



THE BOARD REPORT



2003-2004: Issue 5

May-June 2004

The following is a summary of the May 12 and June 2, 2004, State Board of Education meetings.

**PAUL E. BARTON,
"PARSING THE ACHIEVEMENT GAP"**

Paul E. Barton, author of "Parsing the Achievement Gap," published by the Policy Information Center of the Educational Testing Service in 2003, summarized his report on factors related to student achievement. Six of the 14 factors affecting achievement are school-related, he noted. These include: 1) rigor of curriculum; 2) teacher preparation; 3) teacher experience; 4) class size; 5) technology-assisted instruction; and 6) school safety. Barton categorized the remaining eight as "before and beyond school" factors. These include parent participation, student mobility, birth weight, lead poisoning, hunger and nutrition, reading to young children, television watching and parent availability.

Mr. Barton discussed the importance of determining – and the research community reaching reasonable consensus on – the factors associated with school achievement. Equally important is determining the extent of disparity of those factors according to race, ethnicity and income, and the subsequent effect on student achievement. Researchers have concluded, Mr. Barton stated, that there are notable gaps between minorities and non-minorities on all 14 correlates. For example, 7 percent of white babies are considered "low-birth weight" whereas 13 percent of black babies are. In turn, low-birth weight infants are at greater risk of long-term disability and impaired development. Further, acknowledging the importance and benefits of reading to children ages 3-5, Mr. Barton stated that while 64 percent of white parents reported having read to their child every day within the past week, only 48 percent of black parents and 42 percent of Hispanic parents did.

School achievement gaps have deep roots, Mr. Barton claimed, and closing those gaps means

"closing gaps in life conditions and experiences". While in-school efforts to close the gap – including standards-based reform, assessment and accountability – are critical, our efforts must encompass so much more, he added. While directing additional resources and support toward low-income children will assist in reducing the gap, the gap cannot be fully closed unless similar controls are in place to address disparities in all other areas. While all children can progress, we need to address the roots of the disparities and to establish baseline data to enable us to track our progress.

**ABIGAIL THERNSTROM,
"NO EXCUSES: CLOSING THE RACIAL
GAP IN LEARNING"**

Dr. Abigail Thernstrom, co-author of "No Excuses: Closing the Racial Gap in Learning" (Simon & Schuster, October 2003), discussed her views on what she and her husband, Stephan, consider "the central civil rights issue of our time: our failure to provide first-class education for black and Hispanic students, in both cities and suburbs." Dr. Thernstrom asserted that the gap can be closed now that it is no longer a "hush topic." Too many non-Asian students graduate from our high schools without a high school education, she added. "This is morally unacceptable," Thernstrom added. "In writing our book, my husband and I wanted to create a sense of outrage" by exposing the gap and addressing the misleading perception that certain efforts (e.g., Title I and Head Start) have a significant impact on improving student achievement. "This is not an I.Q. story. It's a story of kids who need to acquire skills and knowledge and have been tragically and needlessly left behind," Thernstrom said. To substantiate her claim, she noted that the majority of black students perform in the lowest range on NAEP in five of seven areas assessed. Only .2 percent of black

Abigail Thernstrom (continued)

students score in the advanced level of NAEP, whereas 11 times as many white students and 37 times as many Asian students do, Thernstrom explained. She attributed the success of the Asian population to the expectations of their parents; parents expect their children to work hard and do well, and the children do. "This is a skill any child can learn," Thernstrom suggested. African American children, on the other hand, arrive at kindergarten less prepared and less ready to conform to behavioral demands and are doing less well now than they were years ago. They watch an extraordinary amount of television in their spare time, she added.

Dr. Thernstrom discussed types of educational environments that are conducive to meeting the needs of minority students, including charter schools and other choice programs that are free from the red tape that binds public schools to mediocrity. She emphasized that well-trained school leaders, a school culture that focuses on academic achievement, and teachers who focus on the basics are essential to students' success. Initiatives to support successful education environments include: asking intelligent college graduates to commit to teaching for five years; allowing principals to remove ineffective teachers; building a pool of competent teachers by employing high standards in our teacher preparation programs; rewarding effective teachers and offering incentives to teachers of mathematics and science; ensuring that the content of college coursework is of a high caliber; and requiring all elementary school teachers to take college-level mathematics.

The Thernstroms cite Amistad Academy, a state charter school in New Haven, as one example of a "break the mold school" – a high poverty public school with students who score well on statewide tests. These schools, the Thernstroms write, "are atypical within their own districts. Nevertheless, their record of success suggests that truly radical educational innovation can change the lives of inner-city students, whatever their race or ethnicity." Amistad Academy's school day begins at 7:45 a.m. and ends at 5:00 p.m., providing an additional three hours of instruction each day.

Dr. Thernstrom stressed the importance of teaching students self-discipline, how to maintain eye contact when speaking to others, the importance of civility toward peers and superiors and the expectation to be prompt and well prepared. "We need to place greater emphasis on student responsibility," Dr. Thernstrom concluded. These are skills that will be used throughout their lives. These skills are taught at Amistad Academy, the authors state. "Amistad students are expected to demonstrate consistent adherence to the norms embodied in REACH: Respect, Enthusiasm, Achievement, Citizenship, and Hard Work."

A supporter of school choice as well as integrated settings, Dr. Thernstrom cautioned the Board about worrying too much about the precise racial mix of students. Rather, we should be directing our energy and attention toward educating children, regardless of their race and ethnicity.

NEW LONDON PUBLIC SCHOOL SYSTEM

At its August 2003 retreat, the State Board of Education decided to invite representatives of each of the Education Reference Group (ERG) I districts to attend a board meeting in the 2003-04 school year to discuss their district's performance and needs. The presenters were asked to respond to a series of questions sent to them in advance and to summarize for the Board progress made and areas that continue to need improvement in their school systems. In addition, districts were asked to reflect on what assistance from the state would help them achieve their goals.

Representatives of the New London Public Schools presented to the Board in June. Representing the New London School System were Superintendent of Schools Christopher Clouet, Board of Education Chairperson Elizabeth Garcia and Special Services Director Chris Carver.

Upon his arrival to the New London school system in February 2004, Superintendent Clouet recognized the need for the community to pull together and organize the schools around the learning needs of students. Two initiatives he quickly implemented to improve student achievement were providing a

New London (continued)

template for a written curriculum linked to the district's Five-Year Strategic Plan and addressing the malaise at the high school. High school students have been afforded new opportunities, including enrollment in a CAPT Saturday Academy program, a math and science magnet program at the high school, and an expanded ROTC program, in which more than 100 students are enrolled. Superintendent Clouet described the school system's focus on data-driven decision making, noting that this is an area that requires more attention. The school system needs to employ a single standard for school climate, and efforts to increase community and parental involvement are underway. The Parent Training Leadership Institute has resulted in increased parental involvement, the superintendent noted, as has a recent practice of keeping elementary schools open two nights each week. Families are free to take advantage of health-related and other services available to them on those evenings. One way the business community could support education, Clouet proposed, would be to allow release time for parents to attend school functions. He suggested that the athletic program of a school system is one way to attract the community to the schools, and expose them to the benefits of their volunteering in a variety of capacities.

Chris Carver described the reduction of the special education prevalence rate, from 20% in 2000 to 17% in the 2002-03 school year. She attributed a stronger pre-referral process and enhanced communication with regular education staff, as well as the services of three bilingual school psychologists, as factors contributing to the reduction of the special education identification rate. New London, like other school districts, has moved toward greater inclusion of special education students in regular classrooms, in large part due to SDE coordinated efforts to facilitate compliance with the *PJ et al v State of Connecticut, State Board of Education, et al* settlement agreement.

Superintendent Clouet stated that continuing concerns include a tight budget and the "politics" associated with the budget process in New London, the costs associated with special education and the large increase in the number of students identified as having autism, and the need for universal preschool - particularly for English Language Learners and special education children.

In closing, Superintendent Clouet expressed his optimism for marked improvements in the New London Public Schools. Referring to his staff's board members and personal objectives, he remarked, "We're energized and committed to improving the New London Public Schools."

ADVANCED PLACEMENT RESULTS

The Advanced Placement (AP) program, sponsored by The College Board, is an intensive program of college-level courses and examinations. The Commissioner and Department have encouraged all Connecticut districts and high schools to increase their participation in the AP program and other college credit programs. AP exams are offered worldwide in May. However, it is not necessary to be enrolled in an AP course in order to take an exam. Virtually all colleges have AP policies and 1,400 (including most in Connecticut) allow sophomore standing if sufficient AP credits have been earned.

The Board reviewed a report on Connecticut's results on the May 2003 administration of the AP program. Highlights of the report include:

- ✍ Connecticut ranked second nationally in participation of comprehensive high schools.
- ✍ Connecticut ranked third nationally, behind Illinois and New Jersey, in the percentage of public high school students scoring 3 or more.
- ✍ Connecticut students have had a consistently higher percentage of students with scores of three or better than students nationwide, since the data first became available in 1978-79.
- ✍ Connecticut nonpublic school students have scored slightly better than public school students on most tests since the reporting of these data began in 1983-84.
- ✍ Farmington High School, Conard High School (West Hartford), Litchfield High School, Staples High School (Westport) and New Canaan High School had the top participation rates among public schools.
- ✍ The number of public school test takers has almost tripled in the past 10 years, from 4,167 to 11,858.

Advanced Placement (continued)

- ✍ The number of public school minority students taking an AP exam increased significantly in the past 10 years from 605 to 2,104. However, minorities represented 26.6 percent of Grade 11 and Grade 12 students in 2002-03, but only 17.7 percent of AP test takers.
- ✍ The percentage of public school seniors taking an exam almost doubled in the past ten years from 8.8 to 17.4 percent.

Commissioner Sternberg commended several schools for high participation rates and program growth.

RECOGNITION OF ACCOMPLISHMENTS

The Board was pleased to have the opportunity to recognize the following individuals:

Teachers-in-Residence, Beginning Educator Support and Training Program

- ✍ Lynn K. Lettieri, a visual arts teacher in the Farmington Public Schools;
- ✍ Jeanne B. D'Angelo, a music teacher in Regional School District 15; and
- ✍ Julie K. White, an English language arts teacher in the Mansfield Public Schools.

Teachers in residence are released from their school districts for a period up to three years to assist the Department in developing and implementing enhanced standards for new professionals entering Connecticut schools. These individuals work on standards, instruction and assessment projects with state personnel, teachers from across the state, and national experts. They also present workshops and clinics to experienced educators around the state and make presentations at national conferences and to state and national professional organizations.

Leaders-in-Residence, Connecticut State Department of Education School Improvement Unit

- ✍ Frances G. DiFiore, a principal in the Hartford Public Schools; and
- ✍ Denise G. Malnati, a K-12 art liaison and high school art teacher in the Windsor Public Schools.

Leaders-in-residence play a critical role in developing and implementing a standards-based school improvement model for Connecticut schools identified as not making "adequate yearly progress" under the No Child Left Behind legislation. These individuals are released from their school districts for a period of eight months to serve as "leaders-in-residence." Modeled after the Teachers-in-Residence Program, the leaders work on standards, instruction and assessment projects with state personnel, teachers and leaders from across the state. They play important roles in developing professional development activities for principals and their school leadership team to support the work around school improvement planning, implementation, monitoring and evaluation.

GED Scholar

- ✍ Jeffrey J. Davies was recognized for earning the highest score on the 2003 administration of the GED in Connecticut. Mr. Davies scored 3820 of a possible 4000 points. He prepared for the exam, administered by the Hartford Adult Education Office, on his own.

RECOGNITION OF STUDENT MEMBERS OF STATE BOARD OF EDUCATION

Best wishes to Yi-Mei Truxes, Westbrook, and Daniel Martinez, Bridgeport, who served as the student members of the State Board of Education from July 1, 2003, through June 30, 2004. The Board adopted a formal resolution in recognition of the students' contributions during the past year, and wished them continued success in their educational pursuits.

ORDER OF WRITTEN REPORT IN REVOCATION MATTER

The Board ordered the Commissioner to file with it a written report *In the Matter of Esteban Sebourne, Certificate Holder*. The report will provide the Board with sufficient evidence on which to base a decision concerning revocation of Mr. Sebourne's educator certificate.

TRANSFER OF PROPERTY

Pursuant to Section 13a-73(g) of the Connecticut General Statutes, the Board transferred to the Commissioner of Transportation two small parcels of land adjacent to W.F. Kaynor Regional Vocational-Technical School. The statute allows the Commissioner of Transportation to request that the Secretary of the Office of Policy and Management require that custody of such real property be transferred to him when drainage, construction, alteration, reconstruction, improvement, relocation, widening and change of grade of any highway is required.

BEGINNING EDUCATOR SUPPORT AND TRAINING (BEST) PROGRAM PARTICIPATION REQUIREMENTS

Beginning classroom teachers who serve under the following certificates or permits must participate in the BEST Program: initial certificate, nonrenewable interim initial educator certificate, interim initial certificate, temporary 90-day certificate, and non-renewable interim charter school certificate. Holders of durational shortage area permits who do not currently hold a provisional educator or professional educator certificate also participate in the BEST Program. At its June 2004 meeting, the Board approved the 2004-05 categories of participation for beginning teachers first registered in the BEST Program along with corresponding certificates and certification endorsement areas; standards of performance for beginning teachers for the BEST portfolio assessment; and the addition of world languages to the content areas for which the portfolio performance standard is applicable for beginning teachers first registered or holding year-one status in the BEST Program as of the 2004-05 school year.

ANNUAL AUDIT PLAN (July 1, 2004 - June 30, 2005)

The Board approved the Annual Audit Plan for the period July 1, 2004, through June 30, 2005. The majority of staff time will be spent in the priority areas of school construction and other grants, including the Education Cost Sharing Grant. Time has also been allocated to review federal/state single audit issues and the Regional Vocational-Technical School System.

TRAILBLAZERS ACADEMY, STAMFORD RENEWAL OF CHARTER

The Board approved the Commissioner's recommendation to renew the charter of the Domus Foundation, Inc. to operate Trailblazers Academy, Stamford, for the period July 1, 2004, through June 30, 2009. The charter school first opened in 1999 and now serves 109 Grade 6-8 students from Stamford. The school's curriculum was developed based on the Connecticut Curriculum Frameworks and is closely aligned with the Stamford Public Schools' curriculum to provide a smooth transition for Trailblazer students back into the Stamford public high schools.

DOMUS HIGH SCHOOL, STAMFORD APPROVAL OF STATE CHARTER

The Board approved the Commissioner's recommendation to grant a charter to the Domus Foundation, Inc. to operate Domus High School, for a five-year period, subject to the following conditions: (1) receipt of documentation related to facility requirements; (2) receipt of governance documentation related to incorporation status and identification of governing board members; and (3) such school shall open on or before June 2, 2006, or such approval shall become null and void. Domus High School's mission is "to provide a positive, challenging and responsive learning environment for high school students who have not succeeded in a traditional setting....". It will serve 100 students in Grades 9-12 from the City of Stamford.

CHARTER SCHOOL ENROLLMENT FOR THE 2004-2005 SCHOOL YEAR

The Board approved the Commissioner's recommendation to increase the number of charter school seats by 428 in the 2004-2005 school year. This authorization provides for a total of 2,693 seats, including 178 new seats requested by existing charter schools and 250 additional seats for two new charter schools (Elm City College Preparatory, 150; and Domus High School, 100). The charter school state general fund appropriation for 2004-2005 is \$21,732,000, a \$4,761,000 increase over the 2003-2004 entitlement. This provides for a grant of \$7,360 per student, a \$110 per-pupil increase in the amount of state funding the charter schools receive to operate.

CHANGES TO CONNECTICUT'S CONSOLIDATED STATE APPLICATION ACCOUNTABILITY WORKBOOK

The Board approved the following proposed changes to Connecticut's Consolidated State Application Accountability Workbook under the No Child Left Behind Act of 2001, for submission to the Office of Elementary and Secondary Education:

- ✍ allowing schools 90 days (originally set at 60) after being identified as a school in need of improvement to develop their school improvement plan, and assign responsibility for approval of such plans to the local or regional board of education only (originally included approval by the State Department of Education in addition to the local or regional board);
- ✍ requiring that Limited English Proficient (LEP) students take the state English proficiency test during their first academic year of enrollment, in accordance with recent guidance from the USDE, and allow these students to participate in the reading/language arts/writing subtests of the state assessments. Such students' scores shall not be included in the AYP proficiency determinations for reading and language arts.
- ✍ allowing LEP students, after meeting the exit criteria for that subgroup, to retain the LEP designation for AYP purposes for up to two additional years;
- ✍ increasing the subgroup size, currently set at 40, for the students with disabilities and LEP students; and
- ✍ determining that the participation rate for a school has been met if the past two- or three-year average meets or exceeds 95 percent.

Additional changes were requested to strengthen Connecticut's ability to support all of its students:

- ✍ allowing flexibility to test at alternate grade levels provided that the state can show high performance on NAEP;
- ✍ allowing for consequences to apply only to the reason for identification. For example, if the students with disabilities subgroup does not make AYP for two consecutive years; then the consequences such as supplemental educational services and school choice should be targeted to only that subgroup;
- ✍ allowing for different consequences for schools that fail to make AYP for participation only, thereby allowing the Department to focus its assistance on those schools with the greatest academic need;
- ✍ altering the sequence of consequences for schools identified as *in need of improvement*; and
- ✍ allowing for accommodations to meet individual needs (e.g., giving option for mildly and moderately impaired special education students to take an out-of-level test and to be considered proficient for purposes of AYP analysis).

POSITION STATEMENT ON SCIENCE EDUCATION

The Board adopted a Position Statement on Science Education. The statements is consistent with the Connecticut Science Frameworks and outlines the roles that schools, teachers and parents play in providing all children with a quality science education. The statement reads, in part, "The Connecticut State Board of Education believes that every student needs and deserves a rich and challenging education in science. Such an education will promote essential understandings of the natural world and

Position Statement on Science (continued)

nurture students' abilities to apply scientific knowledge to make informed and logical judgments about personal and societal issues. Such an education requires that the fundamental approach to science is a creative process for investigating, reasoning, critiquing and communicating about ideas, not as a static body of facts to be memorized." The position statement (copy attached) has been posted on the Department's website and will be circulated to districts statewide.

EASTERN CONNECTICUT STATE UNIVERSITY (ECSU)

The Board granted full program approval to the ECSU undergraduate and graduate level programs preparing teachers to teach early childhood education, elementary education, English, history and social studies, mathematics, biology, earth science and physical education for the period October 1, 2004, through September 30, 2009.

SAINT JOSEPH COLLEGE

The Board granted initial program approval for the period October 1, 2004, through September 30, 2005, for the purpose of certifying graduates from Saint Joseph College's graduate-level school counseling program. An interim report on the program is due January 10, 2005, and an interim visit will be conducted as part of the full educator preparation program approval review scheduled for March 2005.

UNIVERSITY OF BRIDGEPORT, WATERBURY CAMPUS

The Board granted full program approval to the University of Bridgeport's advanced graduate off-site program located in Waterbury for the period October 1, 2004, through September 30, 2006. An on-site visit will be held in spring 2006 as part of the full program review. The University of Bridgeport Graduate Center in Waterbury will award a Sixth Year Professional Diploma of Advanced Studies to candidates who successfully complete a 30 semester hour program of studies, including coursework and experiences resulting in certification as Intermediate Administrator or Supervisor (092).

QUINNIPIAC UNIVERSITY

The Board extended program approval to September 30, 2007, to the teacher preparation programs at Quinnipiac University. An interim report is due July 1, 2005, and a one-day on-site visit will be conducted in the fall of 2005. Quinnipiac President John L. Lahey requested the extension to allow additional time for the university to prepare for its initial National Council for Accreditation of Teacher Education (NCATE) accreditation after new NCATE procedures are in place. In addition, President Leahy noted that the faculty have been preparing for reappointment or promotion during the 2003-2004 academic year, which has consumed a great deal of their time and energy. The extension will allow the faculty members to focus their attention on preparations for the upcoming program review.

RENEWAL OF CERTIFICATE OF EXEMPTION: FRANKLIN ACADEMY

The Board renewed the Certificate of Exemption for Franklin Academy in East Haddam for the period June 2, 2004, to June 1, 2005. Franklin Academy is a co-educational school that serves students in Grades 6-12, and offers both day and boarding options for students with non-verbal learning differences (NDL). NDL is not recognized by the Individuals with Disabilities Education Act (IDEA) or Connecticut law as being a learning disability entitling a student to special education and related services. At the time of initial approval, the Department's special education and legal staff agreed that Franklin Academy, as proposed, would not be a special education facility. A Certificate of Exemption indicates that the school is "an educational institution as determined by the State Board of Education" and that, therefore, the licensing requirements for child-care facilities and child-placing agencies do not apply.

REGIONAL EDUCATIONAL SERVICE CENTERS

As required by state law, the State Board of Education must designate how 6.25 percent of funds appropriated to each regional educational service center are to be used to support regional interdistrict activities that reduce racial, ethnic and economic isolation. The Board directed that in 2004-2005, the RESCs use such funds for one or more of the following: to support interdistrict magnet schools that are operated by the RESCs; support for students participating in the OPEN CHOICE program; professional development for teachers in educating students from diverse racial, ethnic and economic backgrounds; minority teacher recruitment activities; and data collection and analysis of school districts' efforts to reduce the racial, ethnic and economic isolation of teachers.

APPLICATION FOR FUNDS: REFUGEE CHILDREN SCHOOL IMPACT PROGRAM

The Board approved the submission of the Department's 2004-05 application to the United States Department of Health and Human Services for the continuation of funds to support the Refugee Children School Impact Program. This year's application is for \$235,594. Funds would be used to support districts in meeting the educational needs of refugee children. Approximately 3,245 students in the New Haven, Hartford and Bridgeport areas would be served.

APPLICATION FOR FUNDS: AMERICORPS VISTA PROJECT

The Board approved the submission of the Department's application to Plus Time New Hampshire for funds to support up to five VISTA members who will assist the State Department of Education in developing its after-school program initiative. Each VISTA staff member will work for one year within the period July 1, 2004, through June 30, 2006.

APPLICATION FOR FUNDS: STUDENT ACHIEVEMENT IN READING (Project STAR)

The Board approved the submission of the Department's application for funding to DTI Associates, Inc., through a contract with the United States Department of Education, to support the "Student Achievement in Reading Grant" (Project STAR). Project STAR is a reading improvement initiative that will support approximately six pilot states committed to improving reading instruction for low- and intermediate-level adults. Funds would support professional development for teachers of low and intermediate Adult Basic Education learners.

APPLICATION FOR FUNDS: 2004 TEAM NUTRITION TRAINING GRANT

The Board approved the submission of the Department's 2004 Team Nutrition Training Grant, for submission to the United States Department of Agriculture. This year's application is for \$199,487. Funds would be used to provide a technical assistance support system, provided by EASTCONN and Team Nutrition grant partners, to enable child nutrition foodservice professionals in schools and child care programs to plan, prepare and serve nutritious meals.

REGIONAL VOCATIONAL-TECHNICAL SCHOOL SYSTEM (RVTSS)

The Board approved the following:

- ☞ School Improvement Plans for three of the vocational-technical high schools identified as "in need of improvement," pursuant to Section 1116 of the *No Child Left Behind Act*. The plans for A.I. Prince, J.M. Wright and E.C. Goodwin address each school's academic needs; student learning goals; standards and related performance objectives; measures of success; and the action steps, timeline, resources and budgets necessary to implement the plans;
- ☞ the proposed construction projects and cost estimates for Bullard-Havens Regional Vocational-Technical School in Bridgeport (\$27,331,000) and Windham Regional Vocational-Technical School

Regional Vocational-Technical School System (continued)

in Willimantic (\$42,051,000), for inclusion on the 2005-06 school construction priority list;

- ✍ the Policy on Student Dress and Grooming, which will be included in the Student and Faculty Handbooks in September 2004 and posted on the school system's website. The policy and related procedures set forth what is considered appropriate attire and those restrictions that may be applied whenever student dress or grooming interferes with the learning process, is disruptive, is unsafe or is contrary to law. Enforcement of the dress and grooming rules is the responsibility of each building principal;

- ✍ the Policy on Discipline, which explains the relationship between student behavior and a climate conducive to learning. It states that "students who may be subject to disciplinary action must receive treatment, which is fair, consistent, non-discriminatory and appropriate to the offense; must be informed of school rules and procedures; and are entitled to due process procedures consistent with applicable state and federal laws." The policy applies to conduct on school grounds or at school-sponsored activities as well as conduct off school grounds if such conduct is seriously disruptive of the educational process or violates a publicized policy of the Board. This, too, will be included in the Student and Faculty Handbooks and posted on the school system's website; and

- ✍ the Graduation Requirements and Basic Skills Requirements for Graduation (2006) and the Graduation Requirements (2008). The Board approved the Basic Skills Requirements for Graduation Policy in June 2002. This policy defines in accordance with state statutes the performance standards in language arts and mathematics. The Board's June 2004 action expands the basic skills requirements to (1) include a performance standard in the content areas of science and technology and (2) include more options for students to demonstrate their performance relative to the standard. The Board also approved a resolution to increase the graduation requirements beginning with the Class of 2008 from 27.75 credits to 28.5 credits. Trade Theory and Trade will be combined into one 3-credit course each year and "Health" will be assigned a .5 credit.

CONNECTICUT STATE BOARD OF EDUCATION

(effective July 1, 2003)

ADMINISTRATIVE OFFICE	STATE BOARD OF EDUCATION MEMBERS
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To obtain a copy of a report considered by the Board, please contact the Office of Public Information, 860-713-6526.	<i>Betty J. Sternberg, Secretary</i> <i>Valerie Lewis, ex officio</i>

The next regular meeting will be held on Wednesday, September 8, 2004, at 9:30 a.m. Visitors are advised to call the Office of the State Board of Education, 860.713.6510, to verify the location of the meeting.

2005 STATE BOARD OF EDUCATION MEETING SCHEDULE

January 5	August 3
February 2	September 7
March 2	October 5
April 6	November 2
May 4	December 7
June 1	

The Board Report provides a summary of matters considered by the State Board of Education at its regular monthly meetings and is posted on the Department's Internet site (<http://www.state.ct.us/sde>). The Department welcomes comments and suggestions concerning the format and content of ***The Board Report***. Please submit your comments to Pamela V. Bergin, Office of the State Board of Education, 165 Capitol Avenue, Room 301, Hartford, CT 06106, or pamela.bergin@po.state.ct.us.

Connecticut State Board of Education
Hartford

Position Statement on Science Education

Adopted June 2, 2004

The Connecticut State Board of Education believes that every student needs and deserves a rich and challenging education in science. Such an education will promote essential understandings of the natural world and nurture students' abilities to apply scientific knowledge to make informed and logical judgments about personal and societal issues. Such an education requires that the fundamental approach to science is a creative process for investigating, reasoning, critiquing and communicating about ideas, not as a static body of facts to be memorized.

The Board believes that learning science is important for all students in order to prepare them to be informed individuals and citizens and to participate in a wide range of scientific and technological careers. Understanding the interconnections between science and technology, and their shared impact on environmental and societal issues, is essential in order to preserve and improve life on Earth.

Learning experiences in science should lead all students to:

- understand and apply basic concepts, principles and theories of biology, chemistry, physics, earth and space sciences and their interrelationships;
- recognize and participate in scientific endeavors which are evidence based and use inquiry skills that lead to a greater understanding of the world;
- identify and solve problems through scientific exploration, including the formulation of hypotheses, design of experiments, use of technology, analysis of data and drawing of conclusions;
- select and use properly appropriate laboratory technology, equipment and materials, including measuring and sensing devices;
- understand and use existing and emerging technologies which have an effect on society and the quality of life, including personal, academic and work environments;
- analyze the possibilities and limits of science and technology in order to make and defend decisions about societal issues; and
- understand that the way in which scientific knowledge is formulated is crucial to the validity of that knowledge.

Quality education in science should, therefore, be an integral part of the core curriculum for all Connecticut students. The PreK-12 scientific program should enable students to achieve the learning goals and standards outlined in Connecticut's Science Framework. Improving students' participation and achievement in science is an important component of implementing the Board's education agenda. Everyone has a role in providing all children education that includes rigorous scientific experiences.

The Department of Education plays an essential role in ensuring a quality educational program in science by:

- setting clear goals and core performance expectations for all students, and creating a science curriculum framework that provides a clear PreK-12 scope and sequence necessary to achieve these goals;

(continued)

- establishing science teaching standards that set high expectations for science content knowledge and pedagogy;
- ensuring that high school science teachers are appropriately certified in the science which they teach;
- developing student assessment policies and practices for the state assessment that are aligned with the learning expectations described in the state curriculum framework;
- providing the field with standards-based professional development opportunities to enhance teachers' scientific knowledge and teaching skills; and
- developing statewide partnerships with business, industry and higher education that support scientific learning in schools.

School districts play an essential role in ensuring a quality educational program in science by:

- selecting and developing curriculum and courses of study that are guided by the state science framework;
- providing all students with coordinated, meaningful and engaging scientific experiences to support their development of scientific literacy;
- providing highly qualified teachers at all levels who are knowledgeable about the content, methods and pedagogy of the science they teach;
- applying standards for teaching science to the evaluation of science teachers;
- providing professional development opportunities to science teachers that will enhance the effectiveness of their instruction and improve student learning; and
- providing teachers and students with necessary science instructional resources, including lab space, equipment and materials, technology, textbooks and easy access to electronic sources of information.

Teachers play an essential role in ensuring a quality educational program in science by:

- planning units and lessons that contain current, accurate and meaningful content that is aligned with the district curriculum;
- keeping up-to-date with the latest scientific advances in their discipline;
- setting a context for scientific learning that is relevant to students in class;
- engaging students in extended, developmentally appropriate scientific investigations that motivate student effort and interest in scientific learning;
- providing students with a safe environment in which to participate in scientific investigations;
- providing students with resources needed to support their learning;
- assessing student understanding regularly and adjusting instruction to accommodate students with diverse needs, abilities and interests;
- communicating to students and parents the goals and importance of studying science; and
- encouraging students to pursue the study of advanced science and science-related careers.

Teacher preparation programs play an essential role in improving a quality educational program in science by:

- providing preservice teachers with a comprehensive program of challenging and meaningful science courses that develop understandings of scientific concepts, processes and ways of thinking;
- providing preservice teachers with knowledge about human cognition and learning theories;
- providing preservice teachers with instruction in science-specific classroom pedagogy, including the use of educational and scientific technology, aligned with state science teaching standards; and
- providing preservice teachers with opportunities to practice teaching in a safe and supportive environment.

Parents play an essential role in ensuring a quality educational program in science by:

- encouraging their children to participate in high-level science courses and activities, both in and out of school;
- talking to their children about the science they learn at school and showing interest in scientific content, processes and ideas; and
- providing their children with access to science resources, such as museums, libraries and the Internet.