

RENEWAL INSPECTION REPORT

Murdoch Middle School
Chelmsford, Massachusetts

June 4-7, 2000

SETTING

Murdoch Middle School occupies space on the first floor of a two-story office building on well-traveled Route 110 in Chelmsford. From the road, the building belies its use as a school. The gray, wood-framed building fits unobtrusively among the many businesses, commercial properties, and apartment complexes built in the recent past in Chelmsford south of and parallel to Route I-495.

After one drives on to the school grounds from route 110, the commercial and business world fades and the world of a school becomes evident. Students from several towns arrive by bus from Chelmsford and singly and in grouped car-pools from other towns. They linger momentarily at the front entrance, alternately talking intently and laughing like the young adolescents they are. Inside, there is a cross-current of activity. A parent helps answer questions at the front desk of the central office. A student is using the copy machine to run off material for a teacher. The principal is talking with a teacher in her office, the door open with the full sound of the school in the small space that she shares with the rest of the central office. All the classroom and administrative spaces at Murdoch Middle School are on the first floor of the building. The halls might have been adequate for an office space, but are filled to capacity with the comings and goings of a school of over 200 students. Students go to an adjoining building for lunch, where they set up tables every day, eat, and then return the space to its non-school use.

Inside classrooms, materials for learning and the results of completed projects are abundantly displayed. Walls are covered with student work. Classroom doors are often open and the sounds of learning escape into the halls. Students and teachers move from place to place ... to an outside activity period, to the media center, to other classrooms. Look again at the plain exterior. Outside, the building is undistinguished among its neighbors, but inside, the business of learning and building a community of learners has replaced commercial enterprise in the former office space that is the current home of Murdoch Middle School.

INSPECTION TEAM

Fred Wetzel, Lead Inspector

Dr. Wetzel has been the Director of Teaching and Learning for the New England Regional Office of the College Board since 1984. A major part of his responsibilities include the development of teacher training and curriculum for schools that participate in the Advanced Placement Program in New England. He has received training from Full Circle as a Lead Inspector, served as an Inspector for SchoolWorks, and has assisted the Massachusetts Department of Education's Charter School Office in the development of Accountability Plan training and materials for first-year charter schools in the Commonwealth.

Stephen Lake, Inspector and Monitor

Stephen Lake has taught in a wide variety of schools in England. Originally qualified as a secondary school teacher in Mathematics, he has taught all age groups from 3 to 63 years. Mr. Lake has been the administrator of an Adult Education Center and principal of both local authority control and grant maintained elementary schools in England. At present, Mr. Lake is a principal of Full Circle, a British inspection company that evaluates over 150 schools annually under the OFSTEAD system.

Dominique Astier, Inspector

Ms. Astier is the head of the World Language Department at the Brimmer and May School (MA). In her seven years at Brimmer and May, she has taught French and Spanish at both the Middle and Upper School. She has served on the curriculum committee and directed the restructuring of the language program. Ms. Astier has also worked at the Hackley School (NY) and the Wheeler School (RI), and taught introductory and intermediate French at Ohio State University. She is a member of the American Association of Teachers of French and the Association of Teachers of Spanish and Portuguese.

Peter Reynolds, Inspector

Mr. Reynolds has been an Outward Bound instructor, an elementary teacher, and for the past 15 years an elementary school principal. He has taught in England, Scotland, Germany, Montana, and New Hampshire. Currently he is principal of the Alburg Community Education Center (K-8) in northwestern Vermont. As part of the state School Improvement Program in New Hampshire, Mr. Reynolds became involved in Systems Thinking. He has since used the approach in planning and managing schools and has participated in a number of national Systems Thinking and Organizational Learning conferences.

Fred Tirrell

Dr. Tirrell is an Associate Professor in Education Leadership at Bridgewater State College. He is an experienced teacher and school administrator and has served in leadership positions in both public and private schools, including ten years as a superintendent of schools in suburban Boston. Dr. Tirrell has been a consultant to charter schools and to institutions supporting charter schools. He has been trained in school evaluation by the New England Association of School and Colleges and by Schoolworks and has participated in evaluations of many schools both in the United States and overseas.

RENEWAL FINDINGS

Is the academic program a success?

- 1. The project-based curriculum enables all students to learn and progress in a manner suited to their individual needs.**

In line with the mission of Murdoch Middle School, the objective of developing and implementing a standards-based curriculum is clearly operationalized in the school's multiweek, interdisciplinary, and project-based curriculum. Each curriculum project involves students who are members of a multi-age class. All projects have clearly stated and clearly understood assessment standards that are often developed with student input. These projects hold students accountable for both the comprehension and the application of knowledge within each project. Student learning is also assessed along the dimensions of four skills and orientations in each subject: problem solving, self-direction, communication, and community membership. All students participate in all the projects. They are the core of the school's curriculum.

Narrative References: 1 5 7 8 9 13 14 16

- 2. The staff has implemented a systems dynamics-systems thinking approach that enables students to be effective problem solvers, self-directed learners, communicators, and community members.**

Teachers at MMS are clear about what systems thinking looks like when it is used to inform curriculum and instruction in a middle-school setting. They understand the application of systems thinking not only in mathematics and science, but also in all other subjects across the curriculum. Drawing as it does on a wide variety of materials and information, a systems approach to curriculum naturally supports a holistic, multi-disciplinary approach to learning, including principles of problem solving and various modes of communication. While their individual accomplishments are recognized and evaluated, students learning in a systems environment develop through sharing and supporting their fellow student learners. They learn together.

Narrative References: 4 9 10 13 16 18 19

- 3. The school uses a wide range of internal assessments to determine student progress in relation to desired outcomes. Data from external assessment sources have not been systematically used in the same manner.**

The center of the system of internal assessment at Murdoch Middle School is the student portfolio. All students must successfully complete a portfolio before advancing to the next grade. Because decisions to retain students are ultimately made by consensus, there is no absolute level of achievement necessary to insure promotion. The portfolio contains evidence of independent reading and general writing. Students select for inclusion three pieces of work in each of the five subject areas included in the curriculum. Each work has been assessed by holistic scoring standards that are known and understood by the students. The portfolios grow out of work done for the series of interdisciplinary projects that provide the framework for the curriculum. Trimester report cards include assessment of achievement for four key skills and orientations that are imbedded in each of the five subject areas. This multiple assessment system provides a rich context for internal assessment.

Student progress after leaving Murdoch Middle School has been well documented. Students in grade 8 have performed well on the MCAS examination relative to statewide averages and to scores achieved by students in the local school district. There has been little use made of the data provided from the state testing program (and virtually none for the MAT, which will not be given in future years). Teachers report instances when they have reviewed schoolwide strengths and weaknesses on different parts of the test, but there is no school-wide program to incorporate test results into the ongoing process of curriculum evaluation and development.

Narrative References: 1 2 3 6 7 8 14 16 17 18

- 4. The Spanish curriculum, developed in alignment with external foreign language standards, is not well-integrated with other subjects in the project-based curriculum. Students have not shown acceptable levels of competence in Spanish.**

There is a complete written curriculum for Spanish that is based on national standards for middle-schools. However, instruction in Spanish does not follow the written curriculum as closely in other subjects. There was virtually no evidence of student learning, with a minimum of achievement shown in writing and speaking and no reference to external assessment of performance. Spanish is not incorporated into most projects; when it is, there is no

indication that it contributes much to learning in the project. The resignation of the Spanish teacher late in the school year offers an opportunity to reconsider the place of Spanish in the curriculum and the school community.

Narrative References: 5 7 8 13 16 42

Is the school a viable organization?

- 1. The staff, students, parents, and Board of Trustees demonstrate universal commitment and common trust in the mission of the school. This shared vision, developed over time, has created a vibrant and high-achieving learning community.**

Teachers at Murdoch Middle School work throughout the year -- including the summer months -- to develop curriculum and plan instruction. They meet with students during the day and after school. They share what they know with other teachers and with students other than those for which they have direct responsibility. With the principal, they collaboratively discuss and decide virtually every matter of the operation of the school throughout the year. Students easily assume the role of moderator at all-school meetings. They eagerly guide visitors around their school. They show respect for adults and for other students.

A group of parents wrote the application for the Murdoch Middle School charter. The Board of Trustees is made up of current and past parents. Results of three years of a parent survey show continuing high levels of support for the mission of the school and the manner in which the school works to implement the mission. Taken together, these examples of commitment and trust have contributed greatly to the vitality and academic success of the school.

Narrative References: 2 4 10 20 21 23 26 29 31 32 35 40

2. Practices and procedures related to curriculum and instructional management are understood by all stakeholders of the school community.

All parts of the school community at Murdoch Middle School understand the mission of the school. Understanding of the curriculum is particularly evident. Teachers and staff have designed a curriculum that is aligned with state standards and reflects a core value of interdisciplinary, problem-based learning. Teachers share best practices for instruction and work in teams to review what is taught throughout the year. Students know the content and process of the curriculum. They participate in defining the performance standards (rubrics) that will be used to assess their work, and they willingly complete -- often going beyond required work -- the year-end portfolios that are required to progress to the next grade.

A two-year cycle of looping results in combined classes for the two lower grades (5 and 6) and upper grades (7 and 8). Each year the second-year students are able mentors for the new members of the class. Parents are supportive of weekly detailed feedback (the Friday Envelope) and general information produced by students and staff each week. Friday Envelopes are prepared for each member of the Board of Trustees as well as for the families of students.

Narrative References: 1 2 4 9 13 14 19 26 28 32 45 46 47

Is the school faithful to the terms of its charter?

1. Students put the mission of the school into practice by assuming responsibility for their own learning and for much of the daily management of the school.

Murdoch Middle School asks that students be self-directed learners and active and productive members of the school community. In classes, students have much freedom to choose when and how to enter the learning process (approximately 25% of class time involves direct instruction, the balance being individual or small-group work during which the teacher acts as facilitator). In practice, as long as students do not infringe on the learning of others, they are not singled out for disciplinary attention. Outside of class, students carry out several co-curricular and management activities. They direct all-school meetings, and plan social events for the school. They

willingly share what they know with those who have not mastered a particular concept or skill. Students serve as guides to visitors and manage much of the school lunch program (including collecting money and ordering food). They perform custodial chores and work in the central office. The result of this activity is that students know what is involved in creating and maintaining a community of tolerant and caring citizens.

Narrative References: 3 10 11 20 21 28 29

- 2. The school uses a variety of instructional techniques, media resources, and information technology that are well integrated into classroom instruction to help students be self-directed learners.**

The mission of Murdoch Middle School calls for integration of technology into the learning process. This has happened to a great extent. Although the school has modest technological resources, students and staff use them effectively. By design, there is no computer center at MMS. The relatively small number of computers and terminals in the media center is supplemented by computers in each classroom that are networked to an outside internet service provider.

Students are skilled in basic computer operations and are taught skills as needed in class. (One fifth-grade student said he could not remember when he had learned to use Microsoft Word to prepare a research paper ... it just happened some time during his daily learning routine). Teachers who know specific computer applications teach other teachers and students. In addition, the emphasis on system dynamics at MMS has resulted in students learning sophisticated modeling programs to analyze cause and effect relationships in a number of different subject areas as well as to solve problems.

Narrative References: 9 10 16 18 19 20 22 24 25 28

If the school's charter is renewed, what are its plans for the five years of the next charter?

- 1. The Board of Trustees has supported a dynamic school organization. The Board has yet to set long-term budgets, articulate comprehensive policies, and plan for capital improvement.**

A spirit of collaborative discourse, an important part of the institutional culture at Murdoch Middle School, marks the work of the Board of Trustees. The Board meets frequently to discuss a wide range of topics, and provides support to many strategic decisions made by other constituents of the school community. Although it is difficult to know what the Board supports in given areas (there are no written records of the result of votes taken by the Board), it is clear that budgets are prepared by the administration Beacon Education Management in accordance with contractual agreements. Policies regarding staff hiring, compensation, and staff development are approved by the Board following their presentation as informational items by the administration.

Perhaps the most important strategic area for consideration by the Board is the development of a plan to move the school to a new facility in the near future. The lease for the current facility expires in a year, and the process of obtaining funds to purchase land and construct a building is still in a very early stage of development.

Narrative References: 2 4 5 9 26 31 35 36 38

I. STUDENT

Students at Murdoch Middle School are similar to others in countless suburban schools across the country. They show a wide range of intellectual and physical development. Some are very much children ... others are almost adults. Yet, for the most part Murdoch Middle students seem different from their peers at other schools. Having experienced a curriculum that is project-based, MMS students seem to be more actively involved in their learning. They are remarkably tolerant of others and freely enter into discussions with adults. They know what is expected of them in school in both academic and non-academic areas and, with the support of teachers and staff, and the active involvement of parents, they perform accordingly. Although not all Murdoch Middle School students are high achievers, as a group they achieve at high levels on both demanding internal assessments and assessment of the Massachusetts curriculum frameworks. Within the school community, they demonstrate a standard of citizenship that is integral to the school's mission.

ACADEMIC STANDARDS AND GOALS

1 All students at Murdoch Middle School experience the same project-based curriculum, though teachers and staff constantly work to make the process of learning fit the developmental and social needs of each student. Classes are multi-grade grouped and differentiated instruction occurs by design. During the inspection, in one grade 7/8 class in Mathematics some students received an algebra lesson while others were doing pre-algebra work. Students in upper grades are involved with national and state-level projects that involve high levels of academic achievement. One student who was planning to attend the local vocational-technical high school was held back for a short period in the fall (of his freshman year) to work on particular academic skills before being allowed to enroll in high school. Students with special academic needs receive supplementary instruction on an individual basis in addition to completing the portfolio required of all students.

2 Decisions regarding promotion are made by consensus of a group that typically includes a student's teachers and the school principal. Para-professionals and the student's parents are also included in the decision-making process. Although the school has both comprehension and application expectations in each of the discipline areas, and expectations in the four skills and orientations (problem solving, self-direction, communication, and community citizenship, there is no minimum level of performance a student needs to achieve before being allowed to proceed to the next grade level. On occasions, students have been allowed to enter high school with low levels of achievement after extensive discussions with high school staff and the creation of individualized learning plans.

3 Parents and teachers report that students who graduate from MMS easily assimilate into the more conventional structure of a public high school (virtually all

graduated MMS students to date attend either Chelmsford High School or Nashoba Valley Technical High School). Students from MMS were said to adjust socially -- drawing on their experience in learning to be a good citizen of their school -- as well as being able to express their thoughts clearly and engage in active problem-solving. In the last year for which there were data (1998-1999), nearly three-fourths of MMS graduates who were in grades 9 and 10 received academic honors at Chelmsford High School (data on the academic achievement of native students at C.H.S. was not available for comparative purposes). All four of the Odyssey of the Mind team members at Chelmsford High School in 1999 were MMS graduates.

4 Murdoch Middle School is clearly driven by its mission. Virtually all decisions about curriculum and instructional management are made as part of a vigorous program of on-site management. The school has worked hard -- and successfully -- to implement a program of studies that uses the precepts of systems thinking as applied to educational settings. Parents are strong contributors to school activities; to date, only current or past parents have served on the Board of Trustees. All members of the school community work hard and continuously to create a climate of safety and respect. Students are constantly learning what it means to be good citizens and self-directed learners.

5 The multi-disciplinary, project-based curriculum is based on clear academic standards. The standards designed for each project are cross-referenced to the Massachusetts curriculum frameworks. Students know the standards for assessment in their courses -- they often help create the rubrics to which they will be held accountable. At the end of each year, all students must submit a portfolio that includes evidence of breadth in reading and examples of quality work in each of five subject areas that are woven into the projects completed during the year.

ATTAINMENT AND IMPROVEMENT

6 Students at Murdoch Middle School performed above the state level (average scores) on the three tests administered in the first year of the MCAS assessment. In the second year of testing (1999), students again did well, scoring at levels above the state average on all four subjects tested. Data available from the Chelmsford Public Schools shows that MMS students did as well as students in the town's other middle schools in English/Language Arts and Mathematics, better in Science, and slightly less well in History/Social Science.

MCAS Scores (average for all students) for Spring 1999

	Murdoch Middle School	Chelmsford (other public)	State
English/Lang Arts	242	242	238
Mathematics	235	235	226
Science/Tech	234	230	224
History/Social Science	223	224	221

7 Students are assessed in comprehension and application of five subjects through taught the school's project-based curriculum. Every student receives an assessment on a scale of *novice*, *apprentice*, *proficient*, and *advanced* in comprehension and application. Comprehension of facts and concepts is assessed through quizzes and conventional tests. Application is assessed through problem-solving projects that students complete individually and in teams. A student performance objective states that all MMS students will become proficient in both comprehension and application in each of the five subject areas. A rating of *apprentice* or above on the last evaluation report of the school year determines proficiency. Reports of achievement (see below) shows that more students in the upper grades generally achieve the level of *apprentice* than those in the lower grades. Achievement in Spanish is significantly lower than achievement in the other four subjects.

Students Who Achieved Apprentice or Higher for 1998-1999 Year (%)
 -- Comprehension and Application by Subject --

	Grade 5		Grade 6		Grade 7		Grade 8	
	Comp.	App.	Comp.	App.	Comp.	App.	Comp.	App.
English	88.4	79.5	97.6	97.4	100	75.0	100	85.4
Math	77.8	71.1	88.4	81.4	97.6	81.0	98.0	89.8
Science	91.4	71.1	97.1	88.6	77.4	51.6	94.7	62.2
Soc Studies	92.9	79.1	100	95.0	95.0	84.6	91.7	95.5
Spanish	86.2	86.2	78.9	78.9	51.4	55.9	65.1	65.1

8 Murdoch Middle School also expects all students to attain the *apprentice* level (or above) for each of four skills and orientations that are considered to provide the basis for learning in all subjects: problem solving, self-direction, communication, and community membership. Definitions for each skill and orientation are clear and understood by students and teachers. Expectations for acceptable performance in each area for each grade-level are also well understood by all members of the school community. Each area is assessed within each subject, which, when taken with the content assessment noted above (see **7**), creates a rich context of internal assessment of student achievement. Similar to the knowledge

assessments noted above, students generally show a pattern of development across the years, with 90% or more of students having reached at least the *apprentice* level by the eighth-grade in all skills/orientations and subjects except in Science.

Students Who Achieved Apprentice or Higher for 1996-1999 Years (%)
-- Skills and Orientations by Subject --

	1996-1997		1997-1998		1998-1999	
	grade 5	grade 6	grade 6	grade 7	grade 7	grade 8
Language Arts						
Communication	80.6	91.2	90.5	95.5	87.8	95.8
Problem-Solving	83.9	94.1	90.5	90.9	82.9	97.9
Self-Direction	77.4	91.2	81.0	86.4	68.3	93.6
Community	83.9	100	90.5	95.2	95.1	100
Mathematics						
Communication	70.0	84.1	100	94.9	90.5	91.8
Problem-Solving	65.0	86.4	91.7	97.4	90.5	95.9
Self-Direction	72.5	84.1	91.7	94.9	76.2	91.5
Community	90.0	84.1	100	94.9	88.1	98.0
Social Studies						
Communication	ND	ND	100	90.0	92.3	93.8
Problem-Solving	ND	ND	84.6	85.0	80.5	87.8
Self-Direction	ND	ND	92.3	87.5	78.0	85.7
Community	ND	ND	84.6	87.5	100	100
Science						
Communication	ND	ND	ND	90.3	74.3	92.9
Problem-Solving	ND	ND	ND	83.9	54.3	74.4
Self-Direction	ND	ND	ND	83.9	51.5	78.0
Community	ND	ND	ND	96.8	91.4	88.1
Spanish						
Communication	79.1	86.1	85.7	ND	55.9	95.8
Problem-Solving	78.6	83.3	85.7	ND	55.9	97.9
Self-Direction	79.1	83.7	85.7	ND	55.9	93.6
Community	79.1	86.1	85.7	ND	55.9	100

INDIVIDUAL NEEDS AND DEVELOPMENT

9 Learning that recognizes -- and celebrates -- individual interests and strengths is an important part of the culture of Murdoch Middle School. Students from MMS have participated in Odyssey of the Mind for several years. Last year the school sent 11 teams to regional competition. Some students have been part of an engineering design project at the University of Lowell. Other students have presented their research at a system-design conference in Vermont. Students who have difficulty learning are given the same high level of support, which is coordinated by the special education consultant and involves meetings with parents and teachers as well as the student. Special interests in the visual and performing arts (particularly music) are less well served. For example, most students learning to play an instrument have to take private lessons elsewhere.

10 Consistent with the school's mission, all students take part in several activities designed to develop a spirit of citizenship. Students conduct the all-school morning meeting. They are given time to enter into extended discussions about academic and co-curricular matters in their Home Base (homeroom) meetings. They are encouraged to help others in formal ways (e.g., as members of a problem-solving team) or informally (e.g., teaching a fellow student to use new software). The result of this attention to citizenship is a community of students and adults that is more than tolerant, that actually encourages diverse ideas and viewpoints.

11 Discipline at the school is meant to promote growth, not to punish. At Murdoch Middle School, expectations regarding appropriate behavior are liberating as well as restrictive. Students for the most part are permitted to learn at their own pace, as long as the welfare of the group is not compromised. Students eat in class, talk with other students, and can appear to be disengaged. Observations suggest that when students seem to be indifferent to instruction, teachers follow up the behavior with a private conference to discuss the problem. Respect for individual ways of learning was evident.

Students impinging on the welfare of the group are asked to leave the class and think about (and record) the reasons for and possible resolutions of the disruptive incident. In other situations (especially those involving inappropriate physical contact) students are assigned to in-school suspension (I.S.S.). Students assigned to I.S.S. are moved to a different classroom or are placed in some other location removed from a regularly scheduled class. In either case, teachers or para-professionals meet with such students periodically to discuss and hopefully to resolve the causes of the suspension.

12 The school has a contract with an outside consulting company to provide continuous tracking of student academic progress using a wide variety of measures. However, the system (named Socrates) does not support school-based queries and reports. It is not clear how it is used to inform decisions about individual student

instruction or about the academic program as a whole. Data generated through Socrates has been used each year to generate the school's annual report.

II. CLASSROOM

The project-based curriculum is the cornerstone of the academic program at Murdoch Middle School. The set of projects that form the curriculum are constantly being reviewed and changed by teams of teachers who work with multi-grade teams of students. Documentation for each project is clear and standards for performance are clearly understood by students. Content standards for the projects are aligned with the Massachusetts frameworks. Teachers are well prepared to offer instruction in a project-based environment, using techniques of direct instruction and lecture-discussion as well as group problem-solving. Students show enthusiasm for learning in an environment that has noticeable space limitations. The curriculum is strong in providing opportunities for students to develop as self-directed learners and to become contributing members of the school community.

CURRICULUM AND ASSESSMENT

13 The curriculum at Murdoch Middle School is in alignment with the mission and goals of the school. Alignment with the goal of self-directed learning is particularly clear. The curriculum consists of a collection of projects that are designed by faculty teams in each of the grade level clusters, 5-6 and 7-8. The projects require students to study four basic disciplines: English/language arts, history/social studies, mathematics, and science. Spanish is sometimes included. Students work individually and in groups to answer the central question of each project. The results of their investigations often take the form of an exhibition, which is evaluated by a panel of jurors who have had experience and training in assessment of student work.

14 There is clear and complete documentation for each project. Documentation includes rubrics that provide the performance standards for each subject (discipline) area and each skill/orientation taught in a particular project. The documentation also includes cross-references to the Massachusetts curriculum frameworks in each discipline. There is no reference to skill or content areas assessed by the MAT, which is administered to students in grades 5, 6, and 7. (Eighth grade students take the MCAS in May). Physical education (called “Challenge” at MMS) is not included in the curriculum documentation. The Challenge coach also serves as the school nurse.

15 Parents and students report a lack of elective courses and the absence of courses or instruction in music. There is a part-time visual arts teacher. Each student has art one to two hours each week. Instruction is delivered in Homebase, and is integrated into project activity whenever possible. Teachers and the administration share the concerns of parents and students and foresee additional instruction in the arts when the school moves to a larger building.

16 Students are taught to take notes and have notebooks and portfolios available for inspection. The portfolios are cumulative throughout the year. In most discipline areas

(shown in project portfolios) there is evidence of progress as students move through the stages of a particular project. Re-writing is required before a final version of student work is presented to a jury for assessment. It is not clear how the content of different projects is related other than serving as a vehicle for organizing learning in the content and skill areas identified in the curriculum. In Spanish, the one subject that is not an integral component of the project system, there is little evidence of either mastery or progress throughout the year.

17 Although all the curriculum projects are linked to the Massachusetts curriculum frameworks (see 5), there is no systematic effort to connect MCAS results with curriculum and instruction. The principal reviews the reports received from the Department of Education. Individual teachers from grade 7-8 teams reported examining the reports and looking for content and skills not found in the MMS curriculum. But there is no school-wide process to map MCAS achievement and the written curriculum. Virtually no attention is given to student performance on the MAT tests. The principal reports that the school is switching to the Stanford 9, and in two years all students in grades 5-7 will be take the Stanford 9 instead of the MAT.

TEACHING

18 Teachers use a variety of teaching strategies and engage students. The project-based curriculum results in much small-group work. However, teachers at MMS also regularly introduce a topic by whole-class methods of lecture or lecture/discussion. Teachers also model the skills needed for working in the project-based curriculum. They model problem solving before a project begins. Students and teacher develop rubrics to be used for assessment. Questioning to encourage thoughtful analysis was observed in several classes. A class with mythic drama as content was observed where students acted "in role" for the entire class period.

19 Observations showed students engaged in learning and problem solving for extended periods of time. Students were engaged in learning that showed extended involvement with complex problems. Two-student teams demonstrated high levels of achievement in presentations of projects using systems thinking. Other students, in regular classroom sessions, stayed "in character" throughout a class in which they created their own myths modeled after Greek myths.

In some classes, it is difficult to tell how one lesson, while clearly interdisciplinary and engaging, contributes to a sequence of lessons. In such cases, the problem to be solved does not appear to be connected to learning in prior projects or needed for subsequent projects.

20 The management of student behavior is a direct result of goals for responsible citizenship in the school community. Students are taught to be self-directed learners. Teachers are patient with those students who are not fully engaged in learning. In some

classrooms, students were observed “off-task,” talking about irrelevant topics, attending to their appearance, sleeping, or, in one instance, taking pictures.

For the most part, however, students show a remarkable degree of self-control. They understand the school has zero-tolerance for inappropriate physical contact, and they behave accordingly. Teachers confer with students in the halls after the students have been asked to leave the class. After writing a "processing form" on which students comment about their unacceptable behavior and what they will do differently in future, they may return to class. At all-school gatherings, students are respectful of others and become quiet when signaled by other students to do so. In a class that was part of a mathematics project, students quickly formed teams and started the discussion of possible solutions to the problem at hand.

RESOURCES

21 There is an ethos of cooperation and mutual support at Murdoch Middle School. This is shown in every classroom when students work together to solve problems. It is also apparent in regularly scheduled class-meetings, in which students discuss authentic curricular and co-curricular issues. During these class-meetings, students offer suggestions and listen as others respond to their ideas. Discussion is fast-paced and many students speak up. They are not afraid to advocate a position, and are respectful of their colleagues' right to be heard. In a Challenge class, students were observed in a cooperative activity requiring them to balance on a large teeter-totter without talking to one another. It was interesting to learn that a student had built the teeter-totter.

22 Space at the school is adequate for the current number of students, but insufficient to accommodate any increase in enrollment. There is a healthful level of activity--students move in and out of classes during the day, seemingly at will, and many conversations between students and teachers occur in the halls. At times, noise from hallways and classrooms invades other quieter activities. The media center is used for many functions, and limited space sometimes inhibits opportunities to do out-of-class research. There is a useful, but limited collection of fiction and non-fiction, and certain sections are set aside for research materials in the curricular projects.

23 Murdoch Middle School provides a strikingly rich example of a caring and safe educational environment. Teachers often have private conferences with students about academic and non-academic matters. In the relatively small space that the school occupies, younger 5th grade students mix well with their eighth-grade colleagues. Students move easily within and between classes throughout the day. (True to their adolescent character, they also seem to be constantly eating throughout the day.) Teaching teams, which include humanities teachers, math/science teachers, and para-professionals, know the strengths and needs of each student. The relatively few students who are identified as having special educational needs are usually included in regular

classroom activities. A special education consultant works with students and teachers to constantly plan for and monitor the progress of students with special needs.

24 The school integrates computers into instruction on an as-needed basis. There are no separate classes for learning to use computers, yet students show a wide range of technical expertise, from the fifth grader who can use a word-processor to the eighth graders who can use sophisticated computer-based statistical modeling software. Teachers learn how to use computers in a similar way. Those who know how to do something useful to others advise and demonstrate for their colleagues. However, there does not appear to be a school-wide plan to acquire and employ more resources in technology.

25 Evidence of learning is everywhere in the school. Student work is prominently displayed in each room and in hallways. Teachers have created other artifacts in classrooms--rules for appropriate behavior, learning plans for the day, material related to the current project, and so on. Commercially purchased material is not much in evidence. Texts are almost non-existent. Although teachers did not report constraints on acquiring materials and supplies, there is a limited budget for the purpose.

III. SCHOOL

All parts of the school community seem to understand the school's mission and agree to the means for achieving it. Agreement around goals and methods is helped by a thoroughly open and frequently used system of communication among adults and students. The use of a consensus approach to decision-making is practiced daily throughout the school. Decisions regarding staff hiring and retention, student promotion, and curriculum development are all carried out after extensive discussion among faculty, staff, students, and, in some cases, members of the Board of Trustees. The Board in the past has been primarily reactive to the initiatives of the school's administrative staff. In the future it faces the need to become a more active body that defines and oversees the implementation of plans that will ensure the long-term viability of the school.

ORGANIZATION AND MANAGEMENT

26 A seamless and shared vision of what the school stands for radiates from the principal and embraces students and staff, parents, and members of the Board of Trustees. The "fingerprints" of the principal are everywhere--staff appear to understand the mission of the school; students are able to tell visitors what the school stands for and to describe the project-based curriculum; members of the Board show a clear understanding of proposed operational and budgetary issues brought to them by the principal.

27 Next year the principal will change her role within the school. She will continue working part-time at the school and assume other administrative responsibilities with Beacon Educational Management for the remaining part of her job. She has met with the staff to discuss the selection of a new, full-time principal and subsequently has asked a current member of the teaching faculty to assume that role, a decision that has been accepted both by Beacon and by the Board of Trustees. This will mark the first time since the school opened that anyone other than the current principal has been in charge. The proposed administrative arrangement for next year will allow for continuity. The current principal will assume a new half-time position as curriculum coordinator while the new principal undertakes his first administrative role at the school.

28 Students are taught to be active participants in their learning and to make decisions about the pace of their learning. There is often a distinct "buzz" of voices as students work in small groups in their classes. When teachers use lecture and discussion to explain a concept, students are less likely to be engaged. The teachers appear to notice this and will often address a comment or question to a particular student. Subsequently, the teacher will move on without additional comment or admonition, leaving it to the student to decide the level of involvement he or she wishes to have.

29 Murdoch Middle School has a goal of citizenship within the school community. Students easily and willingly assume several support roles at the school. They order lunches and collect the money students bring to buy lunch. They answer telephones and serve as guides to many visitors attracted to the school. While teachers and staff sit on the floor and stand along the walls of the common room, students conduct the all-school Morning Meeting, a time for announcements and some discussion. At one such meeting, a student was recognized for a "personal mastery" project, the design and construction of a large platform teeter-totter, which will be used in a multi-class cooperative learning activity in Challenge classes. A two-fingered signal from students and teachers is followed by quiet and the beginning of a skit showing students how to deal with student-to-student sexual harassment.

30 Students at MMS observed somewhat paradoxically that while there is not "a lot of discipline" at the school, there are many occasions when students receive in-school suspension (either in a quiet space with another teacher or in another classroom) for violating a zero-tolerance policy concerning inappropriate physical contact with other students. Several times during the visit, students were observed outside class, either waiting to be readmitted or talking with teachers. Students who are asked to leave class must complete a "processing slip," a form on which they reflect on why they were asked to leave the class and what they might do differently in the future. The disciplinary process emphasizes learning and not punishment in the traditional sense. Some students appear to take the process seriously; others do not.

31 Morale is high among teachers and staff. One parent observed that this was the first school she had known where teachers do not "run out the doors" at 3:00 pm each day. Teachers have planning time during the day, and they supplement this by giving time in the late afternoon, and occasionally in the evenings and on weekends to discuss student progress and the development of curriculum projects.

32 The evaluation of teaching and curriculum, consistent with the school's mission, is collaborative. During one peer-coaching session, a team of colleagues observed a classroom activity conducted by a para-professional, who herself had chosen the composition of the team. The discussion among the observers and the para-professional they observed was open and supportive as well as analytical.

Although most of the staff-development is carried out in school-wide groupings, teachers may elect to add individual workshops and training to their staff-development needs. It was explained that a committee makes personnel decisions (a committee on which the principal does not have a privileged position). It was not clear, however, how the communal discussion process actually works when making decisions about the renewal of contracts from year to year.

33 Murdoch Middle School has started to collect data concerning student performance after graduation from eighth grade. To date, students who go on to Chelmsford High School appear to do well academically, with over 70% of MMS graduates receiving academic honors at Chelmsford High School in 1998-1999.

However, data that would enable comparison of achievement with students from other schools were not available at the time of the inspection.

34 All the MMS staff (teachers and para-professionals) are involved in a continuing cycle of review and supervision of curriculum and instruction. During the visit, a peer evaluation meeting was observed (see **32**). The peer evaluation process focuses on both teaching and curriculum. In addition, the new Spanish teacher received monitoring feedback from the principal and other teachers. Although there were only a few weeks remaining in the school year when the Spanish teacher was hired, she was encouraged to attend all group meetings and to seek support from her peers.

35 The Board of Trustees is elected by a vote taken yearly among the families of students. One vote is allocated for each family, regardless of the number of children in the family who attend the school. Although there is nothing to prevent a person who is neither a current nor a past parent from being elected to the Board, in practice no non-parent has ever been elected. The Board meets often (in many months it meets twice) and has chosen for the most part to discuss matters relating to long-term goals and philosophy, such as appropriate standards of performance and systems thinking applied to the operation of the school.

The current Board at MMS does not micro-manage the operations of the school. During the past year the Board has received training in the Carver Model, a process of governance in which the Board discusses and develops a set of broadly stated goals for the school as well as a set of executive limitations for the school's management. At the time of the visit, the Board was finishing the work on executive limitations.

36 Although the Board of Trustees clearly maintains the ability to intervene in school practices, and sometimes participates in planning (it was reported that the Board helped to develop the school's new accountability plan) in actual practice, the Board routinely approves the recommendations of management in such areas as hiring and firing, the structure of the curriculum, and the allocation of resources. It is not clear how the Board formally approves such decisions, since there was no evidence of votes taken or any record of decisions made at Board meetings.

37 There has been discussion at Board meetings about the need for school-sponsored bus service as more students attend MMS from towns other than Chelmsford. (The number of students from Lowell, for example, is growing rapidly). There are also periodic calls for courses or regularly scheduled instruction in music and the visual arts, as well as a more structured physical education program. These needs will continue to exist (at least in the minds of some members of the school community) though it appears that they will not be met until the issue of a permanent school facility has been settled.

38 Facilities at the school are adequate to accommodate the current school population, although space is at a premium throughout. The facility is leased and there is no possibility to expand at the current site. The media center is in a small space and the students must leave the building and cross a courtyard to eat at a cafeteria in another

building. Members of the Board of Trustees report plans to acquire a large site in Chelmsford and to construct a building costing approximately 2.5 million dollars. At this time, there is a small amount of money available to finance the project. The Board is aware of a need to move quickly, raise the funds, and safeguard the continued viability of the school.

FACULTY AND STAFF

39 Teachers at Murdoch Middle School are employees of Beacon Educational Management. In practice, although it was reported that the Board has the "ability to intervene," the Principal has carried out the searches for new teachers and staff and presented the results to the Board. Current teachers are very much involved with the hiring process, which is consistent with the school's collegial philosophy.

40 Professional development is a combination of activities planned in advance and additional *ad hoc* activities as the need arises during the year. Although each teacher has identified areas for professional development, this needs assessment seems to serve as a guideline rather than a plan. The whole teaching staff has met for a week in the summer to focus on one topic (i.e., systems thinking and dynamic modeling as they relate to education). New teachers receive mentoring from experienced staff, although the specific nature of the mentoring is not clear. Documentation connecting professional development to the needs of the school appears in each Annual Report and not as a separate policy document.

Most staff development is arranged to meet immediate needs identified during the hourly team meetings that occur each day or at unscheduled meetings attended by groups of teachers. For example, when it became necessary to introduce PowerPoint into a project, a teacher who knew how to use the software found time to introduce it to others who did not.

41 The Director of Special Education, a consultant who serves on a part-time basis, provides training to teachers so they can provide support to identified students in a regular classroom setting. The training is available to para-professionals as well. The process appears not only to result in appropriate academic development for students with special needs, but also in making these students an integral part of the social and academic structure.

42 Instruction at MMS is organized around multi-grade teams at grades 5-6 and grades 7-8. Each group of students works with a four-person team of teachers including a humanities sub-team (social studies and language arts) and a math/science sub-team. Working from an agreed-upon list of projects, each four-person faculty team supervises the six to eight projects that comprise the curriculum at the school. Spanish is taught as a separate subject, although the Spanish teacher as worked with each team to integrate Spanish into projects whenever possible. Members of teaching teams were mutually

supportive. Discussions of student needs and student performance occur throughout the day and are documented in detailed reports on student progress.

43 Teachers are not directly involved in the business of the Board. Announcements and agendas relating to board meetings are not routinely posted. Given the amount of time that teachers give to the school, it is not surprising they do not attend board meetings in addition to many other meetings more directly related to their work. The Carver model used by the board to organize its operation does not encourage active participation of teachers at meetings or in other board-related activity.

44 Murdoch Middle School uses peer coaching as the foundation of its program of staff development and staff evaluation. There is a well-understood process for participation in peer coaching. Teachers and para-professionals are teamed with three or four colleagues throughout the year. Teachers and para-professionals are observed by at least two other members of the team, with a conference immediately afterwards. The Principal is no exception; she also has a peer coaching team.

PARENTS AND COMMUNITY

45 The school has established an effective method for continuous communication with parents through the development of Friday Folders and narrative report cards. Friday Folders are manila folders sent home with students at the end of each week. The folders contain schoolwide messages from the Principal and from each of the student's teachers. In addition to generic information, parents receive specific narrative feedback about their children's progress and needs. Parents and students appreciate the narrative-based format of report cards. They say that the detailed content of the reports provides a complete picture of student learning. Members of the Board also receive a Friday Folder each week.

46 Parents serve as jurors to assess student projects and evaluate student work at two school-wide Quality Nights during the year. Members of the Board also serve. Parents show their support and volunteer in other non-academic ways. One parent oversees the vending machine (all profits going directly to the school). Another parent works in the office as an aide.

47 Parents interviewed expressed almost complete satisfaction with the school. Parents whose children had moved on to the local high school found their children well prepared for work in a more traditional academic setting. Some voiced concerns about the lack of certain administrative services at MMS (e.g., the bus service) and electives (e.g., instrumental lessons), but all agreed that the school offers a curriculum and approach to learning that results in thoughtful, self-motivated learners. The school conducts a survey of all families each year and uses the results of the survey to make adjustments to the curriculum.