneous grouping: Win-win schedules. *Middle School Journal*, *29*, 14-19.

- Using the example of one middle school's scheduling strategy, this article examines a method of ability grouping that benefits all students. Rather than group all students by ability level for math classes, Isanti Middle School in Minnesota grouped the highest achieving by ability and grouped the remainder of the students heterogeneously. This two-tiered grouping allowed for high-achieving students to learn at a faster pace, while giving other students the collaborative benefits of heterogeneous grouping, and promoted an increase in achievement for both groups.

Slavin, R. E. (1993). Ability grouping in the middle grades: Achievement effects and alternatives. *The Elementary School Journal*, 93(5), 535-552.

- Using the body of existing research on ability grouping at the middle level, this review presents an argument that ability grouping is ineffective. Collected analyses indicate that ability grouping does not produce any

significant effects for high, average, or low ability students. The author suggests a move towards alternative grouping strategies and a re-working of curricula that would work with newer strategies.

Research on gender-based grouping

Friend, J. (2006). Research on same-gender grouping in eighth grade science classrooms. *Research in Middle Level Education Online*, *30*(4).

- Using data from a suburban Midwest middle school, this study compared both male and female homogeneous classes against coeducational classes. Results indicated that gender-specific classrooms did not create a significant difference in science achievement between the groups, nor was there a positive impact on classroom climate. The author suggests further research to better understand how classroom structures can be used to impact gender stereotyping and classroom performance.

Perry, W. C. (1996). Gender-based education: Why it works at the middle school level. *NASSP Bulletin*, *80*(577), 32-35.

- Reporting on the pilot test of gender-grouping implementation in a northern Virginia middle school, this article presents the need for more attention being paid towards student differences. By affording girls in particular the opportunity to engage with other girls in material where girls typically fall behind, the aim is to close that gap. Results indicate that both disciplinary outcomes and academic success is improved for both boys and girls when the two groups are taught independently of the other.

Middle Level Advisory Programs

One of the defining characteristics of the middle level model is the focus on students' social/emotional development through the period of young adolescence. Supporting this focus is the idea that addressing the social emotional needs of youth not only is important for the general wellbeing of students, but also that these non-academic outcomes are closely related to important academic indicators. Student advisory programs emerged as a tool designed specifically to meet this need. Advisory programs typically focus on character development, leadership skills, social skills and community service. Overall the goal of advisory programs is to address student needs that might not be met through coursework or in another school context, by providing students activities that build important non-cognitive outcomes such as engagement, persistence, wellbeing, and hope.

Student advisory programs use a range of models. In some cases, advisory looks much like a class with a dedicated time slot during the school day and standard curriculum. In other cases, advisory programs involve the development of flexible support structures in the school that are responsive both to individual student needs, and broader group and school-wide needs. In schools that use interdisciplinary teaming models it is common for advisory to be delivered in the context of the team setting by the teachers who work with the students on a daily basis and know them well.

It is worth noting that current empirical research in this area is particularly lacking. Even recent studies rely on research that can be almost twenty years old, so future work should be conducted to better understand the impacts of advisory programs.

Summary of Key Findings from the Research on Advisory Programs

Research on advisory programs at the middle level highlight several key considerations for success.

- **Involvement improves functioning** – By providing faculty, staff, students, and parents the opportunity to be involved in and take ownership of advisory programs, the valuing of programs increases.
- **Advisory programs are associated with positive outcomes** – Studies have shown that well designed and implemented advisory programs are associated with greater student connections, fewer risk behaviors, and lower dropout rates among youth.
- **Support and vision** – Advisory programs need adequate support at the school level as well as a clear set of goals to be most effective. Thoughtfulness regarding the student/advisor relationship is also associated with greater program success.
- **Training** – Training for school advisors can give them additional skills with which to meet the varying student needs present at the middle level.

Overview of Key Studies on the Impact of Advisory Programs

The following key studies describe some of the body of literature on important factors related to the use of advisory programs at the middle level. Two general categories emerged: (1) outcomes of advisory programs and (2) factors relating to implementation.

Research on advisory program impact on student outcomes

Weilbacher, G., & Lanier, J. (2012). An examination of a gender-separate advisory program. *Middle Grades Research Journal*, *7*(1).

- Using data collected from an Illinois middle school that used a gender specific advisory program, this study indicates that such divisions are beneficial. These advisory experiences created environments that were conducive to the formation of strong interpersonal relationships by shaping environments that were shielded from the potentially stressful influences caused by the other gender.

Research on the implementation of advisory programs

Niska, J. M. (2013). A study of the impact of professional development on middle level advisors. *RMLE Online*, *37*(5), 1-14.

- Using data from 34 middle level advisors across a single New England state, this study aimed to illustrate the impact of professional development on advisors' skills, knowledge, and practice. Advisors were randomly assigned to either receive no training, a training course, or a training course with additional coaching. Results indicated that advisors who were not in the control condition demonstrated greater advisory knowledge, but that those who received additional coaching were more confident and more able to create safe environments. These results suggest that additional coaching of advisors may be a valuable use of school resources.

Sardo-Brown, D., & Shetlar, J. (1994). Listening to students and teachers to revise a rural advisory program. *Middle School Journal*, *26*(1), 23-25.

- Using data from a rural mid-western school, teacher and student perceptions of an advisory program were compared and contrasted. Students and teachers agreed that better planning and more careful grouping were important factors to advisory success. Teachers also saw the need for more training and modeling based on successful programs, while students indicated that advisory programs should be more sensitive and diversified towards unique grade-level characteristics.

Ziegler, S., & Mulhall, L. (1994). Establishing and Evaluating a Successful Advisory Program in a Middle School. *Middle School Journal*, *25*(4), 42-46.

- By evaluating the advisory program of a Toronto middle school, the authors identified six elements of successful advisories through the school's practice: (1) planning for the program began well in advance of implementation, (2) staff were trained specifically to work in teams and with adolescents, (3) advisory groups met daily, (4) groups did not exceed

fifteen students, (5) students' advisory relationships were stable, and (6) resources to draw upon were readily available.

Training for Teachers at the Middle Level

One of the key ideas put forward in both *Turning Points* and *This We Believe* is that it is necessary to staff middle schools with teachers who are skilled at working with young adolescents. This involves having teachers that understand the unique academic and developmental needs of middle grade students, as well as having teachers who are trained in the components of the middle level model (e.g., skills in interdisciplinary teaming, conducting student advisory). However, in Virginia and across the country, there is a shortage of qualified middle grades teachers, especially in harder to staff subjects such as math, science and special education. To meet this need, some attention has been given to the design and implementation of teacher preparation programs for pre-service teachers as well as professional development for in-service teachers. In certain cases there has been a push to expand the course work and professional development training that leads to a middle level teaching endorsement. For example, within many pre-service teaching programs there are distinct programs for elementary education and secondary education, however, there are rarely programs focused on middle grades teaching.

Summary of Key Findings from the Research around Teacher Training

Research on teacher training specific to the middle level highlights several key considerations for success.

- **Training is vital** – Studies have indicated that beyond content knowledge in their subject area, teachers entering the middle grades need a wide range of skills and knowledge about student development and middle level specific pedagogical practice.
- **Teacher preparation programs play a key role** – Programs shape what skills pre-service teachers are trained with and the way they approach their role as teacher.
- **Professional development** – By providing novel and relevant opportunities, teachers can have more complete skill sets.

- **Practice** – Practical experience makes a very large difference when it comes to success in teaching.

Overview of key studies on teacher training

Research on teacher training structure

Conklin, H. G. (2007). Methods and the middle: Elementary and secondary pre-service teachers' views on their preparation for teaching middle school social studies. *Research in Middle Level Education Online*, *31*(4), 1-16.

- Using interview data from pre-service teachers in elementary and secondary education tracks, this study aims to understand the perceptions of teachers about teaching at the middle level. Results indicated that the training received shaped the pedagogical approaches of these teachers, but did not adequately prepare them to teach young adolescents at the middle level. The author suggests further research into specifically middle level training to better prepare teachers of those students.

Miller, J. W., McKenna, M. C., & McKenna, B. A. (1998). A comparison of alternatively and traditionally prepared teachers. *Journal of Teacher Education*,*49*(3), 165-176.

- An empirical comparison of teachers that were certified through a traditional middle level program against a group of teachers from a specific alternative middle level certification program. By comparing alternatively and traditionally certified teachers in similar contexts after three years of teaching experience, the authors suggest that there is no difference between the two groups in terms of teaching behavior, student performance, and perception of teachers. These results suggest the power of practical experience as a means of preparing teachers.

Research on teacher training content

Harris, D. N., & Sass, T. R. (2011). Teacher training, teacher quality and student achievement. *Journal of Public Economics*, *95*(7), 798-812.

- Empirical research study analyzing the impact of teacher experience on productivity, where productivity is defined by student achievement. Results indicate that while number of years of on-the-job experience plays a large role in increasing productivity, formal professional development and pre-service training do not play much of a role.

White, P. M., Ross, D., Miller, J., Dever, R., & Jones, K. A. (2013). Ohio's middle childhood licensure study. *Research in Middle Level Education Online*,*37*(1), 1-22.

- Using interview data from a small sample of Ohio middle school teachers, this study aimed to understand how these teachers understood their practice after completing a middle grades education program. Results indicate that these teachers demonstrated deep understandings of their students and were able to work well as part of interdisciplinary teams, but showed no increase in the ability to demonstrate the relations between curriculum, instruction, and assessment. These results suggest that teacher training is valuable, but that it may need to be targeted based on the needs of individual teachers.

Thornton, H. (2013). A case analysis of middle level teacher preparation and long-term teacher dispositions. *Research in Middle Level Education Online*,*37*(3), 1-19.

- Using data from a case study of a single middle level teacher preparation program, this study examines the ways in which teacher preparation programs can influence teachers' dispositions in the classroom. Results indicate that the dispositions cultivated by teachers at the end of their training program are likely to endure, suggesting that attention be paid to the development of dispositions that responsive to student needs.

Comprehensive Middle Level Models

The middle level model includes both a set of principles as well a set of practices and organizational structures that shape the form and function of middle grades education. Although these practices and structures are often discussed as stand alone initiatives – for example, in the section above – they often overlap and are connected in ways that suggest that they cannot be assessed in isolation. In fact, in discussions of middle level learning, many have suggested that the middle level model cannot be properly assessed unless it is implemented in a comprehensive fashion that demonstrates fidelity to both principle and practice. Along these lines the federal push for models of Comprehensive School Reform (CSR) that emerged in the late 1990s gave proponents of the middle school model an opportunity to implement their ideas in a way that led to whole school transformation. This section will give a brief description of the characteristics of CSR, and then profile six CSR models that are designed for middle grades students, and incorporate many of the principles and practices of the middle level model.

What is Comprehensive School Reform?

CSR models attempt to bring about change at the level of the whole school rather than through smaller isolated or incremental initiatives. While these models generally focus on the classroom or a specific practice, they aim to address not only the academic and developmental needs of students, but also instructional design, professional development, community relations, and more. Addressing reform to the school as a whole allows for a greater level of control over student outcomes and thus has the potential to effect greater and longer lasting change than in cases of smaller scale or incremental reforms. Although programs that use a CSR approach have existed for decades, the wide spread use of CSR began in 1998 as a result of a push in federal funding through Title I of the Elementary and Secondary Education Act.

Funding for CSR was also a key component of the 2001 No Child Left Behind Act.

The United States Department of Education identifies eleven components that define a CSR model:

1. **Proven methods and strategies grounded in scientifically-based research** – CSR model should employ strategies and methods grounded in research and best practice that have been researched and replicated in schools.
2. **Comprehensive design** – CSR model should integrate instruction, assessment, classroom management, professional development, parental involvement, and school management.
3. **Professional development** – CSR model should be based on increasing knowledge of content areas as well as effective instructional and institutional practices.
4. **Measurable goals and benchmarks** – CSR model should define goals and benchmarks that include state adequate yearly progress markers.
5. **Support within the school** – CSR model should encourage teacher, administrator, and staff support for the goals and practices of the model.
6. **Support for teachers and principals** – CSR model should support the school through shared leadership and encouraging accomplishment.
7. **Parental and community involvement** – CSR model should provide meaningful opportunities for parents and the community to interact with and support school improvement efforts.
8. **External technical support and assistance** – CSR model should identify qualified external support to ensure successful long-term implementation.
9. **Annual evaluation** – CSR model should use formative and summative evaluation to allow schools to see progress towards set goals as well as reflect on areas of success or facets of the program that need improvement.

10. **Coordination of resources** – CSR model should utilize resources at the federal, state, and local levels as well as pertinent external sources of support.
11. **Strategies that improve academic achievement** – CSR model should include strategies that significantly improve academic achievement in participating students.

While there are specified components to CSR models, the organization and specific implementation of those components can vary widely from model to model.

Research and Literature on Comprehensive School Reform

Below are several sources that discuss the overall impact of CSR models and the theoretical basis for the CSR approach.

Borman, G. D., Hewes, G. M., Overman, L. T., & Brown, S. (2003). Comprehensive school reform and achievement: A meta-analysis. *Review of Educational Research, 73*(2), 125-230.

- A large-scale meta-analysis of comprehensive school reform models aimed at demonstrating effects on student achievement. While noting limitations of CSR and potential roadblocks towards success, three reform models stood out as having the highest evidence for success: Direct Instruction, School Development Program, and Success for All.

Comprehensive School Reform Quality Center (2006). *CSRQ center report on middle and high school comprehensive reform models*. Washington, D.C.: American Institute for Research.

- A large-scale meta-analysis of comprehensive school reform models across five main criteria: (1) student achievement, (2) non-academic student outcomes, (3) parental, family, and community involvement, (4) the link

between research and the model's design, and (5) services and support to schools to enable successful implementation. No one model demonstrated strong evidence for all categories, but some models were found to have more support than others.

Desimone, L. (2000). Making Comprehensive School Reform Work. *Urban Diversity Series, No. 112*.

- An overview CSR with a focus on factors that help or hinder successful implementation of CSR as a whole concept, rather than specific models. Based on the background of implementation, the article recommends focus on school leadership and teacher instruction as areas key to the success of CSR model adoption in the school setting.

Desimone, L. (2002). How can comprehensive school reform models be successfully implemented? *Review of Educational Research, 72*(3), 433-479.

- A review of literature around CSR implementation. Poses five key characteristics of policy that make for strong CSR implementation: (1) specificity, (2) consistency, (3) authoritativeness, (4) power, and (5) stability. All five contribute to success, but three main avenues emerge: (1) specificity connected to fidelity, (2) power to immediate impact, and (3) the resiliency of effects.

Northwest Regional Educational Laboratory (2001). Updated catalog of school reform models. *Program report.* Portland, OR: Office of Educational Research and Improvement.

- Catalog of school reform models. Sixty-three school reform models are considered, with attention paid towards evidence of effectiveness, extent of replication, implementation assistance provided to schools, and comprehensiveness. Entries provide brief overviews of the historical context and implementation of the models. Models were selected based on the potential to improve student performance.

United States Department of Education. (2002). *Comprehensive school reform program guidance*. Washington, D.C.: Office of Elementary and Secondary Education.

- Supporting documentation for the CSR program authorized by Title I, Part F, Elementary and Secondary Education Act of 1965. Contains an overview of the purposes behind the legislation as well as information regarding policy components and more general information about the nature of CSR as envisioned by the Department of Education.

Comprehensive School Reform at the Middle Level

This section aims to compare and contrast several CSR models that are specifically designed for – or popularly used at – the middle level. These models include:

- Making Middle Grades Work
- Middle Start
- Success for All Middle School Program
- Talent Development Secondary Program
- Turning Points
- School Development Program

These models were identified through an comparison and analysis of reports on CSR models provided by four sources: (1) the National Forum to Accelerate Middle-Grades Reform, (2) the Comprehensive School Reform Quality Center, (3) the Center for Comprehensive School Reform and Improvement, and (4) the Center for Research on the Education of Students Placed At Risk. These sources not only identified models, but the meta-analyses in particular also served as summaries of the bodies of research on these models. Models were selected based on commonality across these four sources, support in the literature, and evidence for current development. The table on the following page provides a comparison of the six middle level CSR models reviewed in this paper.

Model	Theory	Implementation	Results
Making Middle Grades Work Founded: 1999 350+ Schools	Create a school environment that encourages increased student achievement.	Representatives from the MMGW organization and in-school coordinators provide training and evaluation.	Findings are inconsistent. Some studies indicate increased student achievement, while others find no significant difference based on the model.
Middle Start Founded: 1994 460+ Schools	Improve teaching and learning and ensure academic success and healthy development for middle grades students.	Trained coaches for teachers and staff provide support in establishing four "pillars" to support student growth.	Research indicates a positive impact on student achievement and sustained achievement following successful implementation.
Success For All Founded: 1987 100+ Schools	Engage the whole school in meeting the needs of all children, with a specific focus on reading.	Implementation is a collaborative process between a school and the SFA foundation to establish a system to meet individual needs.	Strong evidence exists to support this model's effectiveness in overall student achievement and reading achievement more specifically.
Talent Development Secondary Founded: 1994 20+ Schools	Combine engaging instruction, solid organization and student, teacher and administrative support to meet student needs in low-performing schools.	Schools are provided with faculty development training and follow-up coaching, as well as periodic reviews of implementation intended to redirect or guide progress as necessary.	Results indicate improved math and reading scores that are resilient post-implementation and non-achievement outcomes (school climate, etc.) that are less consistent.

Turning Points Founded: 1999 70+ Schools	Recognize the need to both strengthen the academic core of middle schools and establish caring, supportive environments that value all young adolescents	While no longer federally funded, resources are provided to interested schools as they are available.	The impact of this model is unclear. Some studies indicate increased math and reading performance, while others indicate a lack of overall impact for students.
School Development Program Founded: 1968 30+ Schools	Use child and adolescent development principles to create interactions that prepare students to learn, and enable teachers, school staff and administrators to support student development and learning.	Professional development, consultation services, and continuing education units support the successful implementation of the model.	Empirical support for this model is strong, indicating increased student achievement in math and reading, but perceptions of the academic and social climates of model schools were improved as well.

Making Middle Grades Work

Introduced to schools in 1999, *Making Middle Grades Work* (MMGW) is an offshoot of the *High Schools That Work* model, created by the Southern Regional Education Board (SREB). The organizational goals of SREB are to bring together policy and practice to improve the state of public education. Recognizing the importance of high school success, MMGW aims to create environments and learning experiences that adequately prepare middle school students for the demands of high school through a combination of key practices and conditions.

According to the MMGW model, the key school and classroom practices for student success are:

- An academic core aligned to what students must know, understand and be able to do to succeed in college-preparatory English, mathematics, science and social studies courses in high school
- A belief that all students matter
- High expectations and a system of extra help and time
- Classroom practices that engage all students
- Teachers working together
- Support from parents
- Qualified teachers
- Use of data
- Use of technology for learning
- Strong leadership

In addition, there are five environmental conditions that need to be met to effectively implement this school design:

- Commitment
- Planning for continuous improvement
- Curriculum
- Support for professional development
- Teacher preparation

Taken together these conditions and practices represent a focus on creating motivating environments for students by fostering growth and collaboration between teachers and school leadership, with the belief that this motivation will enable students to master grade-appropriate content, as well as more advanced college-preparatory content in high school.

To date, more than 350 schools in 19 states have adopted the MMGW model. States in the SREB network all have their own processes for deciding on what school should implement the model, but state coordinators have been

appointed to assist in the process. Interested schools that are not in member states need to draw up a contract on a case-by-case basis with SREB. Working with representatives from SREB, MMGW schools are provided with training and evaluation facilitated by a coordinator from the school. Over the course of the implementation, a combination of benchmark testing and site review is used to address site-specific needs.

Research on Making Middle Grades Work

In its meta-analysis CSRQ reports no significant impact of the MMGW model on student achievement, but does indicate that the level of support provided to the school for the successful implementation of the model is moderate and that the strength of professional development resources is moderately strong. Challenges to implementation include high levels of involvement placed on school leadership, additional financial costs, and additional time expenditures inside and outside of the classroom.

Outside evaluation appears to be non-existent, with SREB serving as the key evaluator of the model's effectiveness instead. Cooney and Bottoms report a significant increase in student achievement as a result of experiences in literacy, numeracy, and science through the MMGW model. Meanwhile, a 2012 report comparing change in scores across a two-year period for the most- and least-improved schools in a sample of 136 MMGW schools indicates a similar level of increase in student achievement in high improving schools to the level of score decline in low improving schools, although the statistical significance of these findings was not reported. These differing portraits of success indicate the need for further evaluation with consistent standards for reporting.

Literature on the Design and Impact of Making Middle Grades Work

Cooney, S., & Bottoms, G., (2003). *What works to improve student achievement in the middle grades*. Atlanta, GA: Southern Regional Education Board.

- Early evaluation of the impact of the MMGW school reform model on student academic success. Findings indicate that schools that adopt this model will demonstrate higher student achievement particularly in mathematics and reading. Full implementation and student preparation for high school level work is important for students' future success.

Southern Regional Education Board, (2006). *Making middle grades work: An enhanced design to prepare all middle grades students for success in high school*. Atlanta, GA: Author.

- Informational literature that details the needs met by adopting MMGW, as well as underlying principles of the model. Highlights some of the components that go into a school's implementation of the program, such as evaluation and cooperative work between the school and SREB.

Southern Regional Education Board, (2012). *Improved middle grades schools for improved high school readiness: Ten best practices in the middle grades*. Atlanta, GA: Author.

- Identifies ten research-based best practices for the middle grades that are used in MMWG schools: (1) having a clear mission, (2) district support, (3) an accelerated curriculum, (4) student engagement, (5) skill development in reading and writing, (6) promoting success for every student, (7) identifying at-risk students, (8) high quality guidance programs, (9) professional development opportunities, and (10) strong leadership. Schools that embrace all of these practices succeed at higher levels than those that do not.

Middle Start

Middle Start (MS) is a Michigan-based CSR model established in 1994. The program was developed through a process of identifying the qualities of high-performing middle schools. Recent work by MS, in line with the federal push for school reform as a part No Child Left Behind, has aimed at fostering these qualities in low performing schools. The focus of MS is on professional development designed to foster collaboration and community building. MS coaches work to prepare faculty and staff with the skills and tools necessary to maintain student achievement levels once the coaches have left and the school is ready to stand on its own.

MS aims to improve student achievement with a focus on four main concepts:

- Reflective review and self-assessment
- Effective small learning communities
- Rigorous curriculum, instruction and student assessment
- Distributed leadership and sustainable partnerships

By utilizing these four components, schools should be able to create experiences that promote improvement across three main outcomes:

- Academic excellence
- Developmental responsiveness
- Equity

MS has served more than 460 schools across 10 states, although a majority of MS schools are in Michigan. The MS program serves a wide range of school districts and forges cooperative relationships with local departments of education (New York City) as well as regional and multi-state educational organizations (Foundation for the Mid South).

Research on Middle Start

Findings from meta-analysis suggest that the model has a positive effect overall. Schools utilizing the MS model demonstrate sustained achievement increases post-implementation, however the gains in community building and classroom practices can be minimal. This may be due to the fact that while the MS organizational support (i.e., coaches, professional development) is provided during the reform period, once that period has passed, schools are on their own to maintain and further develop school-wide improvements.

In a series of case studies of middle schools operating under the Foundation for the Mid South, results indicated an improvement in classroom instruction based on MS promoted teaching strategies, as well as an improved overall school climate as compared to the school before the introduction of the model. Further inquiry indicates that the largest barrier toward successful implementation is the lack of school supports. Overall these research results demonstrate the potential for success with the MS model, provided that schools have sufficient levels of support from within – namely faculty and parents – and from district and state-level administration.

Literature on the Design and Impact of Middle Start

Corbett, D., & Wilson, B., (2006). *Middle start: Implementation, impact, and lessons learned, 2003-2006*. New York, NY: Academy for Educational Development.

- Evaluation of Michigan schools that adopted the MS model. This study pays specific attention to schools' implementation of the model and the model's impact on students. Results indicate a positive impact on student achievement, but the authors note the need for schools to take an active roll in model implementation for continued success.

Mertens, S. B., & Flowers, N. (2006). Middle Start's impact on comprehensive middle school reform. *Middle Grades Research Journal*, *1*(1), 1-26.

- Highlights the success of MS schools in raising student achievement, particularly for students in schools with higher levels of poverty. Schools were able to maintain these achievement gains after grant funding expired, but non-academic gains in classroom and team practice were not as resilient.

Rose, L.W., & Cheney, N., (2005). *Mid south Middle Start: Studies of three Middle Start schools in the mid south delta*. New York, NY: Academy for Educational Development.

- Three schools were selected as case studies on the impacts of the MS model. Results indicate that in spite of contextual differences between the schools, classroom instruction was improved based on MS promoted teaching strategies, and overall school climate improved in comparison to the schools before the introduction of the model.

Rose, L.W., (2006). Middle Start schools striving for excellence: Steadily improving high-poverty schools in the mid south delta. New York, NY: Academy for Educational Development.

- With a focus on high poverty schools, this study looked at what factors in the MS model were most important for promoting student growth and achievement. While classroom practices and strong academics were important, the biggest impact came from implementation support from teachers and school leadership, as well as local and state support.

Success for All

The first school operating under a Success for All (SFA) model was a Baltimore elementary school in 1987. The model emerged as a result of research on the implementation of cooperative learning strategies as part of school curricula with a focus on schools with large at-risk populations. After early successes, more SFA schools opened in Baltimore and then Philadelphia, and eventually the SFA model expanded to multiple levels (early childhood through high school) and spread across the United States. The model has even been adopted internationally in Canada, England, Mexico, and more countries. The version of this model specifically focused on the middle grades started in 2001, and SFA maintains an active and continually developing presence in the middle level.

Five strategies for promoting and maintaining student success underlie the whole-school SFA model:

- Leadership for continuous improvement
- School-wide support and intervention tools
- Powerful instruction
- Professional development and coaching
- Research

By focusing on each of these pieces, and placing a strong emphasis on reading skill development, the SFA model aims to engage the whole school so that the needs of every child are met.

As a whole, SFA operates nationwide, with more than 100 middle schools utilizing the specific middle level model. These schools can rely on the support of the national organization as well as other schools in the state. Adopting the SFA model is a collaborative process between a school or district and the foundation.

Research on Success for All

The SFA Foundation puts a focus on research in the implementation of the model to encourage the long term, widespread use of the program. For this reason SFA is a well-researched model. CSRQ indicates that there is moderate evidence of positive outcomes in both overall student achievement and reading achievement more specifically. Out of 29 surveyed CSR models, SFA was one identified as meeting criteria for the strongest evidence for success by the Center for Research on the Education of Students Placed At Risk. A series of comparison studies across schools in six states showed SFA schools with higher reading test score improvement than any of the selected control schools.

Literature on the Design and Impact of Success For All

Chamberlain, A., Daniels, C., Madden, N. A., & Slavin, R. E. (2007). A Randomized Evaluation of the Success for All Middle School Reading Program. *Middle Grades Research Journal*, *2*(1).

- A specific evaluation of the SFA model's literacy improvement tool, The Reading Edge. Sixth grade students in two high-poverty schools were randomly assigned to receive or not receive The Reading Edge intervention. After a year, results indicated that despite the inconsistent implementation of the intervention, there were statistically significant increases in vocabulary and overall achievement of the intervention group over the control group.

Daniels, C., Madden, N. A., & Slavin, R. E. (2005). The Success for All Middle School: Adding content to middle grades reform. *Middle School Journal, 36*(5), 4-8.

- With a focus on the principles outlined in Turning Points, the SFA model was evaluated as a content-focused middle school model. A series of comparison studies across schools in six states showed SFA schools with

higher reading test score improvement than any of the selected control schools, which lends support for future replication of the results.

Slavin, R. E., & Madden, N. A. (2013). Success for All at 27: New developments in whole-school reform. *Journal of Education for Students Placed at Risk*, *18*, 169-176.

- Contains a brief history on the development of the SFA model, as well as current innovations and goals for the future. SFA attempts to keep model programs relevant with multimedia taking a large role in current settings. The long-term implementation also provides support for SFA's success at improving performance in high poverty schools.

Talent Development Secondary

Based out of Johns Hopkins University, the *Talent Development Secondary* (TDS) model is a product of the Center for Research on the Education of Students Placed At Risk. Existing since 1994, the model is designed to specifically improve student achievement in urban middle schools that serve high-poverty areas. The model promotes both structural and academic changes that are intended to improve student achievement, attendance, and discipline.

Whole school changes as a part of the TDS model fall under one of the program's four pillars of transformation:

- Teacher teams and small learning communities
- Curriculum and instruction with professional development
- Tiered student supports
- Can-do culture and climate

Together these pillars represent the model's focus on the learning environment, with both student and teacher interactions and experiences being key components to success. While students can work together in inquiry-based lessons, teachers can actively plan cross-curricular activities through shared team planning. TDS works to positively shape students' academic development and helps to close any achievement gap that might be carried into the middle grades, especially for high-poverty students. To maintain those gains however, it is necessary to establish support structures at the faculty, school, and state levels to ensure continued successful implementation.

TDS operates in more than 20 middle schools nationwide, largely out of districts in Pennsylvania. Schools are provided with faculty development training and follow-up coaching, as well as periodic reviews of implementation intended to redirect or guide progress as necessary. In

response to the Turnaround Challenge, which called for efforts to increase student achievement in consistently low-performing schools, the state of Virginia signed a contract in 2009 with Johns Hopkins University to bring TDS to Virginia in the Central Virginia, Tidewater, Northern Neck, and Valley regions.

Research on Talent Development Secondary

Results from Buechler's meta-analysis of CSR models indicate increased achievement in student math and reading scores in comparison to students not being taught under the TDS model. These gains also appear to be resilient as schools continued to demonstrate achievement gains over follow-up years of the study. In addition to student outcomes, research has suggested positive impacts on pedagogy, learning environments, and content. However, these results can be inconsistent over a follow-up period depending on fidelity to core constructs. There is prominent support for student mathematics improvement as a result of TDS exposure, but results are often most significant after continuous, long-term exposure to the model.

Literature on the Design and Impact of Talent Development Secondary

Herlihy, C. M., & Kemple, J. J. Center for Research on the Education of Students Placed At Risk, (2004). *The Talent Development middle school: Context, components, and initial impact on students*. New York, NY: MDRC.

- This large-scale evaluation of the TDS model suggests student mathematics improvement as a result of TDS exposure, but results are often most significant after continuous, long-term exposure to the model. These results can be inconsistent over a follow-up period depending on fidelity to core constructs, indicating a need for a wide base of support for implementation.

Johns Hopkins University. Virginia Department of Education, (2010). *Lead turnaround partner proposal*. Baltimore, MD: Author.

- Contract between the state of Virginia and Johns Hopkins University to bring TDS to Virginia in the Central Virginia, Tidewater, Northern Neck, and Valley regions. The contract how TDS will be implemented in low-performing schools to work towards improving student performance while limiting previous barriers to success. Originally written for a period from October 2009 to June 2013, the contract has been renewed until June 2014, with the provision for future renewal.

Mac Iver, D. J., Ruby, A., Balfanz, R. W., Jones, L., Sion, F., Garriott, M., & Byrnes, V. (2010). The Talent Development middle grades model: A design for improving early adolescents' developmental trajectories in high-poverty schools. In J. Meece & J. Eccles (Eds.), *Handbook of research on schools, schooling, and human development* (1 ed., pp. 446-462). New York, NY: Routledge.

- This chapter suggests that the TDS model allows for closer attention to students' individual needs and the larger school context. The authors argue that TDS works to positively shape students' academic development and helps to close any achievement gap that might be carried into the middle grades, especially for high-poverty students.

Turning Points

Coordinated by the Center for Collaborative Education in Boston, an organization with a focus on promoting student academic achievement and democratic participation, the Turning Points (TP) model stems directly from the Carnegie Corporation's *Turning Points* report. As such, the model aims to create a school environment that is both academically rigorous and developmentally responsive to adolescents.

The model addresses two critical issues: the mismatch between school structure and adolescent development and the assumption that middle school students are incapable of higher level critical thought. Using the principles outlined in the Turning Points 2000 report the TP CSR model promotes six practices that turn theory into concrete and performable actions for promoting school success:

- Improving learning, teaching, and assessment for all students
- Building leadership capacity and a professional collaborative culture
- Data-based inquiry and decision making
- Creating a school culture to support high achievement and personal development
- Networking with like-minded schools
- Developing district capacity to support school change

The key concept of the TP model is that these six practices and the Turning Point principles that inform them are interconnected, such that a failure of conception or implementation of one component can cause problems for the entire model.

The TP model has been utilized in more than 70 middle level schools across the United States. To facilitate model fidelity and provide practical support, TP provides on-site support, professional development opportunities, access to

TP publications and technology, and active review by TP staff. Additionally, schools appoint an in-house facilitator who focuses on knowing how best to handle their school's specific situation. While funding for model implementation ended, CCE remains supportive to schools interested in the model.

Research on Turning Points

Some research indicates that students in Turning Points schools outperform students in other schools in both math and reading, while others studies indicate a lack of overall student impact. The commitment of administrators has a large impact on the successful implementation of the TP model. In some instances, there is only a slight impact between TP model implementation and overall increase in student achievement. However, when all of this research is taken together, it paints a similar picture to several of the other models. Implementation, especially faithful and sustained implementation, is key to the long-term success of students and schools operating under the TP model.

Literature on the Design and Impact of Turning Points

Center for Collaborative Education. (2001). *Turning points: Transforming Middle Schools. Design overview*. Boston, MA.

- Design overview of the TP middle school model. Highlights the key points from the original Turning Points papers and how those guiding principles can be shaped into practice in the school setting.

Faulkner, S. A. (2003). The Carnegie Council on Adolescent Development recommendations for transforming middle level education: Reported implementation of "Turning Points" in Ohio's public middle schools. (Order No. 3097841, The University of Toledo). ProQuest Dissertations and Theses.

- Doctoral dissertation analyzing the implementation of the TP model in Ohio middle schools. Findings indicate a weak connection between TP

model implementation and overall increase in student achievement, but this may be due to the inconsistency of that implementation.

Johns, D. A. (2001). The implementation of the turning points recommendations in Ohio middle schools and its influence on student achievement. (Order No. 3019317, The University of Akron). ProQuest Dissertations and Theses.

- Doctoral dissertation analyzing the implementation of the TP model in Ohio middle schools. Findings indicate that the commitment of administrators has a large impact on the successful implementation of the TP model. Support at the school level creates an environment that further promotes model development.

School Development Program

Originally developed in 1968, the School Development Program (SDP, sometimes referred to as the Comer SDP after creator James Comer, M.D., M.P.H.) is a product of the Yale Child Study Center. The design of the program emerged out of work in low-achieving elementary schools. The model is based on the recognition that adolescent development principles were lacking in school design. The original focus of SDP was on poor and socially marginalized students in elementary schools, however the model has spread to middle and high schools of varying SES populations.

There are nine components to the SDP model that, when implemented together, are designed to effect whole school change. These components are organized into three categories: (1) mechanisms, (2) operations, and (3) principles.

- Mechanisms
    - School planning and management team
    - Student and staff support team
    - Parent/Family team
- Operations
    - Comprehensive school plan
    - Professional development plan
    - Assessment and modification
- Principles
    - Collaboration
    - Consensus decision making
    - No-Fault problem solving

When taken together, SDP aims to create a school environment that encourages student development across six pathways (physical, cognitive, psychological, language, social, and ethical).

SDP is not a middle grades specific model, but a more general model applied to schools. As such the model is utilized in more than 1000 schools, however, only approximately 30 of the SDP schools are middle schools. SDP provides professional development, consultation services, and continuing education units to assist in the successful implementation of the model.

Research on School Development Program

Research suggests that SDP has a positive effect on academic success and student wellbeing ranging from moderate improvements in overall math and reading, to significant math and reading performance, attendance, and behavior improvements. SDP was also identified for meeting criteria for having the strongest level of effectiveness amongst 29 evaluated models in a school reform meta-analysis. A four-year study of 10 Chicago middle schools yielded very positive results for the SDP. Not only did student achievement increase relative to non-intervention schools, but teacher and student perceptions of the academic and social climates of the schools were also higher. A focus on student development first, rather than simply on academic outcomes, led to increased student achievement and allowed for school leadership to increase support for future use of the SDP. Further analysis of long-term student outcomes is necessary to capture a more complete picture of SDP's impact on the whole student.

Literature on the Design and Impact of the School Development Program

Comer, J. P., & Emmons, C. (2006). The research program of the Yale Child Study Center School Development Program. The Journal of Negro Education, 353-372.

- Describes the history and development of the SDP model for schools with the goal changing the way the school environment and student development interact. Focus on student development first, rather than simply on academic outcomes, led to increased student achievement and

allowed for school leadership to increase support for future use of the SDP model.

Cook, T. D., Murphy, R. F., & Hunt, H. D. (2000). Comer's School Development Program in Chicago: A theory-based evaluation. *American Educational Research Journal, 37*(2), 535-597.

- A four-year study of 10 Chicago middle schools suggested very positive results for the SDP. The evaluation showed that not only did student achievement increase relative to non-intervention schools, but also that teacher and student perceptions of the academic and social climates of the schools were higher.

Lunenburg, F. C. (2011). The Comer School Development Program: Improving education for low-income students. *National Forum of Multicultural Issues Journal*, *8*(1), 1-14.

- An analysis of the conceptual components of the SDP, and their impacts on the academic achievement of low-income students. Results indicate significant increases in math and reading performance, attendance, and behavioral adjustment for students in SDP schools.

Conclusion

This paper was designed to serve as a resource for practitioners, administrators and policy makers who are interested in understanding and ultimately effecting change in the middle level learning space. Considering this goal, the final section of this paper will synthesize some of the core ideas and themes from the literature into practical lessons.

Core Ideas from the Literature

- **Common ground on middle level learning**. As suggested through this paper, the appropriate approach to middle level learning has been a contentious topic within the school reform community. Nonetheless, the polarizing nature of the rhetoric masks the point that there is much common ground. For example, no one within the debate is arguing against a rigorous curriculum or against a developmentally responsive curriculum. What an examination of the literature shows us is that reforming middle level learning is not an either/or proposition but a matter of emphasis.

- **Recommendations for best practice**. A close look at the literature around the components of the middle level model suggests that there are some practices that are gaining support through research. For example, a number of studies seem to suggest that interdisciplinary teaming has important effects on both academic and non-academic student outcomes. There also seems to be growing evidence that traditional six through eight grade configurations have possible negative effects on student outcomes, perhaps related to the timing of transitions. Findings from the literature, such as these should be used to inform decision, however they should be used cautiously. There are no definitive studies on the middle level model.

- **Importance of implementation**. One of the ideas that comes through consistently in the literature is that attention to implementation is critical for the success of any reform initiative. While part of this involves ensuring that there is high degree of fidelity when implementing a program, it is also important that there is local buy-in by practitioners and building-level administrators to the design and the principles that underlie it. In some cases it is also important to consider implementation of initiatives often requires some level of flexibility within the local context.

- **The promise of comprehensive school reform models**. Because comprehensive school reform models are a relatively new addition to middle level reform, there is not an abundance of literature supporting their use. However, the research that has been done is promising. It appears from the literature that CSR models have the potential to enhance the impact of reform initiatives through an alignment of multiple levels of a school's organization.

Implications for the Region: Moving Forward

The work around middle level learning in the Richmond region emerged from a common concern across sectors about the academic and non-academic outcomes of youth. The focus of this review has been on actions and initiatives that, for the most part, relate to the K-12 educational space. However, there is a limit to what schools can accomplish. With this in mind, there has been a push to consider the broader context of middle level learning. If there is agreement that we must address both the academic and developmental needs of young adolescents, then how do we think about ways of aligning and coordinating this work? Improving the outcomes of youth must be a regional project that involves collaboration and cooperation across multiple sectors and stakeholder groups.