



Charter Schools Institute  
State University of New York

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# Charter School of Science & Technology

## Report

2001-2002  
Academic Year

## **History and Purpose**

Charter schools are public schools that operate independently of local school districts and are created by civic leaders, community groups, educators and parents interested in creating public school choice in their communities, particularly for children at-risk of academic failure.

Like all public schools, charter schools are open to all children, non-sectarian in their programs and funded with public tax dollars. Each public charter school is governed by an independent board of trustees that, like all school boards, is subject to New York State's Freedom of Information and Open Meetings laws. Public charter schools authorized by the State University of New York Trustees are subject to oversight and monitoring by the University's Charter Schools Institute. Additionally, all public charter schools in New York State are subject to inspection and oversight by the state Department of Education.

In exchange for freedom from many state rules and regulations, each public charter school receives a charter, or contract, of up to five years and must meet stated student performance goals or risk losing its charter and ceasing operations. This tradeoff – freedom from rules and regulations in exchange for unprecedented accountability for student performance – is considered one of the most significant differences between public charter schools and other public schools run by school districts.

The specific purposes of the charter schools law are set forth in Education Law §2850(2)(a-f), and they include improving student learning and achievement, increasing learning opportunities for all students (particularly those at-risk of academic failure), expanding parental choice in public schools and moving from rule-based to performance-based accountability systems.

The New York Charter Schools Act empowers the Board of Trustees of the State University of New York, the New York State Board of Regents, or local boards of education (in conjunction with the Regents) to authorize new public charter schools. Additionally, existing public schools can seek charter status through their governing boards of education, again in conjunction with the Regents.

The Charter Schools Institute was established by the University Trustees to assist in the review, approval and oversight of schools seeking their charter via the Trustees. Inspections, analysis and reporting of information represent one facet of the oversight process conducted and managed by the Institute.

The Institute has implemented a periodic visitation and inspection process for charter schools authorized by the University Trustees. The Institute conducts multiple site visits and inspection visits throughout the five years of an approved charter; some visits are announced and others are not. This process allows the Institute to gather regular information regarding teaching and learning within the environment of each school, as well as information regarding each school's administrative operations.

This report reflects the observations and findings from an inspection visit conducted by a 2 – 4 member team comprising Institute staff, and, in some cases, outside experts. Visiting inspectors seek evidence of effectiveness in key areas: teaching and learning (curriculum, instruction and assessment); climate (environment and discipline); facility (building or physical plant); and, fidelity to the school’s charter, including its mission. Although issues regarding compliance with state and federal laws and regulations may be noted (and subsequently addressed), compliance is not the ultimate purpose of the inspection visit.

The inspection visit included meeting with the principal/director, classroom visitations, ad hoc meetings/conversations with staff and students and a review of student work. Data from this inspection along with anecdotal evidence from visitations during the school year was used to develop the curriculum and instruction component of the public report. Institute staff considered the following elements of successful schools in preparing the report:

- Do the school’s practices reflect high expectations for student achievement?
- How do teachers assess student work?
- Does student work reflect rigorous assessment?
- Do students appear to be engaged and attentive?
- What is the level of teacher professionalism and expertise?
- Assess the school climate and learning environment.
- Is the school orderly?
- Do the physical facilities support effective instruction?
- Is the school true to its purpose as stated in its mission and charter?
- Assess the school’s direction, leadership and growth.

This document is designed to share the inspectors’ observations, findings and discussion with the school’s governing board, parents and the public. It is also designed to provide substantive information that can be used to improve the school’s educational programs for students as well as inform parents and other members of the public about the school’s progress.

Readers should keep in mind that charter schools face major challenges, and that schools address them at different rates. There is no one correct time frame for successfully meeting each challenge, so long as each school is prepared to make a persuasive case for renewal at the end of its 5-year charter. The challenges are identical to those of a start-up business enterprise, except public charter schools involve parents and children in the high-profile world of public education. Challenges commonly addressed by public charter schools across the country and in New York State include:

- Establishing a positive school culture that provides high expectations, support and encouragement for students and teaching staff, any necessary remediation for students, and consistent daily routines for all;
- Establishing operational and communication patterns with the governing board, as well as communication patterns with staff, parents and the community;
- Setting up sound fiscal processes and procedures;
- Establishing this operation in often less-than-ideal facilities, without ready access to facilities funding mechanisms available to other public schools;

- Creating an environment where teachers receive timely professional development to address changing student needs;
- Ensuring that all staff are familiar with and consistently use the school-wide system for behavior management; and;
- Retaining qualified staff and minimizing the frequency and rate of any staff turnover by understanding the reason for it, and providing replacement staff with an orientation to the school and its program, as well as the necessary professional development.

### **School Description**

The Charter School for Science and Technology was approved by the State University Board of Trustees in January 2000 and by the Board of Regents in May of that year. It opened in the fall of 2000. For the 2001-2002 school year it enrolled 922 students in grades K-9. By the end of its 5-year charter the school plans to enroll 1,276 pupils in grades K-12. Its school year was 20 days longer than the traditional 180-day school year. The mission of the school is to focus on high achievement in science, as well as applied and industrial technology to meet the similarly oriented job market in the Western New York region.

The Charter School for Science and Technology, which is housed in a renovated Bausch & Lomb plant at 690 St. Paul Street, Rochester, contracted with Edison Inc. for the management of the school. Edison Schools has implemented its school design in 136 public schools, including many charter schools, with more than 75,000 students. The Edison model employs separate school academies using a curriculum that includes Direct Instruction, project-based learning, cooperative learning, and other features. The school has entered partnerships with Monroe Community College, Rochester Institute of Technology, and the American Red Cross-Greater Rochester Chapter.

According to the 2002 Annual School District Report of the New York State Education Department, for the 2000-2001 school year the Rochester City School District enrolled 35,435 students: 76.6% African-American; 18.9% Hispanic; 16.1% white; and 2.2% American Indian, Alaskan, Asian or Pacific Islander. Additionally, 76.6% of the students in the district received free or reduced lunches under the Federal School Lunch Program, a common indicator of poverty.

The Charter School for Science and Technology reported that 83.5% of its students for the 2001-2002 school year qualified for free or reduced lunches under the Federal School Lunch Program.

In 2001, 58% of students in the Rochester City School District failed to meet state standards on the 4<sup>th</sup> grade English Language Arts test; 52% of students failed to meet state standards on the 4<sup>th</sup> grade Math test. On the 8<sup>th</sup> grade English Language Arts test, 75% of students failed to meet state standards; 89% of students failed to meet state standards on the 8<sup>th</sup> grade Math test.

## **Discussion of Findings**

### **Inspection Team**

On May 23, 2002, an end of year inspection team for the Charter Schools Institute visited the Charter School of Science and Technology in Rochester, New York. The team comprised:

- Dr. Michael Stevens, Vice President of Research and Evaluation, CSI
- Dr. Jennifer Sneed, Vice President for Applications, CSI
- Doug Lemov, Vice President of Accountability, CSI

### **Academic Data**

Charter schools authorized by SUNY are required to submit an Accountability Plan to the Charter Schools Institute for approval. The plan sets forth the school's goals for its five-year charter. Two of the major goals are student achievement in English language arts (ELA) and mathematics. Over the life of the charter, the school is required to show that it is making substantial progress toward meeting its goals through a variety of measurable objectives. These objectives include: 1) student performance on the state's fourth- and eighth-grade ELA and math tests; 2) student performance on these tests in comparison to similar schools; and 3) the year-to-year progress of students in ELA and math in comparison to the progress of students in a national sample.

Because of grades they serve and how recently they opened, some schools can not provide much information about student achievement. State test results are only given in the fourth and eighth grade, so that schools without these grades cannot administer the state ELA and math tests. Similarly, schools that have only been open for one year cannot report information on year-to-year progress in student performance. Furthermore, any test information (especially state tests) in the first years of a school's charter can only provide an incomplete picture of the impact of a school's program. Student achievement in these schools will be based to a great extent on what the students had learned in other schools prior to enrolling in the charter school. Despite these limitations, each charter school must begin with its first year's results to build its case for charter renewal.

As a second-year school, the Charter School of Science and Technology (CSST) was able to report a variety of information on student achievement in the 2001-02 school year. The school provided data to show that it met its math objective of enabling students to make substantial yearly progress; however it was some distance from meeting its ELA objective of enabling students to make substantial yearly progress. The school was far from meeting its fourth and eighth-grade student achievement objectives in ELA and math. CSST has begun to present the evidence necessary for charter renewal in its fifth year of operation.

## **School Curriculum and Instructional Practices**

While the Charter School of Science and Technology struggled in its first year to implement a program that appeared likely to meet the goals the goals set out in its charter, it has during the second year, focused its resolve. A new principal and a core group of teachers have begun to address the need for increasing the effectiveness of instruction, amassing and analyzing data to support student achievement and building a behavior climate that further supports student academic success. However, these initiatives are in the beginning stages and have yet to produce evidence of high academic expectations or achievement.

The principal acknowledged the need for higher expectations and more rigorous instruction noting that these issues had become her top priority now that the school's previous behavioral issues appear to be abating. Despite her laudable and clear focus on improving instruction and raising academic expectations in core areas, evidence suggests that all members of the school community do not yet share her sense of urgency for raising the quality of instruction and academic expectations. Academic expectations remain low in the middle and high school grades. In the primary and intermediate grades there was some evidence of teachers holding students to higher standards of achievement, but it was not pervasive. The principal has chosen not to renew the contracts of approximately 10 staff members on performance grounds (a decision exemplifying the principal's focus on student achievement and willingness to use the flexibility afforded to charter schools under law to achieve that end as rapidly as possible). Given the size of the school and the scope of the challenges present as the school year began, ensuring that CSST expects and demands achievement from every student is likely to be both a critical and, at the end of the second year, an urgent challenge to which all members of the school community, from trustees to support staff, should turn their attention.

Student engagement in learning, though limited, was observed in some primary and intermediate and few middle and high school classrooms. While overt student acting out and poor discipline appear primarily under control, ineffective instructional practice is common and it is still acceptable for students in many classrooms to "opt out" of participating in class (for example; heads resting on desks, chatting with friends, reading magazines). Nonetheless, having inherited a school notably lacking in behavioral expectations or disciplinary structures, the principal appears to have made headway in student engagement during the recent academic year.

The benchmark assessment system is now fully implemented at the school. The principal shared a statistical tracking of grade-by-grade student performance as the result of assessments every eight weeks. This useful tool has indicated that the majority of students are performing below grade level. Assessment of student work in classrooms is another matter. Institute staff, during numerous visits to the school, have been unable to determine overall policy or practice in this regard. Much of the student work posted in the building was factually incorrect, rife with errors, or showed a lack of appropriate priorities for learning. For example, student work posted on several bulletin boards students had meticulously included clip art in their compositions but had not produced grammatically correct sentences.

The Charter School of Science and Technology has a primarily inexperienced staff, whose need for professional development may very well outstrip the resources of a small administrative staff. Despite this, administrators demonstrated an effective understanding of the teaching skill of most faculty members throughout the year. In the fall administrators identified several inexperienced faculty members who were in need of intensive support to improve their instructional capabilities. Several of those faculty members were observed to have improved their craft significantly during the course of this year. However, due to the large size of the teaching staff, many more faculty members continued to need professional development.

Other steps taken to improve the instructional program included: augmenting the provision of special education programs and services; hiring a coordinator for the school's Success For All reading program; instituting a professional development structure of lead teachers, curriculum coordinator(s) and teams for next year; and, using curriculum mapping to determine the gaps in the school's curriculum. The school's original charter allowed for a robust schedule of increasing enrollment. Just prior to the 2002-2003 school year, CSST's Board of Trustees requested permission to suspend its high school program for one year. Although the Institute was disappointed the CSST board waited to inform 9<sup>th</sup> and 10<sup>th</sup> graders enrolled for the 2002-2003 until just a few weeks before the start of the year, the Institute confirms CSST's need to focus on the core academic priorities and goals before entertaining additional initiatives.

### **School Climate and Discipline**

Although the administration made clear and decisive use of strong deterrents and consequences when warranted, many teachers lacked proficiency in setting and enforcing high expectations for behavior in their classrooms. Poor student behavior and low levels of teacher expectation were observed during informal visits and end of year inspection to be more pronounced in older grade levels.

Primary classrooms tended to be bright with current student work on display, books and materials visibly and readily available. In the best classrooms, students were generally engaged and responsive to teachers. In the intermediate grades, there were signs of students exploiting some teachers' inability to control their classes. In middle and high school grades, students were often allowed to follow their own preferences or those of their peers.

The school administration has developed an alternative education program for students who are consistently disruptive to the classroom environment. The program uses a temporary pullout model with the goal of building students' ability to function effectively in the school environment. The program includes academic instruction and social work support.

As the school has made discernable progress toward improving the behavioral climate, implemented a staff development plan to improve the effectiveness of individual teachers in addressing behavior, and developed systems to remediate students who persistently disrupt the learning climate, inspectors were prepared to recommend that the school had met the terms of its Corrective Action Plan, implemented during its first year. Nonetheless, inspectors make this

recommendation with the understanding that the behavioral climate, and its ability to support rigorous instruction, continues to warrant the attention of the school's administration and faculty.

The administration is aware of these facts and discussed with Institute staff a plan to improve teachers' classroom management abilities during a weeklong session in the summer of 2002. The tenacity and ownership with which faculty take on this task will be a significant determinant in the schools progress during the critical third year of its five-year charter.

### **Facility**

Institute staff noted improvement in the maintenance and cleanliness of public spaces in the school since last year's inspection. The principal noted that the school has engaged a new maintenance service that she feels better meets the school's needs. Classrooms were generally clean, though the least orderly in terms of behavior also appeared often to be the least orderly in terms of physical space.

The library and physical education spaces have been completed since last year. The library represents a particularly important addition to the school's facilities.

### **School Mission and Charter**

In a discussion with inspectors, the principal said the school has fully implemented its curricular model and has made strides to get student order and discipline under control during the 2001-02 school year. Inspectors generally agree with the assessment. However, Institute staff observed limited evidence that the school has effectively emphasized science and technology during its first two years of operation. In these areas, inspectors observed an overall lack of effective instruction, expertise and science equipment. Teacher use of laptop computers has been noted. However, student use of computers in the classroom was sporadic. Computer labs were in great demand but inspectors have not been able to ascertain a structured curriculum being followed. Clear learning goals for the use of technology, both for teachers and students, were not apparent. The school instituted CSST TV using the school's closed circuit television system this year. At this writing, it is being used primarily for daily announcements in the school.

The administration has chosen to focus on developing basic reading, writing, and math skills and to delay implementation of more peripheral parts of the CSST charter (e.g., sports, nutrition, health, etc.), a decision that appears to be well justified by student performance data.