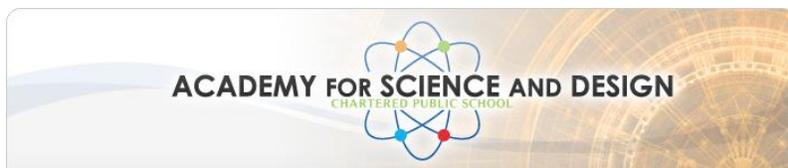


**NEW HAMPSHIRE DEPARTMENT OF EDUCATION
CHARTER SCHOOL ACCOUNTABILITY PROCESS**

**CHARTER SCHOOL RENEWAL VISITATION
SUMMARY REPORT**

**ASD CHARTER SCHOOL
ACADEMY FOR SCIENCE AND DESIGN**

486 Amherst Street
Nashua, NH 03063



Date of Site Visitation: October 15 and 17, 2012

Date of Report: November 9, 2012

Visitation Conducted by:



SERESC

Southeastern Regional Education Service Center, Inc.

29 Commerce Drive

Bedford, NH 03110

(603) 206-6800

www.seresc.net

Table of Contents

I.	Academy for Science and Design Overall Findings and Recommendations Summary	3
II.	Introduction	5
	A. Charter School Renewal Process	
	B. Overview of Site Report	
III.	Renewal Evaluation Team	6
IV.	Charter School Renewal Criteria	7
V.	Charter School Renewal Activities	8
VI.	ASD Charter School Profile	9
VII.	Focus Group Interview Summaries	13
VIII.	Commendations and Recommendations	17
	A. Progress Toward Meeting Mission	
	B. Responsible Use of Public Funds	
	C. Indicators of School’s Sustainability	
	D. Promoting Student Attainment of Expected Knowledge and Skills	
IX.	Findings	23
X.	Appendix A: Site Visit Schedule	24
	Appendix B: High School Graduation Requirements	26
	Appendix C: Student Demographics	27

I. Academy for Science and Design Overall Findings and Recommendations Summary

Overall Findings

In accordance with the criteria for Charter School Renewal (RSA 194-B:10), The Academy for Science and Design Charter School meets the requirements for: 1) Progress toward Meeting their Mission; 2) Responsible use of Public Funds; 3) Indicators of School's Sustainability; and 4) Promoting Student Attainment of Expected Knowledge and Skills. The ASD Charter School is recommended to the New Hampshire Commissioner of Education and the State Board of Education for Charter School Renewal.

A. Progress toward Meeting Mission Recommendations:

1. With respect to the mission, clearly define the role and purpose of the newly constituted Leadership Team and the Curriculum Coordination Team. Share this information with the staff and Board.
2. Focus on teaching, learning, organizational development, instructional leadership, and review of data related to student achievement in order to inform goal setting for the school and the staff.
3. According to ASD's mission, real life learning will occur. Because real life learning requires direct interaction with technologies, instrumentation and materials, seek /obtain funding to expand the current resources. The science classrooms need lab tables and counters, access to water and sufficient electrical connections, safe storage for chemicals and equipment, and lab safety equipment. Currently there are no appropriate spaces for conducting physics and chemistry labs.
4. The mission of being a world class standard-setting middle/high school requires world class classroom technology, such as Smart Boards, projectors, computers, printers, and high speed internet access. Seek/obtain funding to expanded student access to classroom technologies that include virtual learning across settings; including school, outside projects, and informal activities at home and in the community.
5. The Director should prepare a report for the Board detailing the current inventory of lab furniture and supplies, equipment and instrumentation, computers, and current software applications, followed by recommendations to the Board.
6. The mission calls for local, national, and global understanding on the part of its students. Similar to those made for science, with respect to classroom space and technologies, there needs to be an inventory of humanities, mathematics, engineering/design resources, and proposals made for improving students access to same.
7. Survey parents to determine their perceptions of the efficacy and implementation of the ASD mission.

B. Responsible use of Public Funds Recommendations:

1. To ensure that the school is responsibly using and monitoring public funds and communicating effectively and accurately about the school's financial situation, the Board of Trustees is strongly encouraged to develop fiscal policies and related procedures in the following areas:
 - a. Fiscal Accounting and Reporting
 - b. Financial Reports and Statements
 - c. Audits
 - d. Purchasing
2. The Director is strongly encouraged to:
 - a. Develop an internal controls manual, with assistance from the business manager and accountant, which details methods for handling financial transactions and the parties responsible for such tasks. The manual should be approved by the Board.
 - b. Develop procedures, with assistance from the business manager and accountant, that ensure financial data and economic transactions are properly recorded, and that financial reports necessary for management are prepared accurately and in a timely fashion.
 - c. Prepare monthly financial reports, with assistance from the business manager and accountant, for distribution to the Board of Trustees.
 - d. Prepare an annual operating budget of revenues and expenses, a cash flow projection, and have the Board review and approve these budgets and projections at a meeting, which is noted in the minutes.

C. Indicators of School's Sustainability Recommendations:

1. Since the effectiveness of the Academy depends upon continuity of leadership, it is incumbent upon the Board to identify and assess the specific reasons for the high rate of turnover in Directors. Having five different directors in five years is a challenge for any organization to effectively manage the year-to-year work-flow and accountabilities.
2. The Director's job is complex and demanding and so is the task of the Board with retaining a Director. To ensure both the sustainability and continuous improvement of the school program in accordance with the mission of ASD, it is imperative that the Board clearly define and support the role of the Director as the educational leader, focused primarily on leading the school in a continuous, stable process of instructional improvement toward the achievement of its strategic goals. In light of this focus in the Director's job description, it is strongly recommended that expectations of the Director to assist with peripheral and other tasks (e.g. fund-raising for basic operations needs) be substantially limited, in order for both the Director and Board to accomplish their respective goals for sustainability.
3. The Board is encouraged to develop an effective action plan, implementation and evaluation process, and provide the required resources for its Strategic Plan.
4. Professional development for staff must be on going and ideally will include attendance at conferences and workshops, graduate work, and ongoing Professional Learning Community conversations that are aligned to best practices. (An active membership in professional organizations such as the National Science Teachers Association, New Hampshire Science Teachers Association, National Council of Teachers of Mathematics, and New Hampshire Teachers of Mathematics is encouraged.)

5. Effective STEM education relies on the ability to motivate and inspire students. This involves creating exciting classrooms; individual and team-oriented experiences with the ideas, discoveries, and emerging knowledge in STEM fields. Investigate models of exemplary instruction in science and mathematics, as well as humanities, especially for middle school students.

D. Promoting Student Attainment of Expected Knowledge and Skills Recommendations:

1. Analyzing student progress must rely on multiple forms of assessments. Formative and summative modes provide data that can be used to adjust instruction to meet the needs of individual students and to monitor their progress. ASD is encouraged to investigate the variety of assessment tools available, such as authentic/performance assessments, NWEA, and the use of formative assessment probes (e.g. such as those described by Page Keeley, NSTA).
2. Ensure that teacher-developed assessments correlate with defined ASD competencies.
3. The assessments ASD designs must prepare students for the upcoming Common Core embedded state assessments.
4. The Director should regularly visit classrooms to provide direct feedback to teachers regarding student learning.
5. Develop written guidelines that can be used for the early identification of underperforming students and provide any necessary supports.

II. INTRODUCTION

A. Charter School Renewal Process

The requirement of New Hampshire RSA 194-B: 10 calls for the ongoing review of charter schools. The renewal site visitation to the Academy for Science and Design (ASD) Charter School on October 15 and 17, 2012 was conducted in the context of the five-year accountability process for charter schools as presented in the New Hampshire Charter School Accountability Process. As such, the renewal visitation was conducted for the purpose of assessing the relevance of the philosophical foundation and mission, the progress made toward academic, programmatic and organizational goals, use of public funds, defined measures of student proficiency and the sustainability of the school (see Appendix A: Site Visit Schedule).

The charter school renewal application process began with the charter school's submission to the New Hampshire Department of Education a completed Application for Renewal. Upon the initial review of the renewal application materials, the school was notified of the application's acceptance. The New Hampshire Department of Education contracted with an independent organization who assigned a team of specialists to conduct the renewal site visit and prepare a report summarizing the team's findings relative to the NH Charter School Accountability Process. Four key questions served as a framework for assessing progress in NH charter schools, and served as the major areas of inquiry for collecting and examining evidence. The four key questions are outlined below:

1. Is the charter school making progress toward achieving its mission?
2. Is the charter school responsibly using public funds?

3. Is the charter school promoting student attainment of expected knowledge and skills?
4. Is the charter school sustainable?

Consistent with the established criteria, in conducting the renewal visit the visiting team was attentive to the following:

- Implementation of the ASD Charter School Mission
- Effectiveness of ASD Charter School in terms of cost accounting and financial reporting
- Implementation and effectiveness of the ASD Curriculum, and defined measures of competency
- Indicators that the school and the school governing body function effectively and that there are systems in place for sustainability of the ASD Charter School.

After the renewal site visitation, the visiting team prepared a draft report and submitted it to the charter school for review. After incorporating any factual corrections, the team submitted the final report to the New Hampshire Department of Education for further action.

B. Overview of the Site Report

This renewal visitation report contains the following information:

- Professional biographies of the renewal visitation team members
- Charter school renewal criteria
- Charter school renewal activities conducted by the visiting team
- A school profile that provides contextual information regarding ASD Charter School
- The visiting team's findings and supporting evidence concerning the school's performance relative to its accountability plan objectives and measures

III. Renewal Evaluation Team

Lead Evaluator:

Dr. Edward J. Hendry

Ed is an educational consultant at SERESC whose services center on school improvement, special education, and charter schools. He received his undergraduate degree in biology, his master's degree in science education, and his doctoral degree in science educational leadership. Ed has had more than 40 years experience in the field of education. He has been a science teacher in both public and private schools and at the university level. He has served as a school administrator including positions as director of science; director of curriculum; director of accountability and assessment; associate superintendent of schools; and interim superintendent of schools. Ed worked for over thirteen years at the NH Department of Education as a science curriculum supervisor; a federal grant program administrator; and an administrator in the office of curriculum and assessment. He has had national, state, and local level experiences in science and mathematics curriculum design and student assessment; in establishing educational standards; and in working on large scale state educational assessment design and implementation. He has had extensive experiences in providing leadership in all aspects of the school and school district organization, development, and implementation of staff professional development for all employees that supports the efforts of school districts to improve instruction for all students.

Co-Evaluator:

Jane Bergeron, M.Ed., Education Consultant, SERESC

Jane earned her BS from Keene State College, with a dual major of special and elementary education and received her master’s degree in school administration and leadership from Notre Dame College. During her 27 years in education Jane has gained practical experience in Candia, NH as a special education teacher, special education administrator, assistant principal, and as a middle school principal in the ConVal School District and in Kittery, Maine. In addition, Jane has served as a special education consultant to the American School of Kuwait, where she was responsible for development and design of special education programming and hiring and supervision of staff. As an education consultant at SERESC, Jane’s work centers around special education, school improvement, charter schools, systems change, leadership and research-based strategies for improving student performance. Jane has had extensive training in coaching and mentoring, serves as a facilitator for several statewide initiatives, and is currently an adjunct faculty member at Plymouth State University and Southern New Hampshire University. Jane is a resident of Litchfield NH.

Co-Evaluator:

Dr. Richard Ayers

Dr. Ayers graduated from Norwich University with a BS in Mathematics Education, and received his Masters in Educational Administration in Educational Leadership from the University of Colorado. He also received his Doctorate in Education from the University of Colorado with a specialization in curriculum, instruction and educational administration. Dr. Ayers was a teacher at the middle and high school levels before entering into secondary school administration in Colorado and New Hampshire. After 16 years of serving as a middle/high school principal, he served as an assistant superintendent and superintendent of schools in New Hampshire. Dr. Ayers has taught graduate courses in education leadership and philosophy and ethics of education at the University of New Hampshire and Plymouth State University. Most recently Dick served as the Acting Executive Director of SERESC, where he was responsible for the oversight of all aspects of the nonprofit education consortium. Dick resides in Sanbornton, NH.

IV. Charter School Renewal Criteria

RSA 194-B: 16 (VI) defines the conditions for renewal of a New Hampshire Public Charter School:

VI. By the end of its final contract year, the charter school shall meet or exceed the objective academic test results or standards and goals as set forth in its application. If the school does not meet these results or standards and goals, it shall not be eligible for renewal of its charter. Assessment of the charter school’s attainment of performance targets sufficient to merit renewal of its charter will include the school’s cumulative performance across the five years of its initial term.

The process of re-authorization has multiple components and involves notification of the intent to seek re-authorization, an on-site visit, interviews and documentation. The process is as follows:

- Intent to Apply
- Submission of application for review
- School Review and on-site visit
- Dept of Education Review and recommendation to State Board
- State Board decision

As established in RSA 194-B:10, the requirements for renewal of the Charter School license are defined in The New Hampshire Charter School Accountability Process, that requires four indicator areas to be evaluated;

- (1) Progress toward meeting the Mission of the charter school
- (2) Evidence of the responsible use of public funds
- (3) The evidence of the student attainment of expected knowledge and skills
- (4) Indicators of purposeful planning for the school's sustainability

The on-site visitation team is charged with the responsibility of obtaining the evidence that substantiates the school's self-study and material representation of the above indicators.

V. Charter School Renewal Activities

The Academy for Science and Design (ASD) charter school was in its fifth year of operation during the 2011-12 school year. By statute for ASD to continue its operations the school was required to submit a charter school renewal application to the New Hampshire Department of Education (NHDOE).

The Department received a renewal application from ASD on March 30, 2012. The NHDOE then arraigned to conduct a comprehensive on-site review process to determine if the school had adequately fulfilled the promise of its original charter.

Southeastern Regional Education Service Center (SERESC) was selected by the NHDOE to provide lead evaluators for the renewal process. Dr. Edward J. Hendry, the lead evaluator for ASD, met with Jennifer Cava, the school director, on May 21st and August 15th to plan the on-site evaluation and to determine the required school documents for the on-site team to review. These pre-visits provided an opportunity to visit the facility, to meet staff and students, and to learn more about ASD's mission, history, as well as the curriculum and instructional models utilized at the school. During the pre-visits, it was agreed that the following documents would be provided to the lead evaluator prior to the visit:

- On-site visitation schedule to include the master class schedule
- List of the Board of Trustees
- Directions to the school
- School organizational chart
- Parent/Student Handbook
- Initial Charter application

ASD subsequently made arrangements for parents, Board of Trustees, students, and staff members to participate in focus group interviews on the days of the visits. An on-site team, consisting of Dr. Hendry, Jane Bergeron, and Dr. Richard Ayers conducted focus group interviews, made classroom observations, reviewed documents, and conducted team meetings on October 15 and 17, 2012.

Prior to the on-site visits the following documents were reviewed by Dr. Hendry at the NHDOE Charter School Office:

- ASD's Charter School Renewal Application
- ASD's annual progress reports
- ASD's Yearly Independent Financial Audits

- ASD's Quarterly budget reports
- ASD's Board of Trustee minutes (on-line at ASD website)
- ASD's Evidence of insurance coverage (i.e. liability, property, workers' compensation)
- ASD's Health, fire, and safety inspection reports

In addition, during the on-site visits the following documentation was provided for the visiting team:

- A school map, with corresponding teacher room assignments
- Curriculum materials, assessment tools, and current instructional practices
- School policies
- Current school calendar
- Student demographics and enrollment
- Student portfolios and work samples

After the on-site visitation overall findings of the school's performance and a recommendation for renewal will be presented to the New Hampshire State Board of Education and Commissioner of Education. The State Board of Education will make the final determination on renewing the charter school for another five years.

VI. ASD Charter School Profile

Mission

The Academy for Science and Design (ASD) is an open-enrollment public charter school for students in grades 6 through 12. The school was approved by the New Hampshire State Board of Education in March 2006, and opened in September 2007.

The mission of the charter school is to create a world class, standard-setting middle/high school that specializes in science, mathematics, engineering, and design; and that graduates students with in-depth subject mastery; real world laboratory experiences; and local, national, and global understanding and applications. In addition, the school will be recognized for its outstanding academic program and for well-rounded students with the capacity for high achievement and leadership in college, career, and society. ASD works diligently to establish a safe and nurturing atmosphere for students, as well as a welcoming setting for parents.

To foster its mission ASD offers areas of specialization for students: architecture and engineering; chemistry and bio-medicine; astronomy and astronautics; computer sciences; system design and simulation; environment and global sustainability; mathematics and physics; and aeronautics and aviation.

Program of Studies

The school's program of studies is designed to be well-rounded and integrated. In addition to the science, mathematics, and engineering course requirements, English, History, and Mandarin Chinese are required. The school tries to enable students to take other languages that interest them. Art and music ensemble and theory are also taught. Short six to eight week seminar courses in focus areas as well as other areas of student interest are offered by faculty, parents, and other community members with

expertise in a variety of topics as resources permit. (See Appendix B for High School Graduation Requirements.)

Students Served

The school is designed for students from all academic and economic backgrounds who seek a public school with challenging academic study in all areas, but uniquely specialized in science, mathematics, and engineering. Since opening, the school has grown from a student population of 30 students to its current enrollment of 409 students (the maximum student enrollment is 450 students). The students come from more than 30 New Hampshire communities and come from a variety of backgrounds, including public schools, private and religious schools, and homeschooling. Due to increased parent requests the school added a grade six program in 2012. Since the school's inception the school has graduated 5 students. (Appendix C: provides student demographics for the 2012-13 school year.)

Student Admissions

There are four criteria for admission eligibility:

- 1) The applicant student will have successfully completed the school year preceding admission with credits or creditable work in all core subjects with verification of last grade completed by the sending school district or Department of Education.
- 2) The applicant student demonstrates interest in sciences and academic study. The student demonstrates an interest in science and math from one or more of the following:
 - Student Academic Survey from ASD Admissions Procedure
 - Strong letter of recommendation from science/math teacher
 - Optional portfolio
 - Documented projects/experiments
 - Membership in science and math based extracurricular activities, e.g., First Lego League, Robotics, Science Bowl, Math Counts, Destination Imagination, or similar activities.
- 3) The applicant student and his/her parent agree to the mission of the school, its policies, program, and expectations.
- 4) The Admissions Committee agrees that the applicant is likely to benefit from this specific charter school program. The student demonstrates an aptitude in science and math from one or more of the following assessments:
 - Advanced course work in their school
 - ASD Placement Exam (Mandatory)
 - NECAP testing
 - NEWA testing
 - Outside Testing such as: PSAT, ISEE, Standardized IQ Test

Students seeking enrollment must complete ASD's application process which includes a completion of the application package, taking a placement test, and attending an information session. If there are

more applicants that have successfully completed the Application Process than available spaces in any grade or program, a lottery is conducted according to ASD's charter.

Student Achievement (A Sample)

The most recent NECAP results show 99% of the 7th grade students and 95% of the 8th grade students scored proficient with distinction in mathematics. In science 76% of the eighth grade students scored proficient with distinction. Students routinely place high in regional and national competitions, such as FIRST Robotics, Math Counts, Future Problem Solvers, and the National Science Bowl. One hundred percent of ASD's graduates have been recognized as New Hampshire Scholars and have entered post-secondary institutions - many of them receiving academic scholarships.

Governance

ASD is governed by a 15-member Board of Trustees that meets once a month and has general supervisory control and authority over the operations of the school. The Board has a statutory responsibility for reporting progress and achievement of the school's stated goals to the State of New Hampshire Department of Education. The primary responsibilities of the board include:

- Providing oversight functions
- Promoting the charter school's mission
- Taking the lead in planning and policymaking
- Raising funds

In order to focus on specific areas, the board has established the following committees:

- Finance
- Policy
- Funding
- Outreach
- Communication
- Strategic Planning

School Administrative Organization

The school's Director reports directly to the Board of Trustees and is responsible for the school's instructional leadership, daily operations, strategic planning with the Board, as well as ensuring the school's sustainability and advancement. The Director recently created a new administrative leadership team for the school that includes a full time business manager and a part time accountant; a full time coordinator of student services who supervises the guidance counselor; an operations manager; a registrar/Web master; and an IT/facilities coordinator. Brief daily meetings are conducted with the leadership team. The Director is creating a formalized faculty leadership council that will include a Dean of Faculty/Curriculum Coordinator's position. This position will work directly with a math/science lead teacher; a humanities lead teacher, a sixth grade lead teacher, and an engineering/design lead teacher.

Teachers

Currently there are 29 teachers at the school. The school teachers are experienced, certified teachers at the rate that meets or exceeds state percentage requirements for charter schools. The teachers are on professional growth plans to strengthen their content knowledge, teaching skill and capacity to collaborate. At ASD all core courses (English, History, Mathematics, Physics, Biology and Chemistry) are taught by NH state certified teachers. Classes in areas of specialization, such as computer programming and engineering, are taught by subject experts who do not necessarily have state certification but have sustained work experiences in those areas and have a strong desire to teach at the school.

Parent Involvement

The Board of Trustees encourages parent involvement, both at ASD Board meetings, and through the Parent/Teacher organization, the Academy for Science and Design Educational Foundation (ASDEF).

ASDEF is ASD's parent-teacher group and is organized for the purpose of supporting the education of students at the Academy for Science and Design Charter School by fostering relationships among the school, administrators, parents, teachers, and students, as well as to enhance the educational facilities, opportunities, and scholarships for the students of ASD. ASDEF serves as a vehicle to not only support ASD in providing important and concise communications, volunteers, fundraising events, extracurricular enrichment (Destination Imagination, Math COUNTS, Lego League, Robotics Team, Future Problem Solvers, etc.), and school events (Open Houses, Field Day, etc.), but to also assist ASD with mid-term to long-term needs such as building needs and operational costs and possibly a scholarship program for the future graduates of ASD.

ASDEF is incorporated as a 501(c) (3) tax exempt non-profit, which can take advantage of additional fundraising opportunities, including community grants, to help support the success of ASD and its students. The Annual Fund goal for the 2012-13 school year is \$150,000.

Funding

ASD's funding is limited to a state allocation of \$5,450, for each student enrolled and does not include revenue from local property taxes. Consequently, ASD must rely upon individual and corporate donations to close the gap between the state's allocation and the actual costs of operating the school.

Special resource needs of ASD include: (1) labs and related equipment and materials to support learning in science and engineering, especially those specific to New Hampshire industries and emerging technological careers; and (2) computer equipment and other digital tools for supporting networked and virtual learning across settings, including school, outside projects, and informal activities at home and in the community.

Partnerships

Current and developing partnerships include: Nashua Community College; Southern New Hampshire University, Daniel Webster College, New Hampshire High Tech Council, New Hampshire Public Charter School Association, National Science Foundation, Public Service of New Hampshire, Comcast Technology

in the Classroom, Civil Air Patrol, Bridgewater State University, FDIC, Elliot Hospital, BAE, Center for Innovation Schools, and the Department of Energy.

Transportation

No school transportation is provided unless students are coming from the Nashua School District. The ASD's parent-teacher organization, ASDEF, helps to maintain a student directory of contact information so that parents can work out car pooling arrangements among themselves.

VII. Focus Group Interview Summaries

School Leadership Focus Group Discussion

The visiting team met with ASD's Director, Business Manager, Coordinator of Student Services, Operation's Manager, Registrar/Webmaster, and IT/Facilities Coordinator for the purpose of hearing the leadership perspective on the school's successes and challenges and goals for the future. ASD has grown through a natural evolution that began with a focus on sustainability in the first few years and has progressed into a deeper emphasis on accountability and advancement. The school is focusing more of its attention on innovative teaching and learning strategies, fostering deeper partnerships with area colleges and industries, and exploring opportunities for onsite research for students and teachers.

The school has had to deal with some significant issues this past year including the hiring of its fifth Director in five years; finding a new facility to accommodate a dramatic increase in student enrollment (the school was moved from its Merrimack site to its current location in Nashua); moving all the school's furnishings using volunteers; hiring staff to accommodate the increased student enrollment; clarifying its admissions procedures; reorganizing the business office to make sure there were systems in place to ensure fiscal accountability; completing three years of back annual audits that are required by the State; establishing a strategic planning process; bringing order to the management and supervision of the school, including developing procedures for purchasing, reporting on the budget and approving the budget; establishing a shared leadership culture in the school; establishing a teacher supervision and evaluation plan for the first time; and establishing school goals for the first time (collaboration across disciplines and moving to project based learning in all classes).

The most challenging issues for the school leadership are stability in the Director's position and funding. Finding the funding for purchasing and installing science laboratories, especially for the middle school students, and acquiring adequate technology to enhance student learning and teaching is a top priority for the school leadership. The school has had to annually rely on donations to its Annual Fund to help cover its operating costs, let alone finding the funds for large purchases, like lab tables or science instrumentation.

Parent Focus Group Discussion

The purpose of the parent focus group was to seek feedback from parents regarding their perspective and involvement in their child's educational programming as well as their level of satisfaction with ASD's approach to instruction and the extent to which their students are demonstrating academic progress.

Twelve parents attended the focus group. The parents offered very strong positive comments about ASD. Most of the parents indicated that their children had not flourished in their previous school setting. Most of their children were bullied in their former school and were not academically challenged. At ASD their children fit in and student attitude towards school has changed significantly for the positive. Parents felt that the school has established a climate where learning is both expected and valued.

School funding was an issue for all the parents. Most parents wished that students had more access to lab equipment and technology, like Smart Boards in every classroom.

The parents valued the supports provided by the school, including outside school activities, (i.e. Lego league, the school play, and band). The parents felt that their children had the emotional supports they needed, like a functioning guidance office. Parents felt that the staff is extremely responsible and supportive of students' academic, social, and emotional needs; and that students feel like they have access to the Director at any time. According to the parents the staff faithfully uses FOCUS, the student management program, to inform parents of their children's progress. Parents also felt that a strong component of ASD is the student's support for each other.

Student Focus Group Discussion

The visiting team had an opportunity to interview numerous students during the on-site visit. Students were interviewed in small groups and in classroom settings where students were engaged in group work. One-hundred percent of the students interviewed were extremely happy with their decision to attend ASD. In their previous schools they were bored, bullied, or felt out of place. At ASD they feel that they are valued and have a voice; that they are challenged; that they are in a setting that values learning and in a very challenging environment; and that it is OK to be "me". The students feel safe in the school, that they have made friends, and the teachers care about them as individuals.

The students were able to describe competencies they were working on in class and were able to describe how their teachers evaluate success with the competencies.

The students felt that funding was the biggest challenge the school faces. The students would value having access to technologies that would enhance their learning, like a CAD program for design or analytical tools for a real chemistry lab.

Teacher Focus Group Discussion

The visiting team met with 10 classroom teachers to discuss the strengths of ASD and challenges the school faces.

The strengths articulated by the teachers included:

- Students at ASD are highly motivated
- Parents are motivated and engaged in their children's school work
- Parents are great to work with, they provide resources when needed
- The school provides opportunities to try out new teaching techniques
- The school is a friendly place to work

- The students bring in a world perspective
- Current leadership support
- Fortunate to have the current Director
- Feel that their voice is valued and that the school runs on consensus
- The academic rigor required of both the students and the staff

The challenges articulated by the teachers included:

- Funding
- The need for the infusion of technology into the classroom
- The lack of equipment, especially for conducting labs in science classes
- The classes in the middle school are getting too large
- Kids sit too much in middle grades due to lack of lab benches and equipment
- The open space, especially in the middle grades is too noisy
- Teaching load can be challenging
- After school and evening events are challenging due to travel constraints
- There are still issues with the physical plant that need to be addressed

Special Education Focus Group Discussion

The visiting team met with the Coordinator of Student Services and the school's guidance counselor to discuss special education and student services at ASD. The Coordinator is responsible for both Special Education and 504s and supervises the guidance counselor. The school has two SPED-certified teachers on staff as well.

There are 15 students with IEPs at the school, mostly with learning disabilities, including autism. None of the current IEP population requires classroom specialized instruction. Some districts do provide a tutor, especially in math. Some parents have opted out of the sending district providing SPED services.

At the beginning of the school year the staff is required to attend a meeting with the Coordinator of Student Services to make sure staff know which students are on IEPs or 504s and to review staff responsibilities, student supports, and monitoring activities that are necessary for students with disabilities or 504s to succeed at the school. Teachers who have students on IEPs meet with the Coordinator to discuss individual student annual IEP goals. In addition, staff members meet frequently during the school year with the Coordinator to discuss individual student progress on the goals. ASD has established an excellent working relationship with sending districts and communicates regularly and openly with the LEAs. By and large, the districts have been faithful about providing SPED services. The admission procedures include a process for collecting the necessary paperwork for students with disabilities. There is a section that has to be filled out by the parents on the student application for admission. The ASD staff knows that only parents can choose to enroll a child at a charter school and that it is the responsibility of the LEA to implement the Individualized Education Program (IEP) for the child attending the charter school. The ASD staff recognizes that it is their responsibility to provide accommodations for both SPED and 504 students. IEPs are available in the Coordinator's office. Staff has access to them at any time. There are 40 students on 504 plans. To better support these students the school has created a new position: 504 Coordinator/Liaison.

To better support students, the school is institutionalizing a Student Advisories Program. The overall purpose of the Student Advisory Program is to create a home base where students feel safe, supported, and understood by their advisors and each other. Each advisee will have an advisor who will support and monitor his/her overall experience and progress in school. There are issues students face at ASD that can best be addressed through advisories such as: transitioning issues, especially for new students to the school; challenges of coping with the high student expectations and rigor of the course work; anxiety over grades; time management; study skills; career planning, and socializing issues. The Coordinator of Student Services and the guidance counselor will be putting together a curriculum for the new Advisory Program.

Board of Trustees Focus Group Discussion

The Board members believe strongly in the mission of the school and are deeply committed to the school's sustainability. They feel that the students who apply to the school are underserved in their current school settings and that ASD provides a viable and unique option for parents to consider. The Board also acknowledged that the students enrolled at ASD value learning, especially in the STEM areas, and want to be in a school where they are challenged academically.

The Board works through a committee structure. For example, there is a strategic planning committee of the Board that is in the process of preparing a 3-5 year strategic plan for the school that will focus on a common and shared vision and sustainability. They want to determine exactly what kind of school they are trying to create now and for the future; and determine what it will take to get to that place. The plan will include a multi-year financial projection.

The Board recognizes its role to establish policy and to provide governance over the school's operation. The Board has had to face some major governance challenges this past year, including replacing its Director who resigned early in the 2011-12 school year. The school has had 5 directors in 5 years. The Board acknowledged that the school leadership needs to become far more stable and sustained. They created a new job description for the Director's position, which includes accountabilities. The Board is extremely pleased with the current Director and values her dedication, planning and the direction she is establishing for the school, especially putting processes in place that foster a culture of school improvement around a shared vision.

The Board was faced with additional challenges after the last director resigned. Many aspects of the school's operation needed attention, including completing three years of back annual audits that are required by the State. The Board was committed to analyzing the situation and turning-around the fiscal operations so that appropriate resources were in place to ensure that there is fiscal accountability. The Board hired a qualified business manager to oversee the business affairs of ASD, and contracted with an outside financial firm to conduct the three years of audits, which are now on file at the NHDOE and had no major findings. To ensure that the Board has the appropriate fiscal accountabilities in place they have implemented new procedures, including monthly updates on financials at each Board meeting.

Another challenge was finding a new facility to accommodate a dramatic increase in student enrollment and coping with the related costs and move within a very tight budget. They had to rely on volunteers to conduct the move.

Probably the biggest challenge for the Board is financial stability. They acknowledged that the \$5,450 provided by the State is not at all adequate to sustain and improve the opportunities for students at ASD. In order to meet its operating budget the Board has to rely on sustained fund raising and parent support.

The school recognizes that staff salaries and benefits are not competitive with public schools and they are concerned about staff turnover. In addition, they recognize that the facilities need improvements in order to foster an appropriate learning environment for students, including having equipped science labs and access to technologies that support student learning. The Board has established an Outreach Committee that will pull together resources necessary to reach out to local businesses for their support of the school. The Committee is working to establish business partnerships in which the partners commit themselves to specific goals and activities intended to benefit students and the school.

VIII. Commendations and Recommendations

- A. Progress toward Meeting Mission
- B. Responsible Use of Public Funds
- C. Indicators of School's Sustainability
- D. Promoting Student Attainment of Expected Knowledge and Skills

A. Progress toward Meeting Mission

Commendations:

1. The culture and climate of the school is warm, welcoming, and there is a real sense of curiosity and imagination.
2. The school has hired a Director and staff that is bright, dedicated to the mission, creative, and motivated to work with a unique student population.
3. Throughout the school there was evidence of critical thinking and problem solving.
4. Collaboration and team work (a hallmark of real world STEM careers) between students and teachers, between and among staff, with parents and teachers, and among students is evident.
5. Teachers demonstrate adaptability, curiosity, initiative, and effective communication skills, again attributes found in real world STEM careers.
6. Learning is relevant and challenging for all students, teamwork is an expectation; staff expect learning transfer and demonstration of competencies.
7. Students are encouraged to be active seekers of learning, thinkers and producers.
8. The Program of Studies details numerous course offerings across the STEM subjects, including Advanced Calculus, Advanced and Conceptual Physics, Survey of Engineering, Integrated Biology and Chemistry, and Technology Design.
9. In addition to their regular course work all students participate in an Internship/Apprenticeship, Senior Research Projects, and also must complete 150 Stewardship hours. This demonstrates the school's commitment to students learning in real world settings.
10. The school provides short immersion courses and seminars. Many students teach their own short course to other students, which have included Japanese Animation, Roller Coaster Design, and Mind Craft.

11. The school's Accountability Plan, required by the State, reflects the school's mission as it defines measures such as student achievement in science, mathematics, engineering and design, including their application to real world settings.
12. Faculty members have collaborated through Professional Learning Communities to accomplish a series of goals related to competency development and planning instruction around interdisciplinary themes.
13. Now that the school is in its sixth year of operation ASD is shifting its attention beyond sustainability to look more deeply at accountability and advancement of its mission. There is purposeful work being done to enhance innovative teaching and learning strategies, to foster deeper partnerships with surrounding industries and higher education institutions, and to explore opportunities for onsite research for its students and teachers that will support an authentic commitment to ASD's Charter and advance the mission of the Academy for Science and Design.
14. The Director advocates for additional funding for purchasing and installing science laboratories, especially for the middle school students, and acquiring adequate technology to enhance student learning, and teaching a top priority for the school leadership.

Recommendations:

1. With respect to the mission, clearly define the role and purpose of the newly constituted Leadership Team and the Curriculum Coordination Team. Share this information with the staff and Board.
2. Focus on teaching, learning, organizational development, instructional leadership, review of data related to student achievement in order to inform goal setting for the school and the staff.
3. According to ASD's mission, real life learning will occur. Because real life learning requires direct interaction with technologies, instrumentation and materials, seek/obtain funding to expand the current resources. The science classrooms need lab tables and counters, access to water and sufficient electrical connections, safe storage for chemicals and equipment, and lab safety equipment. Currently there are no appropriate spaces for conducting physics and chemistry labs.
4. The mission of being a world class standard setting middle-high school requires world class classroom technology, such as Smart Boards, Projectors, computers, and printers, and high speed internet access. Seek/obtain funding to expand student access to classroom technologies that includes virtual learning across settings, including school, outside projects, and informal activities at home and in the community.
5. The Director should prepare a report for the Board detailing the current inventory of lab furniture and supplies, equipment and instrumentation, computers, and current software applications, followed by recommendations to the Board.
6. The mission calls for local, national, and global understanding on the part of its students. Similar to those made for science, with respect to classroom space and technologies, there needs to be an inventory of humanities, mathematics and engineering/design resources and proposals made for improving students access to same.

7. Survey parents to determine their perceptions of the efficacy and implementation of the ASD mission.

B. Responsible use of Public Funds

Commendations:

The school has made real progress with this criterion. As described previously, the Board was faced with fiscal management challenges after the last director resigned. Many aspects of the school's business operations needed attention, including completing three years of back annual audits that are required by the State, and institutionalizing accounting, purchasing and billing practices that now meet acceptable standards for public school accounting. The Board was committed to analyzing the situation and turning-around the fiscal operations so that appropriate resources were in place to ensure that there is fiscal accountability. The Board hired a qualified business manager and a part time accountant to oversee the business affairs of ASD, and contracted with an outside financial firm, Nathan Wechsler & Company in Concord, NH to conduct the three years of audits, which are now on file at the NHDOE and had no major findings. To ensure that the Board has the appropriate fiscal accountabilities in place they have implemented new procedures, including monthly updates on financials at each Board meeting. The school has provided quarterly financial reports to the NHDOE, which have been determined as being compliant.

The current Director worked closely with the new business manager last spring to develop an annual budget that can be sustained by ASD's enrollment and is in support of student achievement. This process assists the Board with long-term fiscal oversight.

Recommendations:

1. To ensure that the school is responsibly using and monitoring public funds and communicating effectively and accurately about the school's financial situation, the Board of Trustees is strongly encouraged to develop fiscal policies and related procedures in the following areas:
 - a. Fiscal Accounting and Reporting
 - b. Financial Reports and Statements
 - c. Audits
 - d. Purchasing
2. The Director is strongly encouraged to:
 - a. Develop an internal controls manual, with assistance from the business manager and accountant, which details methods for handling financial transactions and the parties responsible for such tasks. The manual should be approved by the Board.
 - b. Develop procedures, with assistance from the business manager and accountant, that ensure financial data and economic transactions are properly recorded and that financial reports necessary for management are prepared accurately and in a timely fashion.
 - c. Prepare monthly financial reports, with assistance from the business manager and accountant, for distribution to the Board of Trustees
 - d. Prepare an annual operating budget of revenues and expenses and a cash flow projection and have the Board review and approve these budgets and projections at a meeting, which is noted in the minutes.

C. Indicators of School's Sustainability

Commendations:

1. Both parents and students expressed great satisfaction with the school.
2. An active parent organization is involved in all aspects of the school.
3. Parent participation activities show broad representation.
4. The Board functions in accordance with public meeting laws and regulations
5. The Board is preparing a 3-5 year strategic plan that will include multi-year financial projections to assist in planning, budgeting, and school development.
6. The Board has established an Outreach Committee that will pull together resources necessary to reach out to local businesses for their support of the school.
7. The parent organization, ASDEF, is incorporated as a 501(c) (3) tax exempt non-profit, which takes advantage of additional fundraising opportunities, including community grants, to help support the success of ASD and its students. The Annual Fund goal for the 2012-13 school year is \$150,000.
8. The Board hired a Director last year who is shaping a vision of academic success for all students; creating a climate hospitable to STEM education; cultivating leadership in others; and managing people, data and processes in a more efficient and accountable manner. The current Director is the fifth in five years.
9. The Director has established measurable objectives in the school's Accountability Plan. The objectives in the plan provide a framework for setting 2-3 annual goals. The setting of the goals is a collaborative effort between the administration, faculty, and the Board. The school goals will drive curriculum decisions and professional development for teachers. Progress on the goals will be reported by the Director to the Board each month.
10. There are strong indications of sufficient continuing enrollment to sustain the school's program and meet its plans for growth. The school has grown from a student population of 30 students to its current enrollment of 409 students, roughly doubling in size each academic year and added a sixth grade last year. There are two reasons for the growth of the student populations: 1) there continues to be a high demand for STEM education in the State; and 2) the general success of ASD's program.
11. The school acknowledges that there has been a slight drop in student enrollment at the upper level. The school began to address this issue in 2010-11 by focusing its attention on developing a curriculum at the upper level that includes more options and opportunities for extended learning opportunities in the STEM areas.
12. The teachers are experienced and certified at a rate that meets or exceeds state percentage requirements for charter schools.
13. The school is able to attract and maintain teachers in spite of the low salaries offered. The teachers like working at the school and value the emphasis on academic rigor.
14. The Director has implemented (for the first time at the school), a teacher evaluation system that includes measures of best practice instruction, the quality of the work produced, and related professional growth plans focused on improving student learning.
15. The students feel safe in the school; they have made friends, and know that the teachers care about them as individuals. To better support students the school has created a Student Advisories Program. The overall purpose of the Program is to create a home base where students feel safe, supported, and understood by their advisors and each other; and to

- ensure that the academic, emotional, physical, and social needs of each student are addressed and coordinated to support students in their growth and development.
16. Student academic progress and attendance are communicated to parents via the student management software, FOCUS. Teachers post all student assignments on FOCUS so that students and parents are able to plan ahead and stay connected to the course work. All members of the school community are given an account on FOCUS, as well as an email account.
 17. The school has been diligent over the years in completing and submitting to the NHDOE all required health, fire, and safety inspection reports.

Recommendations:

1. Since the effectiveness of the Academy depends upon continuity of leadership, it is incumbent upon the Board to identify and assess the specific reasons for the high rate of turnover in Directors. Having five different directors in five years is a challenge for any organization to effectively manage the year-to-year work-flow and accountabilities.
2. The Director's job is complex and demanding and so is the task of the Board with retaining a Director. To ensure both the sustainability and continuous improvement of the school program in accordance with the mission of ASD, it is imperative that the Board clearly define and support the role of the Director as the educational leader, focused primarily on leading the school in a continuous, stable process of instructional improvement toward the achievement of its strategic goals. In light of this focus in the Director's job description, it is strongly recommended that expectations of the Director to assist with peripheral and other tasks (e.g. fund-raising for basic operations needs) be substantially limited, in order for both the Director and Board to accomplish their respective goals for sustainability.
3. The Board is encouraged to develop an effective action plan, implementation and evaluation process, and provide the required resources for its Strategic Plan.
4. Professional development for staff must be on going and ideally will include attendance at conferences and workshops, graduate work, and ongoing Professional Learning Community conversations that are aligned to best practices. (An active membership in professional organizations such as the National Science Teachers Association, New Hampshire Science Teachers Association, National Council of Teachers of Mathematics, and New Hampshire Teachers of Mathematics is encouraged.)
5. Effective STEM education relies on the ability to motivate and inspire students. This involves creating exciting classrooms; individual and team-oriented experiences with the ideas, discoveries, and emerging knowledge in STEM fields. Investigate models of exemplary instruction in science and mathematics, as well as humanities, especially for middle school students.

D. Promoting Student Attainment of Expected Knowledge and Skills

Commendations:

1. The mission of ASD clearly states that promoting student attainment of expected knowledge and skills is primary.
2. Staff, students, parents, and Board members can explain in their own words the school's mission.
3. The school has developed a school improvement and accountability plan that includes measurable performance goals related to student achievement.
4. Student performance on the science, mathematics, and reading NECAP tests demonstrate exceptional levels of achievement, well above the state averages.
5. Student performance on the STEM gateway courses of Algebra I and II is commendable.
6. The school has instituted a student portfolio requirement wherein students are asked to review their work at the end of term and at the end of the year. They write a self-reflection paper on areas of growth and areas that still need to be developed.
7. The Academy has a process in place to determine mastery of subject, which is based on students' demonstrating course competencies.
8. Parents and community members can be seen in the school working with students or helping in a variety of projects that support student learning.
9. A plan is now in place for regular supportive supervision of staff to ensure that instructional practices focus on student learning and achievement and are aligned to the school's mission.
10. The Director regularly visits classrooms to provide feedback to teachers regarding student learning.
11. To enhance student achievement the school is focusing more of its attention on innovative teaching and learning strategies, fostering deeper partnerships with area colleges and industries, and exploring opportunities for onsite research for students and teachers.
12. The Director has created a Leadership Team at the school that will bring a stronger collective influence on student achievement.
13. Teachers support each other, serve as mentors to one another, and collaborate on ways to enhance student learning in the various content areas.
14. In past years the Board was responsible for the school's curriculum. The Board has assigned responsibility for curriculum development and assessment to the Director. This will provide a mechanism to ensure the incorporation of best practices into instruction.
15. Adults and students were observed supporting and encouraging academic engagement.
16. Communication with parents is frequent and provides a solid basis for focusing on student achievement.
17. Assessment tools used for monitoring student achievement include formal and informal, classroom, school, and state measures.
18. The curriculum includes multidisciplinary integrated thematic units that focus on real world problem solving.
19. Summer enrichment programs are provided for students.
20. ASD has made arrangements for students to participate in Learning Studios as part of the Next Generation Learning Initiative. This format will allow teachers from different content areas to work collaboratively with surrounding industry partners to tackle various academic or social questions, challenges or dilemmas and propose solutions.

Recommendations:

1. Analyzing student progress must rely on multiple forms of assessments. Formative and summative modes provide data that can be used to adjust instruction to meet the needs of individual students and to monitor their progress. ASD is encouraged to investigate the variety of assessment tools available, such as authentic/performance assessments, NWEA, and the use of formative assessment probes (e.g. such as those described by Page Keeley, NSTA).
2. Ensure that teacher-developed assessments correlate with defined ASD competencies.
3. The assessments ASD designs must prepare students for the upcoming Common Core embedded state assessments.
4. The Director should regularly visit classrooms to provide direct feedback to teachers regarding student learning.
5. Develop written guidelines that can be used for the early identification of underperforming students and provide any necessary supports.

IX. Findings:

In accordance with the criteria for Charter School Renewal (RSA 194-B:10), The Academy for Science and Design Charter School meets the requirements for: Progress toward Meeting their Mission, Responsible use of Public Funds, Promoting Student Attainment of Expected Knowledge and Skills, and Indicators of School's Sustainability. The ASD Charter School is recommended to the New Hampshire Commissioner of Education and the State Board of Education for Charter School Renewal.

Respectfully submitted,



Dr. Edward J. Hendry
Education Consultant
SERESC

Appendix A: Site Visit Schedule

ACADEMY FOR SCIENCE AND DESIGN CHARTER SCHOOL

NEW HAMPSHIRE DEPARTMENT OF EDUCATION CHARTER SCHOOL RENEWAL VISITATION

OCTOBER 15, 2012

SCHEDULE

Visiting Team: *Dr. Edward Hendry, Ms. Jane Bergeron, and Dr. Richard Ayers, Education Consultants, SERESC*

8:00 a.m.	Welcome, Introductions & Review of Schedule/ Breakfast	Conference Room
8:30 a.m.	Learning Studios, Observation & Discussion	Room 142a
9:00 a.m.	6th Grade Science Observation	Room 119
9:30 a.m.	Focus Group: Leadership Team	Conference Room
10:30 a.m.	Tech Applications & Society Observation	Room 110
10:50 p.m.	Literature & Writing Observation	Room 149
11:15 p.m.	Curriculum Committee Discussion	Conference Room
12:00 p.m.	Lunch	
1:15 p.m.	Project Based Learning Panel	Conference Room
2:00 p.m.	Integrated Biology & Chemistry <i>Exploring the Flipped Classroom</i>	Room 164
2:25 p.m.	Focus Group: Parents	Conference Room
3:30 p.m.	Wrap Up/ Debrief	Conference Room

ACADEMY FOR SCIENCE AND DESIGN CHARTER SCHOOL

**NEW HAMPSHIRE DEPARTMENT OF EDUCATION
CHARTER SCHOOL RENEWAL VISITATION**

OCTOBER 17, 2012

SCHEDULE

Visiting Team: *Dr. Edward Hendry, Ms. Jane Bergeron and Dr. Richard Ayers,
Education Consultants, SERESC*

9:00	Focus Group: Special Education	Conference Room
9:40	Open Time to Explore ASD	
10:40	Humanities II Observation	Room 148
11:15	Academic Review Board Chair Attendance Review Board Chair Master Staff Development Committee Chair	Conference Room
12:00	Lunch	
1:00	6th Grade Pre-Algebra Observation	Room 188
1:20	Conceptual Physics Observation	Room 167
3:30	Focus Group: Teachers	Room 148
4:30	Break/ Refreshments	Conference Room
5:30	Focus Group: Board of Trustees	Room 150

Appendix B: Graduation Requirements

Graduation requirements were researched to correspond to requirements for acceptance at colleges known for outstanding programs in science, math, and engineering. The school will respond to any new college requirements that emerge over time.

- Applied Mathematics through Calculus (5 Credits)
- Applied Laboratory Science (4 Credits required plus 1 Credit elective)
- Engineering (0.5 Credits required plus 0.5 Credit elective)
- Computer Science (0.5 Credit)
- World Language and Cultural Studies (3 Credits)
- English/Literature (4 Credits)
- Social Science/History (3 Credits)
- Visual and Performing Arts (1 Credit)
- Health and Fitness (2 Credits)
- Areas of Specialization & Inspiration/Electives (2 Credits)
- Stewardship Project (0.5 Credits)
- Junior Apprenticeship/Mentorship project (0.5 Credits)
- Senior Research Project (1 Credit)

Total Credit Requirements for Graduation from the Academy for Science and Design: 28.5

