Report of the Maine Commission on Middle Level Education, 2009

A Framework of Twelve Core Practices for Maine Middle Grades Schools Developing Full Academic, Personal and Social Potential for Maine Young Adolescents

"Education, particularly in a democracy has to involve the heart as well as head, attitude as well as information, spirit as well as scholarship, conscience as well as competence."
- Dr. John H. Lounsbury

James Canwell
Grade 6, Maranacook Middle School

Adriana Martineau
Grade 8, Skowhegan Middle School

Victoria Nolette
Grade 7, Maranacook Middle School

Commission Members

Ed Brazee & Mary Callan, Co-Chairs

Wallace Alexander	Karen Bean	Thom Buescher
Jody Capelluti	Dick Durost	Chris Elkington
Barbara Eretzian	Lisa Gordon	Dan Hupp
Gayla LaBreck	John Lichtman	Mike McCarthy
Mike Muir	Gert Nesin	Argy Nestor
Tamara Philbrook	Karen Rumery	Valerie Seaberg
Don Siviski	Chris Toy	Rob Walker

Additional review and editing by Jill Spencer.

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Bright Futures!

A Framework of Twelve Core Practices for Maine Middle Grades Schools

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PROLOGUE

More than the Sum of Its Parts: Changing a Middle Level School

In 1985 Knox Junior High School became Knox Middle School when grade 9 returned to the high school and grade 6 students entered the newly named middle school. The primary reason for converting from a junior high school to a middle school was to alleviate overcrowding in the elementary school. Like many converted middle schools in the '70s and '80s, Knox adopted several signature programs including 4-teacher teams and an adviser/advisee program, and added exploratory courses like Spanish, general music, and art. They could “check off” most items on a list of middle school characteristics.

In the next 20 years, Knox Middle School underwent a number of changes: 2 new computer labs were added, several classrooms were carved out of former storage spaces, and volleyball joined the sports roster. If someone from Knox’s eighth grade class of 1983 had returned in 1998, they would have seen these changes; they would, however, have seen very few changes in how Knox conducts its business for its students and teachers every single day.

In the early years of Knox Middle School, every program and activity was regarded as separate from each other: advisor/advisee relationships were seen as the way to “handle” young adolescents’ concerns; the exploratory program was a way to “facilitate” young adolescents’ need to explore a number of activities without too early specialization; and the formation of teams of teachers and students was another way to “BE” a middle school. After all, aren’t middle level schools organized into teams?

In 2006, however, a new superintendent arrived who was not happy with the middle school that he referred to as “that junior high school” and a new principal was hired to implement middle level research-based teaching and learning strategies that Knox had never considered before. The new principal listened to students, teachers, and parents. Perhaps the best thing she did that year was to bring them all together to listen to each other.

For the next 2 years, faculty, students, parents, and community members studied the possibilities for their school—before they changed anything. They read and discussed important middle school literature such as *This We Believe*, *Turning Points 2000*, *Reinventing the Middle School, Best Practice: New Standards for Teaching and Learning in American School*s, and article after article on successful practices. Teams of teachers, students, and parents visited 15 different “successful” middle schools throughout the State, and shared what they learned with the rest of the Middle Level Advisory Committee. Before discussing specific changes in their school—schedule, teams, professional development—or before deciding to keep current programs—advisory, exploratory—the Advisory Committee debated what they wanted for their students and from their school.

Ultimately, the school endorsed the principles and practices that had come to define best middle school practices and are set forth in the National Middle School Association’s *This We Believe: Successful Schools for Young Adolescents* (2003), the Carnegie Corporation’s *Turning Points 2000*: *Preparing American Youth for the 21st Century* (2000), *Breaking Ranks in the Middle* (2006), and the work summarized in the National

Forum to Accelerate Middle-Grades Reform (2000). The difference this time, however, was that the recommendations were applied as a SYSTEM, “an interacting and interdependent group of practices that form a unified whole” (Dickinson, 2001). This change is what Dickinson calls moving from “the incremental stage implementation model” to an understanding of the original middle school concept as a “total ecology of schooling”(Dickinson, 2001). It means recognizing that everything depends on and is influenced by everything else.

This time, Knox Middle School reformed itself by recognizing that changing one aspect of the school changes everything else. The move from 5 person teams to 2 or 3 person teams, for example, was profound. Meaningful and coherent connections across subject lines were more frequent and students and teachers preferred the smaller teams; the old advisory program was no longer necessary when students had opportunities within the curriculum to pose questions about themselves and their world. With fewer teachers and students, teams became learning communities with closer relationships that never quite occurred on larger teams. Their teachers were able to address individual learning needs and provide necessary interventions and support for each student because they knew their students better.

A panacea? Hardly. Yet throwing away the middle school “checklist” to focus on proven middle level practices and strategies for all students was a key to Knox’s success.

CALL TO ACTION

In September 2001, Commissioner of Education J. Duke Albanese established and charged Maine's Commission on Middle Level Education to report on the current state of middle level education and to make recommendations to the Maine Department of Education about needed improvements in educating Maine’s 10 to 15-year-olds. The Commission met and discussed critical issues facing young adolescents, studied the literature including current research and reports regarding high achieving middle schools, and consulted with experts and policy makers.

At the heart of middle level education are these unique people - young adolescents - who experience more dramatic changes from ages 10 to 15 than at any other time of their lives. No longer children and not fully into adolescence, they experience physical, intellectual, social, emotional, and moral changes. For many, the middle years represent the "last best chance" to learn the skills and concepts, and to develop habits of mind to prepare for high school and adulthood. Successful middle grades schools provide a broad education that meets the needs of every young person in its charge, taking seriously both the intellectual and personal development of every student. Above all else, young adolescents need adult advocates—parents and family, teachers, community members, and others—who recognize their positive possibilities, challenge them to their highest abilities, and support them unconditionally.

Research on high achieving middle schools over the past 20 years demonstrates that all students will achieve high standards in schools where there is a clear, shared vision based on what we know about teaching and learning, as well as leadership to support continuous improvement (Felner, et al., 1997). The Commission believes that now, more than ever, middle level educators and policy makers need to focus on reaching this

vision. This Report and *Promising Futures* (2000) present a well-articulated vision of a seamless 6-12 progression of education in Maine.

Bright Futures! makes recommendations for achieving quality middle level practices. The Maine Commission on Middle Level Education supports high expectations for each student using Maine's *Learning Results* as a basis for curriculum, instruction, and assessment. We also believe that students will achieve those standards when they work with teachers who are experts in the content knowledge that all young adolescents need to have and in planning and delivering learning opportunities based on standards that are challenging and relevant to every student.

Through this report, the Commission hopes that middle level educators, parents, and policy makers will gain a clear understanding of what is needed for high quality, equitable, and effective middle level programs. We also hope that all of Maine's middle level students will be in schools that are academically rigorous and responsive to their unique developmental stage of life. Finally, it is our hope that these schools will implement the components of successful middle level schools to ensure that each child learns and achieves at high levels and develops his/her understanding of the rights and responsibilities of citizenship in the 21st century.

UNDERLYING BELIEFS

Early in their discussions, the Commission agreed that several fundamental principles would guide the work:

- Because there is no one model for successful middle level schools, the recommendations should suggest a range of school program possibilities.

- The middle level philosophy is well documented and supported by research. The concepts that comprise middle level philosophy should be reflected in the Core Practices endorsed in this report.

- In all instances, we have advocated for what is right for young adolescents, not what might be current practice, expedient, or easy to accomplish.

- We recognize that change is never easy. Balancing the big picture with the need to make improvements in manageable pieces is easy to understand and difficult to implement. However, incorporating the findings of current research on teaching and learning into the central fabric of every school is a necessity.

- In 2009, middle level theory and practice is not well known or understood. We must be sure that the public realizes how middle level schools influence attitudes and beliefs about young adolescents, the purposes of schools for 10 to 15-year-olds, and the nature of middle level educators' work.

- The recommendations in this report have specific and important meaning for all young adolescents, middle level educators, and parents in that the demands of the 21st century require more sophisticated skills and knowledge of its population than at any other time in our history.

- Middle level schools play a critical role in Maine's K-16 educational system. As the school in the middle, a major responsibility is to make connections with elementary and high schools. Those connections are acknowledged throughout this report, particularly in relationship to *Promising Futures—A Call to Improve Learning for Maine's Secondary Students* (2000).

Renewing Our Commitment to Young Adolescents

The Middle School movement has been one of the most influential and long-lasting educational initiatives, lasting from 1950 to the present. Beginning in the 1960s and building steadily into the 1990s, Maine, like many other states, saw a focus on middle level education research, programmatic adaptations, and professional development leading to changes in local policy at both local and state levels. Influenced by such national documents as *This We Believe: Successful Schools for Young Adolescent* (2003), both *Turning Points* documents (1989, 2000), *Breaking Ranks in the Middle* (2006), and the work of the National Forum to Accelerate Middle-Grades Reform (2000), as well as summer institutes, and other activities sponsored by professional associations, a number of middle level schools made important strides in improving their learning environments, becoming more effective for young adolescents.

In the last 20 years, many of Maine's middle level schools have made significant improvements that create academic rigor and are developmentally responsive for 10-to-15 year olds. The Maine Learning Technology Initiative (MLTI) gave a huge boost to middle level education when it provided every 7th and 8th grade student (and their teachers) with access to resources beyond the scope of most middle school libraries, and changed the way that students learned, using the tools of the 21st century in ways that most middle schools in this country do not. During this time, Maine's middle level schools have been highly regarded nationally for their leadership—particularly in curriculum integration and advocacy for partner teams—yet too many of our middle level schools have reached a plateau where achievement as measured by the Maine Educational Assessments (MEAs) has stalled. In too many Maine towns, schools have reverted to practices that hinder both student learning and the continued development of students' intellectual, social, emotional and physical needs.

Many of Maine's middle level schools either have not implemented responsive programs and practices that research has confirmed are effective in increasing student learning, or have ceased to provide them. The easier changes to implement - changes in organization - have been made. School climate has improved by making middle level schools safe and engaging places for middle level students; but most middle level schools have not implemented comprehensive improvements in curriculum, instruction, and assessment. (Jackson & Davis, 2000; Doda & Thompson, 2003) Thirty years ago, we started this work in middle level schools with great enthusiasm and commitment, but in many places we have stopped short of achieving our goals. Faced with new challenges, many of Maine's middle level schools are in a state of "arrested development" (Dickinson, 2001), attempting to meet the needs of a challenging student population while responding to increased accountability from state and federal mandates.

Core Principles for Maine's Middle Level Schools

Maine's *Learning Results*, a system of articulated high standards, provide a framework for schools containing the middle grades to use as they reshape their curriculum to be both developmentally appropriate and challenging in ways that will prepare their students for their 21st century future. Recognizing that many Maine middle level schools have made critical improvements in organization and climate, now middle level schools must be places where all students learn at high levels. To achieve this goal, it must be recognized that:

- Middle level schools expect strong academic performance by each and every student.

- Academic success in middle level schools is more likely to occur when students' other developmental needs are met as well (Van Hoose, 2001).

- There is a strong body of evidence about the functions, purposes, and goals of successful schools. Every school containing young adolescents in any combination of grades 5-8 must use that evidence to plan the middle level program. Middle school leaders today recognize that the middle school concept is an interconnected system of programs, organization, and attitudes based on a set of beliefs about teaching and learning, supported by research. It is a system where every element depends on every other element.

- Change is systemic, not linear (Felner, et al., 1997).

- The program is more important than grade configuration. Maine will always have a variety of buildings that house the middle grades. While grade configurations that are typically found in the majority of this country's middle level schools (6-8, 5-8, and 7-8) are more apt to provide the programs that young adolescents need, all schools containing students ages 10-to-15 must consciously plan their middle grades program around the middle school concept (McEwin, et al., 2004).

- Special care must be taken to provide opportunities for high levels of learning in all schools educating 10-15 year olds.

The Middle Level in the K-16 Continuum

Middle level schools serve a unique function in the K-16 educational continuum. These schools are often referred to as a bridge or transition between the elementary and high school grades. While this is technically true, middle level schools, whatever their configuration, are much more; the years young adolescents spend in middle level schools are critical to their development and learning. The newly released study, *The Forgotten Middle* (ACT 2008), underscores this concept by reporting that the best predictor of whether or not high school graduates are ready for college and the work force is their eighth grade academic record. Also, young adolescents are being prepared for what follows in their lives. Historically, the relationships and connections between elementary and middle level schools have been relatively smooth. Many of the middle level traditions originated or were adapted from progressive elementary school practices

with its focus on student-centered environments. At the same time, transitions from the middle level to high school have presented problems for some students and parents in the areas of academic expectations, time management, and level of support.

The work of the Commission on Secondary Education that led to the report, *Promising Futures -A Call to Improve Learning for Maine's Secondary Students* (1998) and the subsequent work of the Center for Inquiry in Secondary Education, presents an opportunity to make stronger connections and have greater cooperation with our high schools. Furthermore, we are hopeful that the traditional emphasis on subjects at the high school and on students at the middle level can be balanced in both schools. Many refer to the primary focus on middle level schools as preparing students for high school. We agree, when the high school being prepared for and readied to accept well-prepared middle level students is a *Promising Futures* high school, committed to the Core Principles and Practices set forth in that report.

CORE PRACTICES

This section is organized around twelve Core Practices for effective middle schools. These core practices reflect 21st century literacies, skills, and knowledge that ensure Maine students will be prepared to be contributing members of the modern world. Literacy is not longer confined to reading and writing print documents, but has expanded to include digital text and tools, images and sounds, and an understanding of how numeracy is integrated in virtually every aspect of life. Collaboration, flexibility, self-direction, and social-awareness are among the key life and career skills necessary for our students to develop. Students also need to acquire the skills of innovation, creativity, critical thinking, and problem solving. Finally, the desired outcomes for Maine students expand beyond the core subjects of language arts, mathematics, science, social studies, world languages and the arts and include such themes as global awareness and economic, civic and health literacy (Partnership for 21st. Century Skills).

Learning and Teaching Practices in Maine's Middle Level Schools

1. Students have access to curriculum that is relevant, challenging, integrative, and exploratory and is organized and executed to maximize accessibility for all students.

2. Teachers use research-based instructional practices in their classrooms that are effective in increasing the learning and achievement of young adolescents.

3. Teachers in all content areas use teaching and learning practices that are anchored in 21st century literacies.

4. Students have access to one-to-one computing technology integrated throughout the curriculum allowing them to acquire the critical thinking skills related to information, media, and technology.

5. All middle level students experience learning opportunities that emphasize creativity and innovation.

School Practices to Support Learning and Teaching in Maine's Middle Level Schools

6. School leaders, using a collaborative and democratic leadership model, focus on establishing an environment that supports the learning needs of young adolescents.

7. Faculty, administration, and students collaboratively build a safe and caring climate that nurtures the individual while creating a sense of community where everyone is valued.

8. Students benefit from organizational structures within the middle grades that maximize the sense of community, support meaningful relationships, and optimize curriculum delivery.

9. Students have access to a co-curricular program that encourages all students to participate, develop skills, be a member of a team or activity, and simply have fun.

10. Teachers' professional development is an ongoing process that is embedded into the daily life of the school.

11. Parents are actively involved in the life of the school and their child's education.

12. Teachers, administrators, and staff who are responsible for the education of young adolescents are knowledgeable about their developmental needs and appreciate them for their uniqueness.

CORE PRACTICE 1

Students have access to curriculum that is relevant, challenging, integrative, and exploratory and is organized and executed to maximize accessibility for all students.

Rationale

The primary task of middle level schools is to promote, support, and ensure each student's learning. A school's curriculum must integrate needed content, skills, and attitudes with both responsive practices for young adolescents and current state and national initiatives. The middle school curriculum should reflect the Maine *Learning Results* and 21st century skills and knowledge to ensure all students are prepared for and aspire to high levels of learning, are ready to assume the responsibilities of productive citizenship, and know how to achieve personal fulfillment. Curriculum, aligned with Maine *Learning Results,* should be organized and implemented to maximize accessibility, meaning, and learning for the diverse young adolescents it serves.

Essential Elements

- Learning experiences are meaningful, coherent, and relevant, giving students opportunities to use their minds well and at the highest levels, thus preparing them for the challenges of the 21st century, including post secondary education.

- A multi-faceted curriculum helps students understand themselves and their world in the midst of discovering who they are and who they might become.

- Courses and activities provide students with many opportunities to try out different experiences, develop their special interests and aptitudes, and broaden their views of the world and themselves.

- All aspects of the curriculum are exploratory in nature.

- The curriculum helps students make meaningful connections across disciplines.

- Learning experiences are designed so that students learn to pose complex essential questions, search out potential answers, evaluate the quality of resources, and present findings in a variety of ways using technological tools through an integrated curriculum.

- Significant student voice is reflected in planning the curriculum, setting and achieving personal goals, and assessing learning.

- A multifaceted comprehensive assessment system is embedded within the curriculum, tracking students' individual progress in meeting the Maine *Learning Results* and 21st century skills and knowledge and helping teachers shape their instruction to meet individual needs.

- Exemplary organizational practices including small teams of teachers and students, extended blocks of instructional time, heterogeneous grouping, and common planning time for teachers are in place to support the curriculum.

Snapshot: The Way It Could Be

Maria was fifteen minutes early for her core class addressing the theme of "Our Community Footprints" because she needed one last practice of a presentation that she and two of her classmates were making later in the morning. They had worked for nearly a month on a feasibility study for a new senior citizen center, collecting information about the economic, environmental, and cultural impacts of such a center on their small town. As a part of this rigorous service-learning project that included work in all the major content areas, they met with a number of builders, the town manager and town council, and many citizens of various ages. Much of their work was done electronically with their laptop computers. The laptops were used throughout the day as they took notes, wrote their initial and subsequent drafts of position papers, and logged into several databases to keep track of the data they collected. Connecting to the Internet to find other towns that had built similar senior citizens centers, particularly ones on Arizona, Florida, and Ohio, was invaluable.

Rebecca and Mary were already waiting for Maria in the homeroom. As their final task, the three young women double-checked their scoring rubric for their presentation based on Maine's *Learning Results* to make sure they had addressed all of the criteria. Their presentation would begin with an overview of the Guiding Principles (also from the *Learning Results*), showing how this project gave them practice in each of the six areas. Pleased with their work, they were still a little nervous about their upcoming public presentation, but ready to go.

Phase Outs

- Curriculum that is tracked by ability and does not offer each student access to a complex and challenging learning experience.
- Curriculum that is organized solely through individual disciplines.
- Topic or unit planning that does not include the time it takes to frame the unit in a way that makes it relevant to young adolescents.
- Assessment that is done only at the end of a unit and does not allow students time to revise and improve the quality of their work. End of the unit assessments that focus just on grades rather than supporting student learning.
- Disregard for student questions and interests when developing units of study.
- A schedule that does not allow flexibility for curriculum development.
- Curriculum content that skims the surface of a topic and focuses on lower level thinking

CORE PRACTICE 2

Teachers use research-based instructional practices in their classrooms that are effective in increasing the learning and achievement of young adolescents.

Rationale

It is not enough to have just a challenging curriculum. The instructional practices in middle school must provide multiple ways for students to access this curriculum so that they develop the skills, cognitive abilities, competence and confidence in themselves to successfully tackle the challenges of high school and beyond. The 21st century is about living in a global society. In order to be healthy and prosperous, Maine citizens must compete productively in the global economy by thinking innovatively, solving complex problems, being technologically sophisticated, and having a world-view that embraces diversity. Infusing these practices mentioned above into the middle grades instructional plan is imperative so that students will begin to develop these sophisticated competencies as well master content material.

Essential Elements

- Intellectual risk taking is encouraged in classrooms that are physically and emotionally safe. Students perceive that fellow students and teachers value progress in achievement.

- Hands-on experiences, discussion groups, classroom workshops, reflective assessment, and project-based learning allow for active involvement in learning.

- Teachers knowledgeable in the subject areas taught use instructional strategies and tools that increase learning (summarizing, comparing/contrasting, graphic organizers, formative assessments, and providing students time to revise and improve the quality of their work).

- Teachers use formative assessments (assessment for learning) to make decisions about next steps in the instructional process based on student readiness and mastery of elements of the curriculum.

- Complex and abstract ideas are presented through scaffolding and differentiated instructional practices that address learning styles, multiple intelligences, student interest, readiness, and other elements of learning.

- Teachers model thinking skills, study strategies, problem-solving, creative thinking, provide guided practice, and give students timely feedback.

- Explicit instruction in working collaboratively allows students to participate in productive groups and develops their skills in working independently.

- Teachers integrate digital learning tools into their instructional practice.

- Teachers ensure that all students have access to the curriculum by utilizing differentiated instructional strategies.

Snapshot: Eighth Grade Humanities Class

“Here’s my name. Are you in my group?”

“No, I’m over here by the window.” So go the conversations as the 45 eighth graders come into class and find their seats in one of the several groupings around the room. They know from class yesterday that they are split up into groups for the first day of literature circles in which they will be discussing the class novel, *Across Five Aprils* by Irene Hunt.

Mrs. Springer calls the class together and gives the directions for the work of the day. She asks them to identify questions they may have about chapter 1 - 2 and to also look for ideas that might help them think more deeply about the essential question that overarches their work for the quarter: What patterns that affect politics, economics, and culture keep repeating themselves in our history?

As the groups begin to organize themselves using skills they have been practicing during the past few weeks, Mrs. Springer joins one of the groups to discuss with them how their task is a bit different; Mrs. Lee and she think they need something a bit more challenging. Meanwhile, Mrs. Lee reviews the task with another group that tends to need additional clarification on the directions for the work. Within a few minutes both teachers are roaming the room, sitting down with groups to clarify a direction or to encourage student thinking a bit. Mrs. Springer and Mrs. Lee know their students' strengths and needs well since they have had the same students for 2 years, a practice known as looping. Conversations are intense and on task in each of the groups.

“I don’t get what this question means?”

“I think it’s asking…and look here on page 25 the characters are arguing…”

“People are split over what should happen—we’ve seen that before in *My Brother Sam Is Dead*. Families seem to get torn up during times of war.”

“Does anyone know what “confederacy” means?’ Heads shake no. “Here, I’ve got dictionary.com up, I’ll find it.”

The literature circle groups continue their work with the support of their teachers for about 30 minutes and then the class easily transitions into silent reading time so that students can continue with the next chapters. Mrs. Lee asks one of the groups if the group would like to listen to her read the next chapter. They nod yes and quietly exit the classroom to gather around her in a cozy nook as she reads aloud. Within the classroom, the remaining students are engrossed in the novel, noting questions and ideas relating to the essential question posed earlier by Mrs. Springer.

Each of the 45 eighth graders in this heterogeneously grouped humanities class will be prepared to participate fully in the next day’s literature circles, having digested the first 2 chapters together and having read and thought about the next assigned chapters. Because their teachers are using an overarching, essential question to organize the semester’s work, the students will also be making connections across literary and content texts and with their own lives.

Phase Outs

- Classes where students are “talked at” for the majority of the time.
- A continual cycle of read, write, recite.
- Assumptive teaching—teachers assume students possess skills that they do not have.
- Classes that do not make use of the extensive resources provided by one-to-one computing.
- Classes where students are not actively participating.
- Instructional practices that do not allow enough time for students to delve deeply into a subject and try out and practice new ways of learning.
- Instructional practices that do not address the concrete-to-abstract thinking continuum through scaffolding and experiential learning.
- Curriculum and instruction that do not include provisions for differentiation.

CORE PRACTICE 3

Teachers in all content areas use teaching and learning practices anchored in 21st century literacies.

Rationale

Recommendations from The Partnership for 21st Century Skills, the International Society for Technology in Education, the SCANS report, the Literacy Standards for Students (promoted by the American Library Association), and the enGauge 21st Century Skills redefine “literacy” for the 21st century. The definition is much broader because it addresses challenges brought about by our global community and the advent of the revolution in technology. In order to master these 21st century literacies, middle grade students must be immersed in the traditional basic literacy skills as well the information and visual literacies and numeracy. In addition, well-prepared citizens must also master a variety of other literacies including digital, economic, science and global awareness.

Upon arriving in middle school, students are faced with a dramatic increase in the amount and level of sophistication of reading and writing in multiple content areas. In addition, an entirely new skills set called “information literacy” has emerged. Students need to access, evaluate, and manage all types of information both in school and in their personal lives. This information comes in combinations of words, images, sounds, and symbols. The use of combined media to communicate is growing exponentially as is the level of mathematical knowledge needed to understand the sophisticated scientific and social science concepts of the 21st century. Therefore, students not only need ongoing

instruction in both developmental reading and writing across the content areas, but also in inquiry and information literacy skills, visual literacy and the application of mathematical principles in authentic contexts. Modeling, reflection, and practice of the skills inherent in both the traditional and the new literacies must be seamlessly incorporated across the curriculum.

Essential Elements

- Literacy instruction is a priority of each middle school with the goal of bringing each student, both struggling and advanced readers, up to a rigorous standard of reading and writing ability across the content areas. All students receive instruction in content-specific comprehension strategies that emphasize reading as thinking. Teachers share a common language with which to talk about literacy issues.

- All teachers are professionally trained to address 21st century literacy skills as defined by the organizations named above (See Appendix 4).

- Students read and view a variety of print, digital, and multi-media text and engage in interactive activities such as small group discussions, reading response journals, and think-alouds, and use Web 2.0 tools (e.g., wikis, blogs, podcasts) that help them construct knowledge from the various texts and to create content on the web.

- Process writing and media production instruction is incorporated across the curriculum.

- Information literacy is integrated throughout the curriculum.

- Students think and process a wide variety of mathematical information in creative, flexible, and meaningful ways. Integrated instruction provides varied opportunities to apply mathematical principles across all content areas. For example, the mathematics, art, and technology education teachers may collaborate on units that require students to apply a mathematical concept in a variety of settings.

- Algebra is offered in varied ways to ensure that each student's learning style is addressed. Recognizing that some young adolescents are not developmentally ready for more formal aspects of algebraic thinking, it is important that school systems also provide the opportunity for students to take algebra in grades 9,10,11, or 12.

Snapshot: Increasing Understanding of Science Concepts

Mr. Ducharme's students are reading an article on genetics. The article has text, images and links. Students have cut and pasted the text into a word processing document where they are using text boxes to make comments and record questions, predictions, and connections they are making to other texts or things they have seen previously. As he circulates through the room, his students are discussing the article, and referring to their digital notes.

"We inherit 1/2 our genes from our father and 1/2 from our mom—why does it work that way?"

“It says some genes are dominant, I know that means they’re stronger, but how can that happen—how does one gene become stronger than another?”

A bit later in the class, Mr. Ducharme directs everyone to some charts he’s made. The charts include both text and images. Previously he had printed the article in very large font in order to make the charts. He asks a representative from each table to come and point out on the chart a specific place where a connection was made or a question generated. Mr. Ducharme realizes that some of his students need to see and hear other students talk about how they connect the text and the images in order to understand the ideas in the article. Mr. Ducharme smiles to himself as his students validate his belief that the time he has taken to provide his students with direct basic and visual literacy instruction was well spent. Instruction included teaching students the behaviors of good readers -- activating prior knowledge, asking questions, and making connections.

When a question arises, the students use their web search techniques that they have been practicing in all of their classes to find the answer. They are becoming better at searching. They rely less on Mr. Ducharme to answer their questions and more on their own strategies to find possible answers. It is not unusual to hear the students remind each other to check the reliability of their sources.

In their mathematics class the students have been studying probability concepts and Mr. Ducharme asks the students to apply those principles here in their science class, to solve a problem related to genetics. The students are in communication with a class in Scotland that is also studying genetics and working on the same type of problems. The students know they will be participating in a video chat tomorrow with their partners and they are working hard to explain their mathematical thinking clearly and precisely to one another, so that they will be articulate tomorrow. Mr. Ducharme and his fellow team teachers work hard to incorporate real-life application of the concepts students are studying in their mathematics class.

It was a struggle for Mr. Ducharme to decide to take this time in his science class for literacy instruction. He felt there was an incredible amount of content for his students to master. But, he reasoned, his students would grasp the concepts more fully and more easily meet the standards if they were able to comprehend with a deep understanding the various print and digital texts he was using. To increase their skills in comprehending the various types of science-based materials, they needed to see specific reading and viewing strategies modeled with these texts, and then practice them. So the decision was made.

Phase Outs

- School cultures where reading and writing is the sole responsibility of the reading and language arts teachers.

- Continuous teacher talk.

- A belief system that content area teachers do not have the time to address literacy issues because of all the content they need to teach.

- Classes that do not require students to read, write, view and create print and digital text on a regular basis.

- Instructional practices where students only communicate within the walls of their own classroom and only receive information rather than creating new knowledge.

- Instructional practices that do not differentiate materials and strategies to meet student needs.

- Mathematical understanding that is limited to algorithms and definitions.

- Reinforcement of mathematical principles and concepts that is seen as only the responsibility of the math teachers.

- Programs where students don't have opportunities to apply mathematical principles and concepts.

- Students being kept from studying algebra and other higher-level mathematics by tracking and grouping practices.

CORE PRACTICE 4

Students have access to one-to-one computing technology integrated throughout the curriculum, allowing them to acquire the critical thinking skills related to information, media, and technology.

Rationale

The Maine Learning Technology Initiative (MLTI) provides a unique opportunity for Maine's seventh and eighth grade students to use technology as part of an integrated system of learning. The focus in all schools should be on high quality teaching and learning, where technology tools allow students to access information and use it to support learning at high levels. Increasingly, the interconnection of technology, instruction, and content is a form of knowledge that expert teachers bring into play.

Essential Elements

- Computers are the modern tool for intellectual work. Educators maximize the use of technology to support teaching, learning, and communication within and beyond the schoolhouse walls.

- Every teacher in all of the middle grades is adept at integrating one-to-one computing into their curriculum in order to differentiate, engage, develop skills, and increase achievement and has the resources to do so.

• All Maine students have the technology tools and opportunities they need to be successful in school, regardless of the community in which they live or their grade level. Continued equal access and support for one-to-one computing exists for every student.

• Administrators, the teaching staff, and the technology staff, together develop a common vision of technology integration based on the best educational research on learning and the demands of the 21st century.

• Professional development is provided at all levels for teacher candidates, public school teachers, and university faculty to help them explore and develop their own answers to the following questions: How can technology help students learn? How can it be integrated into teaching? What resources does technology make available to teachers? What new issues does technology pose for schools?

Snapshot: Technology: No Longer An Add-On

Imagine a time-lapse photographic essay about a middle school that embraces technology as a natural part of the teaching and learning process. In this essay, teachers and students over time become more adept at seamlessly infusing computers, software, cameras and tape recorders into everyday activities. Students demonstrate their mastery of a mathematics standard that requires them to apply geometric properties to represent and solve real life problems involving regular and irregular shapes; they do this by plotting navigational routes and presenting their findings in a multimedia presentation during their integrated unit on flight. Others meet history standards by creating iMovies based on their interviews of loggers who were part of the last great log drive on the Kennebec River. Learning emphasizes creating original work to share with an authentic audience of school and community members. Students demonstrate their proficiencies to a worldwide community.

Middle school teachers and students in central Maine have been involved for several years in a myriad of projects where technology provides authentic learning experiences and community service work. Among other things, students have created websites for the town's post office and police department and are in the process of helping the local historical society digitize its documents and pictures so they will be available online for everyone's use. Students are learning interviewing skills, honing their writing abilities for an audience beyond the teacher, and developing web design and presentation skills. Furthermore they are developing habits of civic participation and responsibility at a young age.

Researching, word processing, data collecting, animating, creating multimedia presentations, producing and directing movies, and designing web pages are all tools that the teachers and students use on a regular basis to make learning challenging, meaningful, and engaging.

Phase Outs

- Students who do not have access to one-to-one computing.
- Students who are not permitted to take their school laptops home.
- Students who lack easy access to up-to-date resources in all subjects.

- Teachers who lack access to or are not taking advantage of on-going professional development in integrating one-to-one computing in curriculum and instructional practices.

- Students who leave middle school and do not have one-to-one computer access in high school.

CORE PRACTICE 5

All middle level students experience learning opportunities that emphasize creativity and innovation.

Rationale

Creativity and innovation are recognized as skills that students need for increasingly complex life and work environments. Members of a global society need to be able to demonstrate originality and inventiveness in generating and communicating new ideas. They must be open to different perspectives and work effectively with others on a variety of tasks and across multiple settings. Creative thinking and problem solving deepens students' abilities to accomplish these demanding tasks.

Essential Elements

• Creative thinking is the process of generating original ideas that have value and is included in all content areas.

• The "Cross Content Connections" document in the Maine *Learning Results,* containing examples of the connections among all eight content areas, is used in curriculum planning to aid in incorporating creative opportunities for students in units.

• Middle grades educators have an understanding of Standard C (Creative Problem Solving) of the Visual and Performing Arts Maine *Learning Results*. This standard includes the steps of the creative process.

• Teachers foster a learning environment rich with opportunities for students to explore, discover, and create.

• Creativity is acknowledged as the cornerstone of teaching students in the conceptual age.

• Students have creative-problem solving skills to deal with unpredictability.

• Students have a better chance of reaching their capacity because they are taught to use creativity and innovation.

• Students use the creative process to brainstorm many ideas, explore multiple solutions and expand on ideas and revisions.

Snapshot: *Tying Together* Learning Project

It was early Monday morning and the eighth grade team was reflecting on the past week's learning project. Mrs. Strom, the mathematics teacher, Ms. Sylvia, the art teacher and Mr. Littlefield, the language arts teacher had responded to the students desire to learn more about M.C. Escher's tessellations. In mathematics class students were introduced to the concepts using a hands-on approach. In art class, students worked in groups using their laptops to research M.C. Escher's life and the details of his art work. In language arts, class students compared the writing of poetry and creating tessellations. As the week progressed, students had created several types of tessellations, studied color theory and how it applied to tessellations, and were writing diamante poetry. Students were so engrossed in the work they rarely were ready to leave one class for the next. On Friday, students chose a classroom in which to work and were focused for 2 hours on the completion of their final tessellation; it was painted on a necktie. Students had to select the tie, prepare it, make decisions on color, create and paint their final tessellation templates, and then assess and critique theirs and others. Many students' evaluations included the fact that they had lost track of what content they were doing in which classroom. Others included the importance of the opportunity to think independently yet work side by side for feedback. The work truly overlapped and students were engaged in their learning, so it was easy for the teachers to understand the value of the unit. Tie Day was scheduled for the coming week and the students were looking forward to wearing their artwork with great pride.

Phase Outs

- The arts as undervalued and misunderstood in schools.
- Connections with the arts not being made in classrooms, and arts educators who are not included in middle school conversations.
- Creative and innovation skills not being celebrated or recognized for their importance to each student's development and success.
- Creativity and innovation missing from instructional practices.
- Classrooms environments that are so structured that students are unable to express their individual creativity.

CORE PRACTICE 6

School leaders, using a collaborative and democratic leadership model, focus on establishing an environment that supports the learning needs of young adolescents.

Rationale

Effective middle level principals have a deep understanding of the development of young adolescents and the programs and practices that are best suited to their learning environment. However, as knowledgeable as these principals need to be, they cannot do everything alone. Working closely with both formal and informal leaders through a democratic governance structure, often referred to as a Leadership Team, principals build investment, understanding, and action where teachers are ultimately responsible for the school they make. Highly collaborative and democratic leadership structures result in more students of all abilities attaining higher achievement (Jackson & Davis, 2000). Other ways to support collaboration and democratic processes in a school include professional learning communities and healthy, dynamic teams.

Essential Elements

- The Leadership Team uses the expertise of teachers, team leaders, and the principal to provide leadership for the entire school. The Leadership Team sets direction, analyzes data, promotes risk taking, and functions as both the long and short-term leadership for the school.

- Middle level principals and leaders keep current with middle level research, best practice, and systemic change theory.

- Interdisciplinary teams are the hallmark of effective middle level schools. Time, energy, and resources are allocated for the development and maintenance of healthy team dynamics. Team leaders receive training in facilitation skills.

- Professional learning communities that explore effective instructional practices are in place. Through them teachers examine student work, share strategies, and convene peer reviews of units of study, thus creating a culture of collaboration and shared responsibility for decision making in school improvement efforts.

- System level leadership, including the superintendent, central office staff, and the school board, is knowledgeable about young adolescents and middle level education, particularly within the K-12 spectrum. These school system leaders advocate for excellent middle level schools for every young adolescent.

Snapshot: A High Performing Middle School Leadership Team

The weekly meeting of the Lakeview Middle School Leadership Team is starting. As the 12 members of the Leadership Team enter the room, they engage in conversations and help themselves to snacks. Each of the 12 members represents school staff including academic teams, unified arts, guidance, and administration. 2 of the team leaders are facilitating the meeting and they arrange handouts and post the meeting agenda on the white board. The agenda is separated into three sections: lead, manage, and fires

(issues needing immediate attention). The meeting begins with a focused discussion on the progress of their school goal for the year: all students will have equal access to a challenging curriculum. During the weekly delayed starts, several small groups across the school have been meeting to discuss how to improve their practice to meet this goal. One team leader shares how his group has begun to use a moodle (online learning site) to address the needs of some of the more advanced students in their classes. Another describes how members of her team are doing text-based discussions on a new resource that addresses literacy in the content areas. This part of the Leadership Team discussion concludes with the recommendation for sharing with the whole staff at the next staff meeting how these two teams are differentiating instruction as a way of addressing the school goal. Time will be allotted for staff reflection on these experiences and to discuss ways these ideas might be adapted across the school. While there are always important details to talk about, this part of the meeting is the heart and soul of what the leadership team does—focusing on improving teaching and learning.

The tone of the room quickly changes as the team leaders address the management issues on the agenda. As the meeting progresses, all members participate and reach consensus on many, but not all issues. When discussion about school socials runs over the allotted 10 minutes without reaching consensus, the principal asks the team leaders to return to their teams to discuss that item again and to prepare to work through the issue at the next meeting. The Leadership Team also decides that the principal should ask the students who requested the changes to attend the next Leadership Team meeting to present their case. The team develops a list of clarifying questions for the students to consider. The meeting adjourns with a quick review of what has been accomplished, a check for action items for the next week and those responsible for completing tasks, and a beginning list of the agenda items for the next meeting. Before they leave, they review the issues discussed in light of the vision and mission for their school, asking themselves, “Have all decisions made today been consistent with what this school believes?”

Phase Outs

- The principal and/or administrative team who are the sole decision makers and school policy developers.
- Teachers who work in isolation to develop units and plan instructional frameworks.
- Teams that are created and then not given time and resources to develop an effective working relationship.
- A school organization that lacks knowledge of the developmental needs of the young adolescent.
- A piecemeal approach used to implement the different elements of an effective learning environment for the young adolescent.
- Time not being provided to make use of democratic processes for decision-making.

CORE PRACTICE 7

Faculty, administration, and students collaboratively build a safe and caring climate that nurtures the individual while creating a sense of community where everyone is valued.

Rationale

Fear and high-level stress have negative effects on the brain's cognitive abilities and learning and achievement are diminished when these two emotions are present in a school. It is therefore imperative that middle grades schools be places that are physically and emotionally safe for every member of the school community. A warm and caring school climate that emphasizes the importance of relationships sends the message that each individual is valued. Such schools are characterized by clearly communicated, high standards for student behavior. These standards are created with the input of administration, staff, parents, and students and are based on based on commonly held community values. Students are always treated humanely and discipline policies are a part of the learning process.

Essential Elements

• Each member of the school community is valued and treated with respect, and positive relationships are recognized as a key factor in student learning.

• All students and families are welcomed into the school community in an equitable fashion and given full access to school offerings and resources.

• Middle level educators engage the community and students to establish agreed-upon values that will serve as the foundation for the school.

• Each middle level student has at least one adult who knows him/her well and advocates for him/her.

• Students are directly involved in developing policies regarding discipline and standards of behavior in each school.

• Curriculum and programs address the myriad of physical and emotional wellness issues facing the young adolescent.

• Multi-faceted transition plans (elementary to middle level and middle level to high school) are collaboratively planned and implemented.

Snapshot: Valuing School Climate

One central Maine middle school's award-winning advisory program was designed to create a safe and caring school climate. Staff input was and continues to be an integral ingredient of its success. The staff had a picture of what an advisory program should look like, and a team was sent to the Middle Level Education Institute to develop the vision into a plan. At the Institute, the school team created "Fostering Student Ownership, Communication, and Unifying Students" (FOCUS). In the FOCUS advisory program, each staff member would take responsibly for caring for 12 or so students for

their four years at their middle school. Over a 2 year period, staff worked together with students to establish what would happen during FOCUS time. These mini-communities became the places where many school projects and issues were shared and discussed.

The "C" in Focus stands for communication. Communication needs to happen on many fronts. Teacher to student, teacher to parent, student to parent and administration to staff are but a few of the communication threads. One program that makes this "C" such a success at this school is the student-led conferences. They too, were born out of FOCUS. The FOCUS community time is the perfect place for students to organize portfolios and ready themselves for a presentation of their portfolios to their parents. The comfort level within these advisory groups allows students the opportunity to practice the sharing of their work with fellow classmates in order to be ready for the student-led conferences. Student-Led Conference Night has had an attendance rate of 95% or better.

The driving force behind the positive atmosphere that exists at this middle school is the adoption of the FISH Philosophy from the Pike Fish Market in Seattle (http://www.charthouse.com/content.aspx?nodeid=1066). This philosophy follows four simple principles: have fun, choose your attitude, make their day and be there. Each component in its own right speaks volumes. Lump them together and a fantastic work place for students and staff is created.

Phase Outs

- A principal who is the sole maker and arbitrator of the rules and policies of the school.
- Students who pass through a middle level school without anyone knowing their interests or goals in life.
- Curriculum content that is so inflexible that the needs of the individual child cannot be addressed.
- School staff who seem not to notice harassment and bullying of students.
- Inadequate or non-existent transition plans (elementary to middle school, and middle school to high school) that are the norm.
- Working relationships between middle level schools and high schools lack that respect and a spirit of collaboration.

CORE PRACTICE 8

Students benefit from organizational structures within the middle grades that maximize the sense of community, support meaningful relationships, and optimize curriculum delivery.

Rationale

In successful middle level schools, there is a strong sense of community established through smaller teams of 2 or 3 teachers and no more than 40-75 students. When these teams stay together for the 2 to 3 years that students are in the middle grades, strong relationships are formed and a sense of belonging is fostered. Some schools that have included multiage grouping in their schools also report that student empowerment and leadership increase as the experienced students on the team welcome and orient new students. Combine a small team structure and an effective advocacy program with a democratic curriculum based on the questions and concerns of students, and a climate is created that says to students, ”You matter here.”

Essential Elements

• 2 or 3 teachers highly qualified in at least two disciplines, staff small interdisciplinary teams of 40-75 students.

• Teams stay together for 2 or 3 years to maximize the ability to build strong relationships and successfully address individual learning needs over a longer span of time.

• Students and teachers set and monitor student-learning goals together in order to help students achieve at high levels.

• A climate of advocacy exists where each student has an adult throughout his/her middle level experience who knows the student well and who is responsible for seeing that the student’s needs for academic success and personal growth are addressed.

Snapshot: Small Team Meeting

Team leader Sue is compiling items to share with the other 2 teachers on her team, who meet every other day. The list seems especially lengthy today, and yet the 70 minutes they spend every other day allows for these extensive discussions. The content varies; however the 3 always meet to update each other on curriculum progress, student needs, or upcoming team/school events. Today, Sue begins the meeting by sharing notes from last night’s Leadership Team meeting. Of special importance is the outcome of a proposal to look at possible scheduling changes for the next school year. The communication from smaller teams to whole school Leadership Team (and back) helps to keep information flowing.

Following the discussion of the Leadership Team notes, Bill asks how their theme of “Change” is progressing. He is concerned that the student presentations in his core class might extend beyond their original time frame. Sue suggests they examine the calendar and revise the schedule slightly. Jane offers another solution of combining core classes for 1 day so that all students could hear the other students’ presentations.

The flexibility of having a small team of 60 students grants them many options. Each teacher spends a few minutes updating the others on how the unit is progressing in his or her class.

The bulk of team time today is spent preparing for the student-led parent conferences. They examine copies of goal cards students and teachers completed at the last conferences and review samples of the students' electronic portfolios. They decide students should revisit their goals prior to the conferences and decide whether each goal had been met (with evidence to support the decision), or would be met by the end of the year, or would be carried over into the following school year. (This team of 60 students and 3 core teachers will stay intact for 3 years.) Their students were becoming proficient at setting and meeting learning goals.

During the final minutes of team planning time, Sue, Bill, and Jane jointly complete a student referral to the Student Assessment Team and review the student-written parent newsletter the team sends home and to the exploratory teachers each week.

Phase Outs

- Large interdisciplinary teams that focus on individual disciplines and are teams in name only.
- Students who are not known well by the staff.
- Schools that are organized solely by departments.
- Expectations and goals for students lack continuity across the different grade levels.
- Team meetings that focus primarily on crisis management and/or daily details not related to curriculum and instruction.
- The lack of communication and common goals between the interdisciplinary teams and the exploratory/allied arts teams.

CORE PRACTICE 9

Students have access to a co-curricular program that encourages all students to participate, develop skills, be a member of a team or activity, and simply have fun.

Rationale

Exploration has long been an essential concept of middle level education. Co-curricular offerings in such areas as drama, clubs, and athletics have been an ideal way to offer students experiences and opportunities. Middle level schools should offer a wide variety of these activities. The goal of these activities should be to engage students in worthwhile and enjoyable experiences with an emphasis on leadership, citizenship, and sportsmanship. These activities should help students gain the knowledge and skills

associated with the activity for their enjoyment and benefit. However, more than in any other co-curricular area, a sense of balance is often lost when middle level athletics mimic high school athletics. The publication, *Sports Done Right,* from the Middle Level Athletics Task Force (MLATF) under the auspices of The Maine Center for Sport and Coaching at the University of Maine, provides excellent recommendations for a school system to use as guidelines as they review their athletic programs.

Essential Elements

- The co-curricular learning environment is developmentally appropriate for young adolescents and addresses the great variety of student interests. The middle school students' physical, psychological, emotional, and intellectual characteristics are a priority in planning and implementation. Additionally, programs develop creativity and problem-solving, good citizenship, leadership, and character.

- Decisions regarding intramural and interscholastic activities are governed by a sincere concern for the safety, health, developmental needs, and educational well-being of middle level students; the main goal is to provide an enjoyable experience for all participants, while teaching skills and teamwork. *Sports Done Right* is used as basis for the school's athletic program.

- Parents are educated regarding the purpose and philosophy of middle level activities.

Snapshot: Co-Curricular Activities for Everyone

It's a snowy February day as we enter a local middle school while the school buses are loading for the trip home. As we walk through the halls, however, we don't find an after school ghost town. There are activities and students at work throughout the building. Basketballs are thudding off the backboard in the gym where the teams are practicing for their next game, and down the hall some students are practicing their rock climbing skills on the school's climbing wall. Peeking into another room, we find a group of students thoroughly engrossed in their cooking club activity for the day; next door other students are huddled intently over their jewelry making projects. The future engineers and inventors of the world are problem-solving as they program their Lego-Robots to perform complicated tasks. Looking down the hall, we see students exiting the after-school café as they head toward the rooms set up for homework help and mathematics tutorial. Healthy snacks reboot the brain so students are ready to concentrate on academics for a while longer this afternoon. Winding down the corridor we hear grunting and look in and see students keeping in shape by weightlifting and doing an aerobics workout. As we finish our tour, we meet a group of seventh graders brainstorming ways they can support the local Food Bank—service-learning projects are a tradition at this school. This middle school is determined to provide a vibrant and responsive co-curricular program in order to keep their students engaged in healthy activities and to provide a multitude of experiences that broaden their students' perceptions of themselves and their world.

Phase Outs

- Interscholastic sports that are for the elite few and are the only after-school activities.

- Limited offering of activities.

- Coaches who do not have a solid background in the physical and emotional development of young adolescents.

- Over-scheduling young adolescents in activities so that they do not have adequate time to devote to their academic studies or sufficient down time for rest and relaxation.

- Highly competitive athletic programs that are not consistent with middle level philosophy.

CORE PRACTICE 10

Teachers' professional development is an ongoing process that is embedded into the daily life of the school.

Rationale

Teacher quality is the most important component in ensuring the excellence of a student's educational experience. Investments in professional development made to enhance this quality are at the epicenter of improving student learning. "The goal of professional development is to improve student learning, and the means to that end is continuous development of a teacher's knowledge and skills" (Jackson & Davis, 2000). The transformation of middle grades schools into high performing middle level schools is contingent upon continuous, high quality, and pre- and in-service professional education. The seamless flow of professional development and its ultimate effect on student learning must be part of the daily experience of every staff member. The school must be organized in ways that promote the kind of collaborative, professional problem-solving that is the hallmark of effective professional growth.

Essential Elements

- Professional development experiences and activities are planned with input from participants, are coordinated and comprehensive, and are tied to the mission and vision of the school.

- Personal professional development plans increase a teacher's knowledge base in pedagogy, content, and adolescent development.

- The professional development plan is ongoing and provides for multiple assessments of the plan to determine if the stated goals are being achieved.

- The professional development experience models best practice in learning research and makes excellent use of available professional planning and learning time.

- All professional development activities result in improved student achievement.

• Every school has the sustained assistance of at least one individual whose role is to facilitate staff members' professional development.

• Individuals and teams are able to see successful achievement of professional development goals.

Snapshot: Team Meeting Focused on Reading Literacy

Bob, Mary, Daria and Jeff gather with their school's literacy coach during one of their team's common planning times. Reading across the content areas has been a primary professional development initiative this year for the system. A 7-12 Literacy Leadership Team, aided by a consultant, leads the literacy work in the individual schools and regular all-staff workshops. At the middle school, the departments share ideas and strategies in monthly department meetings and part of each faculty meeting is also devoted to the topic of reading. Finally, once every 3 or 4 weeks, teams meet with the literacy coach. Today the discussion focuses on helping students learn to interact with text. Mary shares that she's been teaching the students notation techniques in language arts and that she's seeing her students more engaged in their reading. Daria, the science teacher, expresses frustration that she's not seeing the level of engagement and comprehension that she desires, even though she's having the students read articles that are rich in interesting details. Jeff asks her if she's using any kind of graphic organizer and jumps up and rushes off to his room to grab an example. It's a history story map that helps kids identify the key people, critical actions, and results of important historical events. The teachers are drawn to this particular graphic organizer and remark how it could be adapted to their curriculum areas. Bob reflects, "Something like this would be useful with lengthy word problems, helping the students identify the key information they need." The meeting ends with each team member leaving with a new tool from Jeff to adapt and try out in their classrooms in their quest to help each of their students develop the behaviors and skills of good readers.

Phase Outs

- Professional development programs that are isolated one-day events and lack any follow-up.
- School vision and professional development plans that are not connected.
- Professional development plans that are not connected to increasing student well-being and achievement.
- Existing opportunities for professional development (e.g., team meetings, in-house experts) that are not part of an overall professional development plan.
- Common high school and middle level curriculum and instruction issues that are not addressed through a coordinated professional development plan.
- Necessary financial and human resources for professional development that are not provided.

CORE PRACTICE 11

Parents are actively involved in the life of the school and their child's education.

Rationale

Middle school parents are caught in the middle! New middle school parents are often accustomed to an inviting and nurturing elementary school, close contact with one teacher, and children who like to see their parents at school. That scenario often changes with children in middle school who work very hard to keep their two worlds -- home and school -- as separate as possible. As young adolescents assert more independence, they want school to be theirs alone. Middle level schools also tend to be larger, more complex, and in some cases, seemingly more impersonal. Finally, some parents may not feel welcome, and may sense that the school does not want them involved; or they may feel uncomfortable with a school that operates differently from the one they attended. All of these factors inhibit parents from getting actively involved in their young adolescent's middle level school. However, the collaborative team structure of an effective middle level school lends itself to teams and parents establishing an open, consistent, and meaningful way to communicate about what they share in common -- the young adolescent.

Essential Elements

- Each middle level school and its individual teams has a specific, comprehensive, and ongoing plan to involve the family and community in the life of the school.

- Schools use a variety of resources to communicate with families and the community. While traditional phone calls, and newsletters or notices sent or mailed home are all effective with some families, others need access to phone-in lines, websites, e-mail, and more. Schools must make every effort to make timely information available to parents and the community on their time schedule, not merely when convenient for the school.

- Every middle level school has someone who is responsible for coordinating the work of the school and community. Involving the lives of the school and the community it serves will yield great dividends for both.

- A collaborative partnership exists among the school, the student and his/her family.

- The secondary education experience is a seamless 6-12 process for the student and his/her family.

Snapshot: Parents as Full Partners

One Maine middle school Parent Team's stated mission is "…to be a partner with the school in meeting the educational needs of our students." This long-standing partnership has resulted not only in some great moments, but also in a pattern of support and advocacy for the middle school's mission and vision by its families.

Each year since its inception, the Parent Team provided input and feedback to the principal and the school committee regarding what works well and what needs to be improved at the middle school. As a result of this kind of participation, the middle school

was able to increase library services at the school from less than half time to full time within two years of its inception. On the strength of parental feedback, the size of the foreign language program was doubled in 1 budget year. In the same year parents supported a part time computer coordinator. After convincing the administration of that need, they supported an increase to full-time the following year.

The middle school Parent Team actively supported the school's goal of addressing harassment and bullying by writing a large multi-year study grant. The result of their effort provided time and resources to develop an effective program of awareness, prevention, and response to bullying in the school.

The most striking example of a strong partnership between a middle school and its parents has nothing to do with budget or programs. Not long ago, a middle school critic wrote a scathing article specifically denigrating the community's middle school, its teachers, the administration, and its students. In the following weeks, the middle school Parent Team orchestrated a series of rebuttal letters, providing specific examples disproving the critic's negative allegations and broad generalizations. The outcome was that the critic who wrote the negative letter asked to attend a meeting of the Parent Team leaders and apologized for attacking the school. An active and engaged parent team certainly made a difference for these Maine middle schools, and can for yours as well!

Phase Outs

- One-dimensional communication systems with parents that do not take into account the diverse natures of the modern family and time demands on these families.

- Reactive rather than proactive approaches to communicating with parents about their children and difficult school-wide issues.

- Power vested in one group of parents based on their socio-economic status in the community.

- The lack of a cohesive K-12 education experience for parents.

CORE PRACTICE 12

Teachers, administrators, and staff who are responsible for the education of young adolescents are knowledgeable about their developmental needs and appreciate them for their uniqueness.

Rationale

Young adolescents are passing through an intense transitional period that affects their bodies, their intellectual development, and their sense of self. Educators working with these students must understand these changes and their impact on learning and achievement. Mertens, Flowers & Mulhall report that the instructional practices of

teachers with middle level certification tend to be research based. When these practices are combined with teaming, the students in these schools demonstrated over time the biggest gains in achievement levels (Mertens, Flowers & Mulhall). In *Turning Points 2000*, Davis and Jackson argue forcefully that neither an endorsement attached to pre-existing certification or overlapping certification drive significant changes in serving young adolescents. With few notable exceptions, high-quality middle grade teacher preparation programs simply do not exist in states without mandatory licensure for teaching in middle grades that is separate and distinct from licenses for elementary education and secondary education.

Essential Elements

- Each member of the staff has studied in undergraduate, or graduate school, or through professional development opportunities the unique developmental characteristics of the young adolescent.

- Each member of the staff has studied in undergraduate or graduate school, or through professional development opportunities the principles of exemplary middle level education.

- Curriculum, instructional practices, assessment strategies, co-curriculum programs, policies and procedures are designed and implemented with the developmental needs of the young adolescent in mind.

- Faculty, administrators and staff members value the uniqueness of the young adolescent and enjoy working with this age group.

Snapshot: Graduation

Twenty teachers are on stage for their hooding ceremony. They have earned their Masters degree in middle level education and are feeling relief that the grueling days of teaching full-time and studying for their graduate classes are over, and at the same time are jubilant about their accomplishment. Having studied the nature and needs of the young adolescent, they are crafting more relevant and rigorous units of study and presenting them using strategies that engage students and scaffold learning effectively. They confidently address adolescent literacy issues through their instruction, ensuring that their students will have the reading and writing skills they need for higher education or well-paying jobs. No longer intimidated by one-to one-computing, the use of computers and the web are integral parts of their curriculum and instruction. These middle level teachers have come to appreciate the interconnectedness of the elements of middle level philosophy, and work in their schools to implement the components of effective educational practices for young adolescents. They came to be teaching middle level students for a variety of reasons, but each has chosen to stay because of being unable to imagine being anywhere else.

Phase Outs

- A licensing system exists that does not recognize that teachers of young adolescents need expertise in the unique characteristics of these students as well as content expertise.

- University programs that do not address middle level curriculum and instruction in pre-service programs.

- Placement of pre-service teachers in middle level schools that do not use research-based exemplary practices in the education of the young adolescent.

- Teachers transferred to the middle level without any requirement that they become knowledgeable about the age level and its unique needs—intellectual, social, physical and psychological.

- Teachers unprepared to integrate 21st century skills including literacy, numeracy, creativity, and technology into their curriculum and instruction.

General Recommendations

1. The Maine Department of Education should encourage middle grade schools to adopt *Bright Futures'* 12 Core Practices and should make funds available to systems to implement the recommendations contained within this report. (The recently released ACT report, *The Forgotten Middle* (2008), also recommends increased state funding for middle grades education.)

2. The Maine Department of Education should develop and fund a center whose purpose is to provide leadership to oversee the implementation of this report. This should include partnering with other organizations within Maine whose mission is to promote the education of young adolescents.

3. The Maine Department of Education should designate a full-time Distinguished Educator to coordinate the work related to Middle Level Education in the Department and around the State. The duties of this position would include: giving visibility to middle level concerns and issues statewide; writing grants; and serving as liaison for the connections with *Promising Futures* high schools.

4. The Department of Education should support research on achievement in middle schools in Maine. The Commission recommends that Maine develop a system to recognize and support exemplary middle level schools.

5. A middle level profile for every school that houses seventh grade in the State should be developed and updated yearly through the Department of Education. This profile should include the status of each school on each of the Core Practices described in this report. This data-based profile would continue to inform the work of the various partnerships as systemic implementation of the middle level model of education continues.

6. Licensing requirements for middle level educators should be changed in order to ensure that young adolescents attend schools with programs and policies founded in the academic, physical, social, and psychological needs of young adolescents:

- The certification system should have three certification options for classroom teachers: K-5, 5-8, and 9-12, recognizing and supporting the specific knowledge and skills needed to work with young adolescents in the new area of grades 5-8.

- The middle level certificate should be based on the National Council for Accreditation of Teacher Education (NCATE) standards developed by National Middle School Association: 2 areas of subject area concentration, student teaching in a successful middle level school, and the skills and knowledge needed to meet the NCATE required professional standards.

7. Universities in Maine should provide middle level programs at the undergraduate and graduate levels (including the Ph.D/Ed.D.), to prepare educators for all roles in middle level schools.

8. Universities preparing principals should give special attention to addressing the shortage of specially trained middle level principals. Prospective middle level principals should be recruited into programs that will prepare them for that role. Prospective and

current administrators and school counselors should take university coursework to prepare them for experiences as middle level administrators and counselors.

9. All professional organizations should develop or continue to develop a focus around middle level education, for teachers, principals, counselors, special educators, and anyone else responsible for middle level students.

10. The Maine Department of Education should regularly review and update this report to ensure that the education of students in the middle grades is based on the best possible data and research.

11. All Maine schools should use this report, along with *A Solid Foundation: Supportive Contexts for Early Literacy Programs in Maine Schools*, *Promising Futures*, *Taking Responsibility*, and *Sports Done Right* to write their Comprehensive Education Plans.

12. Schools should consider more carefully their joint responsibilities for preparing students in grades K-16 for a bright future, as delineated in the *Learning Results*. School systems should regard this as a systemic issue, as important in elementary schools and middle level schools as in high schools. It is critical that these K-12 school networks be used to their fullest advantage to improve learning for all children, young adolescents, and adolescents. While this report focuses on the middle level grades, as *Promising Futures* did on the secondary grades and *A Solid Foundation* did on the primary grades, in truth this is a K-16 report. For meaningful change to occur, the entire system must work together seamlessly to make it happen.

Middle Schools Cannot Do It Alone

Accomplishing the critical goals outlined in this report will take the concerted efforts of many stakeholders from every section of Maine. Further, everyone involved in improving middle level schools must recognize that the process takes time and we must make a long-term commitment to the task.

In addition to the schools responsible for their middle level students, there are several organizations that also support young adolescents in middle level schools. Project Reach, the middle school program of Jobs for Maine Graduates (JMG), Gear-Up, and the Center for Community Inclusion at the University of Maine provide excellent and critical services to young adolescents in Maine, supporting these young adolescents and the work of Maine in middle level schools.

Middle level stakeholder groups need to collaborate more fully in the future to bring the recommendations of the Maine Commission on Middle Level Education to fruition. For example, The Maine Department of Education and Maine‘s colleges and universities need to work closely together to address the teacher education and licensing issues; various organizations like Maine Association for Middle Level Education (MAMLE) and the Maine Principals’ Association (MPA) might focus on services and advocacy; collaborations among organizations like the Great Schools Partnership, MAMLE, and the Middle Level Education Institute could provide powerful and transforming professional development for teachers and principals.

The Maine Commission on Middle Level Education has begun to seek a commitment from each partner so that they will support the Commission's Report and build goals and activities from their organizations to further the recommendations of this Report. In particular, the Commission has worked closely with the Maine Learning Technology Initiative (MLTI) and recommends that the networks established by MLTI continue to be used extensively by all stakeholders working with the middle level network of schools in Maine. While the Commission has a finite existence, the various partners existed well before the Commission and will remain after its report has been presented and the Commission disbanded

Two Goals to Implement Immediately

1. The key organizations serving middle level schools will form a consortium spearheaded by the Maine Department of Education to continue the work of implementing the recommendations in this report.

2. The newly developed Middle Level Consortium will secure funding to assist schools in their work in meeting the recommendations in this report.

Appendix # 1

Middle Level Education in Maine: Taking Stock

In 1987-1988, the Middle Level Task Force, a group of educators and citizens from around the State, met to study middle level education in Maine. The report to Commissioner Eve Bither, *Schools in the Middle* (1988), provided information about middle level education and set the direction for middle level schools in the next few years. How effective were the 18 recommendations in that report? While there is little hard data to evaluate, several members of the current Maine Commission on Middle Level Education also served on the 1988 Middle Level Task Force. Their analyses indicate that Maine's middle level schools made progress in implementing some of the signature programs most often recommended for middle level schools, including advisory programs, teams, exploratory offerings, activity programs, and early attempts at multidisciplinary curriculum units.

Unfortunately, many of the recommendations for various stakeholder groups were either short-lived or never did materialize. The recommendations to the Maine Department of Education, (known then as the Department of Educational and Cultural Services) called for middle level education to be recognized as a separate entity from elementary and secondary education in educational laws and Department regulations. That did not happen in 1988, but a number of changes to Chapters 125 and 127 now recognize middle level education as a separate entity. Other recommendations called for the Department to establish a separate per pupil funding formula for grades 5-8, with a separate space utilization formula for buildings with middle level students, and to develop funded incentives for middle level initiatives through various Department initiatives. None of that came to pass. A middle level education office was initiated for two years after the prior report for the purpose of helping schools across the State promote middle level education, provide models and strategies for implementation, and more. Finally the recommendation to the Department to establish distinct endorsements for middle level teachers and guidance counselors and a distinct certification for middle level principals was only partially realized. Due to this recommendation, the Maine Association for Middle Level Education helped achieve a Middle Level Teaching Endorsement for grades 5-8 that still exists today. Unfortunately, the endorsement has had a negligible impact on teachers (fewer than 1% of Maine teachers have it) and there has been no move for specialized preparation or recertification for counselors or middle school principals.

Maine's colleges and universities have been slow to respond, with few middle level teacher preparation programs at the undergraduate and graduate levels. While several campuses have thriving undergraduate or graduate programs, the lack of a middle school certification (or license) makes it too easy to ignore any specialized preparation for the middle level only.

The brightest star in the recommendations from 1988 might be the leadership that Maine Association for Middle Level Education (MAMLE) has exhibited from the beginning. MAMLE has established local, regional, and statewide networks to promote young adolescents and middle level education, raising the awareness of the needs of middle level students in Maine and the need for improvements to schools and teachers.

MAMLE's advocacy, along with that of professional groups like Maine Principals' Association and others, have added a great deal to Maine's middle level schools.

Finally, the recommendations in the 1988 study relied heavily on local systems to examine their philosophies and subsequently adopt more student-centered approaches, work on a responsive curriculum, provide co-curricular activities which are appropriate, recognize the importance of ongoing professional development, form transition teams with their high school colleagues, and more. Some Maine middle level schools did some of these things, but many did not. The signature programs of middle level education were easily accomplished, but many schools simply did not go beyond those programs that were easy to implement.

What We Have Learned About Successful Middle Level Schools in Maine

Successful middle level schools in Maine encourage students to learn and develop as people. These schools begin with a commitment to young adolescents, insist on deep, rather than superficial learning, create a learning community where adults and students work closely together, and recognize that this is a system where each element depends on the others. These schools share a vision and a mission that guide the programs, expectations, and directions they create. Furthermore, they are guided by high standards and they build an assessment system that measures learning in a variety of ways responsive to this unique age group.

Successful middle level schools recognize that young adolescents learn best: when they are actively involved in their learning; when students' questions drive the curriculum; and when expectations for students of teachers and teachers of students are high.

These successful schools are organized in teams, preferably small, partner teams that may stay together for more than one academic year. The teams provide a supportive atmosphere for students fostering close relationships with peers and teachers. Often with such teams, a separate advisory program is not needed.

Students are held to high expectations, learn at high levels, and score well on the Mesa and other standardized measures of achievement. In addition, these students become self-starters, responsible to themselves, their parents, and their communities. They are well-prepared for high school and beyond, and exhibit good character, as well.

Academic Achievement in Maine's Middle Schools

There are several major elements by which we need to assess middle level schools, including how attuned they are to the developmental needs of their students (which includes paying substantial attention to intellectual development), the degree to which schools are socially equitable, and how they are organized to support their mission and beliefs. However, the public seems most interested in students' standardized test scores as the means of evaluating school effectiveness.

As demonstrated throughout this report, an exemplary middle school is academically excellent and expects high levels of achievement from all students (The National Forum, 2002). During the past several years, Maine 8th graders have been in the top 10 states in reading, writing, mathematics, and science on the National Assessment of Educational Progress (NAEP). Using this as a standard to identify effective schools, it

would appear that Maine has many high performing middle schools. However, as indicated earlier in this report, there are many school configurations that house the middle grades in Maine. The Commission grappled with the question of whether there is a significant difference in student achievement in Maine schools that have moved to a middle school philosophy compared to those that operate, regardless of the name over the door or the grade configuration, as more traditional junior high or elementary schools.

In Maine we have not attended to the evaluation of middle schools as a distinct way of schooling for our young adolescents. For example, in our search for data supporting high achievement in our middle schools on the Maine Educational Assessment (MEA) and other assessments, this Commission was unable to make distinctions between schools that had implemented elements of middle level philosophy and those that had not. Therefore, we have no substantial data that allow us to determine how students in schools that are true middle schools perform compared to those with a more elementary or junior high school-like philosophy. National research findings do, however, clearly show that systemic implementation of the middle level strategies articulated in *This We Believe* and *Turning Points 2000* do have a positive impact on student learning. In Illinois, students in schools with high levels of implementation of those middle level elements listed as Core Principles earlier in this report achieved at much higher levels than those in more traditional, junior high settings (Felner, 1997). Similar results were found in Massachusetts where students in schools participating in the Middle Grades Systemic Change Network had the highest gains on the Massachusetts Educational Assessments. In addition, 13 schools in the Boston area who have participated in *Turning Points* reform for the past several years have consistently out-performed non-participating schools on the statewide assessment in score gains, percentage increase of students in advanced and proficient levels, and in percentage decrease in students performing at the failing level (National Forum to Accelerate Middle Grades Reform, 2002).

Other data that indicate substantial gains in student achievement in mathematics and science in schools that incorporate “high authentic pedagogy and instruction” are described in the National Educational Longitudinal Study of 1988 and the School Restructuring Study from 1991-1994 (Successful School Restructuring, 1995). In summary, “authentic pedagogy” was defined as instruction that involves students in the “construction of knowledge”, the production of complex understandings, and the exploration of connections to the world beyond the classroom. In addition to higher levels of achievement, both studies indicated that “authentic pedagogy” reduces the inequalities in achievement between students of high and low socioeconomic status. While these studies do not specifically identify these practices as part of the middle level reforms described in this report, they certainly fit the criteria for effective teaching strategies in high performing middle level schools.

In summary, Maine continues to do well on the National Assessment of Educational Progress (NAEP). However, we have little data that help us to understand the effects of school organization or instructional practice on student achievement at the middle level in our State. At the national level, many research studies over the past several years continue to demonstrate that schools involved in systemic middle school reform show increased student achievement on standardized and state-level achievement assessments (Anfara, 2003).

Appendix # 2

NMSA and NCATE Performance-Based Standards for Initial Middle Level Teacher Preparation

The National Middle School Association and NCATE (National Council for Accreditation of Teacher Education developed the standards below collaboratively. The entire document can be viewed at http://www.nmsa.org

Standard 1. Young Adolescent Development

Middle level teacher candidates understand the major concepts, principles, theories, and research related to young adolescent development, and they provide opportunities that support student development and learning.

Standard 2. Middle Level Philosophy and School Organization

Middle level teacher candidates understand the major concepts, principles, theories, and research underlying the philosophical foundations of developmentally responsive middle level programs and schools, and they work successfully within these organizational components.

Standard 3. Middle Level Curriculum and Assessment

Middle level teacher candidates understand the major concepts, principles, theories, standards, and research related to middle level curriculum and assessment, and they use this knowledge in their practice.

Standard 4. Middle Level Teaching Fields

Middle level teacher candidates understand and use the central concepts, tools of inquiry, standards, and structures of content in their chosen teaching fields, and they create meaningful learning experiences that develop all young adolescents' competence in subject matter and skills.

Standard 5. Middle Level Instruction and Assessment

Middle level teacher candidates understand and use the major concepts, principles, theories, and research related to effective instruction and assessment, and they employ a variety of strategies for a developmentally appropriate climate to meet the varying abilities and learning styles of all young adolescents.

Standard 6. Family and Community Involvement

Middle level teacher candidates understand the major concepts, principles, theories, and research related to working collaboratively with family and community members, and they use that knowledge to maximize the learning of all young adolescents.

Standard 7. Middle Level Professional Roles

Middle level teacher candidates understand the complexity of teaching young adolescents, and they engage in practices and behaviors that develop their competence as professionals.

Appendix # 3

The Maine Commission on Middle Level Education endorses *This We Believe: Successful Schools for Young Adolescents* and its core principles.

Successful schools for young adolescents are characterized by a culture that includes

- Educators who value working with this age group and are prepared to do so
- Courageous, collaborative leadership
- A shared vision that guides decisions
- An inviting, supportive, and safe environment
- High expectations for every member of the learning community
- Students and teachers engaged in active learning
- An adult advocate for every student
- School-initiated family and community partnerships

Therefore successful schools for young adolescents provide

- Curriculum that is relevant, challenging, integrative, and exploratory
- Multiple teaching and learning approaches that respond to their diversity
- Assessment and evaluation programs that promote quality learning.
- Organizational structures that support meaningful relationships and learning
- School-wide efforts and policies that foster health, wellness, and safety
- Multifaceted guidance and support services

National Middle School Association. (2003). *This We Believe: Successful Schools for Young Adolescents*. Westerville, OH.

These principles align with those established by the Commission on Secondary Education as the basis for *Promising Futures*. The alignment of the Core Principles/Practices from both documents provides a basis for a natural transition for students as they move from middle school to high school. The complementary foundational beliefs of the different levels ensure that common goals and expectations for all students will exist in grades 6-12. Each level should address these goals and expectations in ways that are appropriate for their population's developmental needs.

Core Principles

This We Believe	Promising Futures
An inviting, supportive, and safe environment An adult advocate for every student Multifaceted guidance and support services	A safe, respectful, and caring environment
High expectations for every member of the learning community Organizational structures that support meaningful relationships and learning Curriculum that is relevant, challenging, integrative, and exploratory	High universal expectations with a variety of learning opportunities
Assessment and evaluation programs that promote quality learning	Understanding and actions based on assessment data
Students and teachers engaged in active learning Multiple teaching and learning approaches that respond to their diversity Educators who value working with this age group and are prepared to do so	Teacher practice that values and builds upon the contributions and needs of each learner
Courageous, collaborative leadership A shared vision that guides decisions	Equitable and democratic practices Coherence among mission, goals, actions, and outcomes
School-wide efforts and policies that foster health, wellness, and safety School-initiated family and community partnerships	

Appendix # 4

Resources

Maine

Great Schools Partnership: http://www.greatschoolspartnership.org/

Maine Association for Middle Level Education (MAMLE): http://www.mamleonline.org

Maine Center for Meaningful Engaged Learning (MCMEL): http://www.mcmel.org/

Maine Center for Sport and Coaching: Sports Done Right:
http://www.mcce.umaine.edu/sportsdoneright/sdr.htm

Maine Department of Education: http://www.state.me.us/education/

Maine Education Association (MEA): http://www.maine.nea.org/

Maine Learning Technology Initiative (MLTI) http://mainelearns.org

Maine Math & Science Alliance: http://www.mmsa.org/

Maine Middle Level Education Institute (MLEI) http://www.mamleonline.org

Maine Principals' Association (MPA): http://www.mpa.cc/

Mitchell Institute: http://www.mitchellinstitute.org/

Western Maine Partnership: http://wmp.umf.maine.edu/partners.htm

National

Alliance for Excellent Education-Adolescent Literacy:
http://www.all4ed.org/adolescent_literacy/index.html

enGuage® 21st, Century Skills—Literacy in the Digital Age:
http://www.metiri.com/features.html

International Society for Technology in Education (ISTE): http://www.iste.org/

The Knowledge Loom: Adolescent Literacy in the Content Areas:
http://knowledgeloom.org/adlit/index.jsp

Mid-Continent Research for Education and Learning (McRel): http://www.mcrel.org/

MiddleWeb: Exploring Middle School Reform: http://www.middleweb.com/

National Association of Secondary School Principals (NASSP):
http://www.nassp.org/s_nassp/index.asp

National Council of Teachers of Mathematics: http://www.nctm.org/

National Education Technology Standards Project: http://cnets.iste.org/

National Forum to Accelerate Middle-Grades Reform: http://www.mgforum.org/

National Middle School Association (NMSA): http://www.nmsa.org

New England League of Middle Schools (NELMS): http://www.nelms.org

Northwest Regional Educational Research Laboratory (NWREL): http://www.nwrel.org

Partnership for 21st Century Skills: http://www.21stcenturyskills.org/

Schools to Watch: http://www.schoolstowatch.org/

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