

Space and Program Planning Task Force Follow-Up Report

Needham Public Schools

September 2005

Background

At the conclusion of the first phase of planning for the space needs of Needham school children, the Space and Programming Task Force presented the building of a single additional school as one possible solution to the shortage of space at both the middle and elementary levels. In order to alleviate the space shortage at both the middle and elementary levels, the Task Force recommended consideration of a move to a K-4 elementary and 5-8 middle school model. Under this model, a new 5-8 middle school would need to accommodate approximately 900 students.

Since its initial report on March 1, the Space and Program Planning Task Force has continued to meet to address the following two charges as outlined in the conclusion section of the March 1 report:

- ✓ Evaluate the educational consequences of a Grade 5-8 middle school and
- ✓ Determine whether such a model is in the children's best interest.

In order to reach a conclusion as to the educational consequences of a grade 5-8 middle school, the committee focused its efforts and energies in the following two areas:

1. Visit and analyze effectiveness of existing operating grade 5-8 middle schools in the area to determine their educational efficacy for students.
2. Review available research literature regarding educational efficacy of a 5-8 middle school model.

In order to address both areas of focus, the Task Force divided itself into two smaller groups, the first responsible for site visits, and the second taking on a review of the research literature. The research group identified 4 areas that needed to be researched: 1) grade configuration, 2) transition, 3) early adolescent development, and 4) school size.

This report summarizes the Task Force's findings to date. Extensive further research will need to be conducted into the creation of a middle school that would include 5th graders and into the costs of such a model, if the School Committee votes to change the grade configuration in Needham.

Summary of Research and Findings

Research does not provide definitive answers concerning grade arrangements. There is very little research specifically about a 5-8 model; and, as reflected in our own research into surrounding schools, decisions to include fifth grade are more often than not space driven or enrollment driven rather than a philosophical and educational preference. The research in National Middle School Association Research Summary suggests that “the importance of the type of program and qualities of the learning environment, not grade organization is the key to successful experiences for fifth graders” (Jenkins and McEwin 1992; Epstein and McIver 1990).

Much research exists which speaks to the types and qualities of good middle school programs as well as the developmental needs that are important to consider for students in grades 5 through 8. It is very important that this research be considered in creating a successful middle school that includes fifth grade students. This report also includes a brief overview of relevant research concerning those issues of development, transition, school size, and effective programming.

Site Visits

The Task Force first drew up a list of school systems in Massachusetts that have implemented a 5-8 middle school model. Initial research was conducted to gather basic information about each of the 5-8 schools, including the size of the school, the number of years that the school has been operating, type of community, as well as general statistical indicators, such as MCAS results. This initial research was obtained through Internet searches and other readily available sources of information. The Task Force then] narrowed the list of towns that it would investigate to those communities and school systems that it felt were most comparable to Needham.

Members of the site visit group organized themselves into groups of two or three for the purposes of visiting and/or talking with middle school staff and officials. Members of the site visit team did not interview parents or school committees, since the purpose of the site visits was to determine the educational efficacy of a 5-8 grade configuration model. Should Needham decide to proceed with a 5-8 middle school model, interviews of parents and school committee members may become helpful to investigate issues associated with transitioning the middle school model. Further information was obtained through telephone conversations with the administrators of the various towns, and the site visit group determined to eliminate from its site visit list those schools which had implemented a 5-8 middle school model for less than one year and those schools where a 5-8 model was only used during a transition period to house student population.

Middle schools in the following communities were examined: Belmont, Chelmsford, Foxborough, Lynnfield, and Natick (**School Matters** descriptions for all the schools appear on the website: www.schoolmatters.com).

When undertaking site visits, members of the Task Force were interested in finding out the reason or reasons for moving to a 5-8 model; the ease or difficulty of the transition for students, faculty, and administration; the success or failure of the 5-8 model compared to the prior 6-8 model in place in each school system; and any special considerations in the inclusion of 5th grade students in middle school. The members of the Task Force recognized that principals and teachers interviewed may not readily admit or recognize problems. Task Force members, however, found that not only were administrators and teachers with whom they spoke pleased with the 5-8 model, many were happier with a 5-8 middle school model than a 6-8 model. Those schools examined included:

Belmont – Chenery Middle School, enrollment 1200 students – It has a 5-6 lower school and a 7-8 upper school. Fifth graders are in self-contained classes, sixth graders are taught by 2-3 person teams, and seventh and eighth graders are in 5-teacher cluster teams.

Chelmsford – McCarthy Middle School, 954 students – It is one of two middle schools in Chelmsford. Organizationally, each grade is kept somewhat separate from the other grades. Students are team-taught at all four grade levels.

Foxborough – Ahern Middle School, 931 students – Fifth and sixth graders are taught by two-teacher teams, while seventh and eighth grades are in five-teacher clusters.

Lynnfield – Lynnfield Middle School, 649 students – Fifth graders are in self-contained classes, sixth and seventh graders are in clusters, and the eighth grade is taught in a departmental model.

Natick – Wilson Middle School, 762 students; and J.F. Kennedy Middle School, 593 students – The fifth grade is taught by teams of two teachers, while the sixth through eighth graders are in clusters with four teachers.

Observations

Based on these visits, it is possible to offer a number of observations:

- First, and probably most importantly, all of the visiting team returned with the opinion that the 5-8 grade configuration was a viable option. They saw schools that appeared to be working for all grade levels, and they spoke with administrators and teachers who were pleased with the 5-8 model.
- Like Needham, decisions by these communities to include the fifth grade were driven by space, enrollment, and finances rather than educational philosophy. However, people who were interviewed did not feel that the model had detracted from the education of its students.
- Many of the people who were interviewed actually preferred the 5-8 structure to the 6-8 model. They gave a number of reasons:

- Having four grades makes it possible to group fifth graders and sixth graders for programs and activities and to follow a similar pattern for seventh and eighth grade students.
- Parent affiliation is greater when they connect with a school in fifth grade and when they remain with a school for four years.
- Fifth graders are ready for and benefit from middle school after-school activity programs.
- Moving to a new model provided the opportunity to rethink how they might help students make the transition from the elementary to the high school level.
- Parent anxiety was significant in the first year of operation as a 5-8 school; but, once the change was made, there has been very little concern within the communities about the efficacy of a 5-8 school.

Conclusions

We believe that a 5-8 middle school is a viable model if it is properly implemented. With proper planning and resource provision, a highly successful grade 5-8 middle school program can be implemented in Needham. In order to do so, significant time and planning need to be dedicated to the educational program as well as ways in which students and adults will be organized for learning within the building. Decisions and structures to respond to the following key elements will need to be made and established:

- Communication and articulation of Middle School philosophy and priorities to fourth grade students and parents
- Grade configuration, isolation and integration. For example, how will the fifth/sixth grade experience be different from the seventh/eighth grade experience?
- Student assignments and schedules
- Staff assignments and schedules
- Leadership and management
- Student support services
- Co-curricular opportunities and experiences
- Consistency and quality of learning and instruction (grade to grade and school to school)
- Transition planning (elementary to middle, middle to high, and grade to grade)
- Building design and accommodations

In the ideal, we would advocate for three middle schools of 600 students each. Given the pressing need for space in our elementary and middle schools, we think the reasonable and realistic first course of action is to advance as our priority a second middle school with grades 5-8 with a special consideration as to size, grade and cluster configuration – including the potential for redesign and retrofitting of the Pollard building. We have seen in Needham that it is possible to run a quality middle school with more than 900 students but we support the concept of smaller internal communities and grade clusters. It is of paramount importance that the actual design team that studies this proposal takes school organization and size as fundamentally important considerations in finding creative ways to provide an environment which meets the developmental needs of a diverse population of students in transition from smaller elementary schools, and moving into a larger departmentalized high school.

Next Steps

The Task Force recommends the following:

1. By Winter 2006, prepare recommendations for the resolution of elementary and middle school space problems in the near and middle-term (September 2006 – September 2009 or 2010), understanding that this is a complex multi-layered problem. The recommendations of the Task Force will be subject to further consideration after completion of the Townwide Facilities Master Plan.
2. Review the recommendations and findings of the Townwide Facilities Master Plan concerning available space for schools in Needham. Beginning in May 2006, a group should reconsider the middle and long-term needs of the schools in light of the Townwide Facilities Master Plan.
3. Should the School Committee decide that a K-4, 5-8 grade configuration in Needham should be further investigated, research and evaluate the ways in which students and adults should be organized for learning within a 5-8 middle school building as well as analyze the costs of administration of such a grade configuration. Planning should also begin for the 5-8 educational program along with related issues such as transportation, after-school programming, and staffing.

Part II - Research Findings

Research Findings

Characteristics of Early Adolescents

- Early adolescence is defined roughly as that period from age 10 to 15.
- Early adolescence is a distinct developmental period, defined by the onset of puberty, a period of growth and development more rapid than any other phase of life, except infancy.
- Differences among students are magnified during the middle school years. Each child goes through the massive physical, social, emotional, and intellectual changes of puberty at different times and at different rates. Therefore, children must be offered a variety of opportunities to have their differing needs addressed.
- There is no single or simultaneous solution for all the children. What is high stress for one child may be optimal challenge and stimulation for another.
- Early adolescence is characterized by a desire for increased independence, which can only be achieved successfully if the children are guided in their choices.
- In learning about boundaries, limits, expectations and consequences of their actions, the children learn that the group has power over the individual.
- One of the characteristics of early adolescence is heightened sensitivity to social acceptance by a peer group. Seeking social acceptance may lead adolescents into exceedingly risky behavior: smoking, drinking, drugs, sex, crime, and violence.
- Because early adolescents are defining for themselves in relation to their peers, the social aspects of their identity are often more important to them than academic success. It is not uncommon to see students “play dumb,” trading off success in the classroom for peer approval.
- Social issues for girls and boys may be markedly different.
- Academic issues for girls and boys are also often markedly different.

Because early adolescence is a time of rapid growth and change in almost all areas of human development, it is important to make sure that proper plans are in place to provide opportunities for both integration and separation of the older and younger students.

Research Concerning Optimal Middle School Educational Practices

Middle school research recommends a number of middle school practices which help schools provide early adolescents with a developmentally appropriate, yet thorough education. This section lists and briefly reviews some of these practices. Before a new middle school grade configuration is adopted in Needham, Needham's current middle school practices would need to be reviewed in light of bringing younger students into the middle school environment.

- Parents need to be involved. Highly effective schools provide many opportunities for parents to participate in their children's learning.
- Advisory periods are necessary to give students a place to deal with some of their needs and concerns. Advisory periods allow students both a social and a support program for dealing with their anxieties.
- Having a single adult as a mentor or advisor throughout their entire middle school experience allows the children to feel connected and welcome in the school, allows the children to have guidance from an adult they perceive as caring for them, and can help direct them socially and academically.
- Wholesome socialization can be promoted in such student activities as intramural athletics, performance groups, clubs, and electives.
- A key element associated with motivation for high academic achievement in young adolescents is a feeling of belonging and of success. The young adolescent must feel successful in school, have opportunities for self-expression and decision-making, and feel cared for and respected as a person.
- Many students are simply not well prepared for the academic demands of middle school. They need explicit instruction, coaching, and support with regard to organizing time and resources for homework. They need help understanding and addressing the varying expectations of teachers in different subject areas. Accomplishing such basic tasks as studying, taking notes, and taking tests can be severely challenging.
- Early adolescents are undergoing tremendous intellectual development and must have increased time for academic exploration.
- A child's relationship to his or her teacher is central to academic success. Early adolescents tend to either love or hate their teachers. They then align the amount of work they do to their teacher feelings.
- Early adolescents require increased physical activity.

- The incorporation of recommended practices for young adolescents remains the key to being effective with early adolescents. Regardless of grade configuration, principals rated their programs higher if they used such practices as interdisciplinary teams of teachers, common planning time, 8-period days, flexible schedules, activity periods, and cooperative learning. (This study only considered schools that were either middle schools or junior high schools.)
- Maintain high academic standards. Curriculum, instruction, and assessment should reflect high standards. Students should be given a variety of activities that challenge and engage them while remaining clearly related to the concepts and skills being taught. Because of the great disparity in developmental rate in early adolescence, teachers should provide a variety of performance assessments. Students should have multiple opportunities to succeed and the opportunity to get extra help if needed.
- Make students feel like they belong. Because early adolescents have a strong need for social acceptance, a key element associated with motivation for high academic achievement in young adolescents is a feeling of belonging.
- Offer many and varied electives. Because early adolescents are undergoing tremendous intellectual development and are in an exploratory phase, they must be offered a breadth and depth of electives that allow them to explore and express their competence in various subject areas and interests.
- Have well-qualified teachers dedicated to the special needs of early adolescents. Early adolescents' academic success strongly depends upon their relationship to their teacher. Early adolescents have strong emotions and tend to express their relationships to their teachers as either love or hate. They then align their academic effort to their feelings for their teachers.
- Keep parents involved. Parents set expectations and provide support for students' learning. In addition, parents may have time and expertise that could be useful to the schools. Communication with parents should be extensive and mutual.
- Hold advisory periods. Advisory periods are necessary to give students a place to deal with some of their needs and concerns. Advisory periods allow students both a social and a support program for dealing with their anxieties.
- Have mentors (these could be the adult holding the advisory period). Having a single adult as a mentor or advisor throughout their entire middle school experience allows the children to feel connected and welcome in the school, allows the children to have guidance from an adult they perceive as caring for them, and can help direct them socially and academically.

- Offer appropriate co-curricular and extra-curricular activities. Wholesome socialization can be promoted in such student activities as intramural athletics, performance groups, clubs, and electives.
- Group students and teachers in small learning communities. Small learning communities allows teachers to get to know their students and allow students a greater opportunity for success, through a stronger relationship with the adults teaching them and through a greater sense of belonging in the school community.
- Teaching strategies include opportunities for students to be creative, express individuality and develop their social skills.
- Students should have an opportunity to express their voices and participate in the governance of the school.
- Provide adequate planning time and professional development opportunities for teachers.
- Provide opportunities for children to understand and explore their own cultures as well as others. The school should value the diverse cultures represented within its own community and more broadly within as well as outside the United States.
- Hire culturally diverse faculty.
- Research studies have viewed the incorporation of recommended practices for young adolescents as “the key” to providing an effective and appropriate education to early adolescents. One study reported that middle school principals rated their own programs higher if they used optimal middle school practices, regardless of grade configuration.
- Because early adolescence is a time of rapid growth and change in almost all areas of human development, some studies recommend that 8th graders should be kept separate from 6th graders. In Needham, 6th graders are mostly kept separate from the 7th and 8th graders. When considering a 5-8 grade configuration, it would be true that 5th graders would need to be kept separate from 7th and 8th graders. A 5-8 middle school may need to operate almost as two separate schools. The suitability of the building layout at Pollard as a 5-8 middle school may then need to be reviewed and any cost of refitting Pollard to accommodate a new student population will need to be investigated.

School Size Issues and Research

A larger question, and one in which there was considerable discussion, pertains to school size. Needham’s 2001 Middle School Task Force clearly articulated the research concerning the benefits of smaller school size. Kathleen Cotton states that she has found 103 documents identifying a relationship between school size and some aspect of schooling. Deborah Meier, Senior Fellow of the Annenberg Institute at Brown

University, says, “Small schools come as close to being a panacea for America’s educational ills as we’re likely to get.” The benefits generally fall into seven areas:

- *Student Growth and Learning* – Research indicates that there is a direct relationship between smaller schools and higher achievement. This is particularly so for minority students and at-risk populations. (Raywid, 1996; Rotherham, 1999). Teachers in smaller schools are more likely to use good teaching practices (e.g., differentiated instruction, team teaching, integrated instruction, authentic assessment). Teachers in larger schools tend to be less likely to show flexibility or risk taking. Attendance is better at smaller schools (Fowler, 1995); and students are more likely to participate in extracurricular activities (Stockard and Mayberry, 1992).

- *Governance* – There is research that small schools are more effective than larger ones. Communications, joint problem solving, and planning are all improved (Meier, 1996). In larger schools, the faculty is much more likely to have negative perceptions of administration (Galletti, 1999), and a study by Valerie Lee and Julie Smith indicates that larger schools are actually more expensive.

- *Safety* – There is clear evidence that smaller schools have fewer incidents of violence (Stockard and Mayberry, 1992). In smaller schools, it is much easier to facilitate relationships and guard against anonymity. Studies also indicate that vandalism, rudeness, and negative social behaviors decrease in smaller schools (Kershaw and Blank, 1993). Students feel more connected to their peers as well as to adults and are, therefore, less likely to engage in anti-social behaviors.

- *Parental Involvement* – Parents are more likely to participate in smaller schools, and there is significant research which demonstrates a positive correlation to parent involvement and student achievement.

Accountability – In a smaller school, it is possible for parents to walk around and be involved. Their perceptions are based on personal experiences rather than state testing and statistics. In addition, in smaller schools, principals tend to be more involved in the classroom activities and have a better sense of their teachers and their work.

Culture – Small schools feel friendlier and help both parents and students to feel involved and comfortable. As Ted Sizer states, “Bigness all too readily signals a need for order – crowd control, some call it – and order all too usually implies standardized routines and rule-driven, impersonal school culture.”

Collegiality – Teachers get to know and trust their colleagues in a smaller school. There is research that morale is higher, more teachers engage in collaborative problem solving, and there is more peer accountability.

Research Concerning Cluster Size

School size research addresses the size of each grade as well as the overall size of a school. A grade which has too many students becomes a large school for its students. According to research, consolidation of a grade level into one or two buildings should not be done if the result will be too large of a cohort of students. Similarly, research concerning cluster sizes indicates that clusters should not exceed 90 students. With 90 or fewer students per cluster, students reported a greater sense of belonging and connection to the school and their teachers, and teachers reported a greater ability to know each child and address each child's needs. Unsurprisingly, students in cluster sizes below 90 performed better academically as well.

Research Concerning Transition

- Transition between schools is stressful for children.
- The stress of transitioning to middle school is compounded by the physical and emotional changes that early adolescents are experiencing.
- Some research recommends that students should transition to middle school prior to the onset of puberty.
- Researchers have found that much of the anxiety over the transition from elementary to middle school is centered around procedural and social issues than around academic problems. The transition activities in which the students participate can then provide the means to alleviate and hopefully eliminate much of the stress caused by transition.
- Students generally have a strong sense of belonging in their elementary school. One of the stresses of transition centers around a loss of belonging that some students can experience in middle school. A good transition plan will allow for the middle school students to have a sense of belonging in their new school.
- Academically, students do better with only one transition between elementary and high school rather than two transitions. In interschool studies of academic achievement, the students who experienced only one transition performed at a higher academic level than students who experienced two transitions. Intraschool studies found that students with the lowest grade point averages experienced two transitions rather than one before high school.
- Students who only have one transition between elementary and high school also fare better relative to other indicators, such as dropout rates.
- Transition of younger students results in greater academic decline. The older at transition, the better the students fare academically.

- Certain groups of students are at greater risk during transitions, such as special education students, students with limited English proficiency, low-income students. One study found that younger girls of lower socio-economic status are at the greatest risk during transitions.

Bibliography

- Alley, R.A. (1992). "Fifth Grade in the Middle School? Yes!" *Middle School Journal*, 23(4), pp. 26-29.
- Cotton, K. (1996). *School Size, School Climate, and Student Performance*. From the School Performance Research Series, Close-up #20. Portland, Oregon: Northwestern Regional Education Laboratory.
- Epstein, J.L. (February 1990). "What Matters in the Middle Grades – Grade Span or Practices? Phi Delta Kappan, 71, pp.438-444.
- Fowler, W.J., Jr. (1995)/ "School Size and Student Outcomes," *Advances in Educational Productivity* 5:3-26.
- Galletti, S. (1999). "School Size Count," *The Education Digest*, 64:9; pp.15-17.
- Hough, David L. (March 2005). "The Rise of the 'Elemiddle' School," *The School Administrator*, pp. 10-14.
- _____. (January 1995). "The Elemiddle School: A model for middle grades reform," *Principal*, 6-9.
- NMSA Research Summary #8 (1996). "Grade 5 in the Middle School." (Online: <http://www.nmsa.org/research/ressum8.htm>)
- Paglin, Catherine & Fager, Jennifer. (1997 July). "Grade Configuration: Who goes where?" (Online: <http://www.nwrel.org/request/july97/index.html>).
- Raywid, M.A. (1998). "Small Schools: A Reform That Works." *Educational Leadership* 54:1, pp.34-39.
- Sizer, T.R. (1996). *Horace's Hope*. Houghton Mifflin Co.
- Stockard, J. and Mayberry, M. (1992) "Resources and School and Classroom Size," Chapter 3 in *Effective Educational Environments*. Newbury Park, CA: Corwin Press, Inc. pp.40-58.
- Toepfer, C. (1982). "Organizational strategies for two-grade middle level schools," *Dissemination Services on the Middle Grades*. Springfield, MA; Educational Leadership Institute, Inc. 15, (9): 104.
- Viadero, D. (1993). "Changes in attitude," *Education Week*, pp. 27-29.