



I EXECUTIVE SUMMARY

New York Academy for Student Success's (NYAS) purpose is to increase student achievement by engaging and exposing students to innovative science and math instruction while simultaneously providing a demonstrative site to improve math and science teaching and learning statewide. This will take place in a technologically advanced, safe, and disciplined environment.

Our current plans are to implement a Science, Technology, Engineering and Math (STEM) program, which focuses on math and science literacy. In addition to the STEM program, the curriculum will include music engineering. The instructional strategies taught by NYAS teachers will equip our students with the range of critical thinking and technological competencies needed to succeed in the global economy.

The academic goals of NYAS includes a 85% graduation rate, a 85% NYASing rate in standardized testing scores, and a 94% attendance rate. Upon graduating, NYAS would like at least 85% of graduating students will receive scholarships to post-secondary education

The relationship between the parents and NYAS will be one of accountability and responsibility. We will strive to involve the parents in every aspect of their child's learning experience. The relationship will begin before the school year in order to acclimate the parents to the program and the integral role they will play in their child's education. NYAS will require all parents to attend parent orientation before school begins. They will also participate in an interview with faculty during the summer before school starts. During the school year, there will be Saturday

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Enrichments and tutoring sessions for the parents and the student as well as a behavior Modification Plan (BMP) that will require weekly meetings with parents for those students that need more attention. In addition, the Student Information System (SIS) chosen for use with NYAS will include direct access for parents to their child's attendance, class assignments, and grades. NYAS will also partner with the Afterschool All Stars Program which provides fun and educational activities during the hours where school-aged children are most vulnerable. The parents will be in full partnership with NYAS in regards to the educational growth and nurturing of their children.

Evaluation Criteria

Mission Statement

NYAS mission is to increase STEM literacy by preparing students for the 21st century through effective and applicable instruction, knowledge, personal experience, and technological development.

Philosophical Statement

The founders of NYAS believe urban students lack the exposure to and experience with science and technology concepts to be prepared for the demands of a global economy heavily that is dependent on both. These students aren't able to make informed decisions about future employment or educational endeavors involving science or technology because their educational or personal experiences haven't included science or technology to the extent required. The founders of NYAS believe that situation must be reversed with the implementation of a STEM related curriculum that will encourage and increase scientific and technology literacy of urban high students.

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Just to name some of our school key elements and unique program designs:

- **STUDENT REGISTRATION**
 - Have student engage in a admissions essay
 - Intake meeting with student, parent and other support person
 - Review of student graduation status
 - Assessment & referral to address education, social/emotional needs
 - Sign student NYDE of conduct contract

- **ACADEMIC PROGRAM**
 - Development of educational plan, student goals and timelines
 - Individualized computer based curriculum (for those in need of credit recovery)
 - Title 1 tutoring
 - Earn credits for Associate's Degree
 - Higher education transition planning
 - Music Engineering program
 - Provide classes for the New York Regions Exam

- **SOCIAL/PSYCHOLOGICAL WELL-BEING**
 - Life Skills program
 - Hot Topic Workshops
 - Peer group activities

- **CAREER EXPLORATION/ PREPARATION**
 - Career Exploration Program
 - Resume development
 - Job Shadowing/Mentoring
 - Guided employment search

- **EXIT**
 - Earn high school diploma
 - Obtain an associate's degree
 - Attend a college or university
 - Secure gainful employment

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Founding Group Govern Board and Management Structure

A. NYAS has incorporated at the state level as a non-profit, but will submit the required documentation to the Internal Revenue Service to secure the Federal non-profit status when appropriate.

B. The internal management of the academy is comprised of the Board of Directors, and an Executive Director and a Treasurer. The Board of Directors is the entity that functions with the best interest of the public and school in mind by maintaining accountability, safeguarding public trust and carrying out the charter of NYAS. They will manage the affairs of the school and its members will be committed to a quality public education for children, have the NYAS ion to work on behalf of students, and will allocate the appropriate time to execute responsibilities. To that end, a minimum of a seven member Board of Directors comprised of five community residents and two parents will govern NYAS.

C. The Board will contract a one year comprehensive fiscal management service. This Fiscal Management group will oversee the preparation of budgets, financial statements, payroll, accounts receivables and payables, audit management, records management and BETS/ATS functions. The Board will also contract an Operator who will serve as the school's mentor and provide additional information, suggestion and input concerning implementation of the school's educational and operational plan. The Board will consider other consultants when necessary for the federal grant application.

D. The founder and developer approached community leaders representing successful non-profit organizations, for-profit entities, educators, parents and university administrators. These individuals indicated an interest and enthusiasm for sharing their respective talents and expertise as Board members for NYAS. Many of these founding Board members' organizations currently serve the families targeted for recruitment.

E. The Board members will attend at least five hours of Board training sessions. Members will be encouraged to attend meeting facilitated by the school lawyer and the Department of Education that deal with operational aspects of NYAS. If possible,

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members will participate in community training sessions to develop grant writing and fundraising expertise.

F. Participation in Board training sessions will prepare members to understand their function as policy makers and implementer monitors of fiscal activities, and fund raisers.

I. STUDENT POPULATION

A. Student Enrollment

Grade	2011	2012	2013	2014	2015
9th	100	50	50	50	75
10th		100	50	50	75
11th			100	50	50
12th				100	50

B. Target Populations /Evaluate Criteria

"Our country is facing a shortage of professionals in science, technology, engineering, and math (STEM) fields and a shortage of students entering those fields," said I. P. McPhail, Ed.D., chief operating officer for National Action Council for Minorities in Engineering (NACME), at the organization's 2008 National Symposium. "How can we protect American competitiveness in STEM by tapping minorities traditionally underrepresented in those fields?" McPhail queries. NYAS will serve a population of mixed and varied student abilities. Some students will enroll in NYAS with high-performing credentials; some will come to us at one to two years below grade placement; some will display student disability characteristics. Based on a New York City Geographic District #18 profile, NYAS expects that 5% of its population will be students with disabilities; 30% will be below grade level, 85% are children eligible for federal free and reduce lunch and the remainder of the students will display reasonable expectations for success. NYAS will serve identified students in the same manner as the local educational agencies. While New York City Geographic District #18 show a graduation rate of an average 30%, NYAS aspires to attain an 80% graduation rate. Disporportionality will be continuously monitored and amended as we engage the principles of Response to Intervention (RTI). Federal funds Title I-A, Title V, and Title II-D will be utilized to serve appropriate needs of students with disabilities. (613(a)(5);613(e)(1)(B) Marketing efforts to recruit its students include a broad outreach

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to parents, educating them in the concepts of a STEM-related curriculum as well. NYAS has developed a recruitment strategy that will reach Brooklyn area newspapers as well as community cultural centers (i.e. Asians, Africans, and other ethnic groups). NYAS plans to attend community cultural events and recruit via culturally sensitive media such as Hispanic radio and television stations. Open House invitations will be distributed to

perspective parents and students. Flyers and posters have been circulated in surrounding neighborhoods. Billboards, print advertisements, direct mailings, radio announcements, postings in libraries and community centers have also be utilized. A recruitment specialist will be hired to focus on and to oversee recruiting and enrolling students/families to the school via the aforementioned marketing methods. Student recruitment began in January 2010 and will continue until the 100 capacity is reached. In order to address the various needs and issues of the student population, NYAS has created an Academic Skills program to serve as a foundational skills class for struggling students. An intervention specialist will individualize instruction, create IEPs if required, and work directly with school-based tutors to meet the needs of our students that are LEP, ELL and SWD. NYAS will also engage parents as intervention partners to assist with home/school alliances including a student management system that will allow parents' direct access to their student's attendance, class assignments, and grades. Guidance counselors will be employed to address the psychological, sociological, and developmental needs of all students, 9-12. Partnerships with sounding Colleges and Universities will provide the necessary guidance and direction to enroll students into their institution. This post secondary education partnership will not only allow our students to receive college credit for technology and engineering courses but will also provide hands-on college experience on campus. Dual-degree programs will be pursued. Since NYAS believes that our students learn best through personal experience, we have partnered with the Youth for Understanding International Exchange Program. This organization will allow our students to receive scholarships and to travel abroad to countries like Korea, Japan, and China to see how STEM personally relates. Internships and apprenticeship options with Honda and Battelle will also be explored. These samples from a body of research conducted by NYAS are directly aligned with the school's philosophy, mission statement, and goals. NYAS will include the study of best practices to reinforce our mission to provide an active, hands-on, interdisciplinary learning environment. Paramount to the success of our program is the use of innovative teaching methods, the successful integration of technology, and the use of higher order questioning strategies to develop our students into critical thinkers. These paradigms will be fused and supported with Marzano's research titled Classroom Instruction that Works as well as Gardner's research on multiple intelligences to produce an evocative, stimulating PD program. Gardner's work clearly addresses the ELL/LEP and the SWD. NYAS is as noted in Sections 1 and 2, based on a culturally sensitivity mNYDEI described in part by Dr. McPhail. . If test results show a

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student's aptitude or skill level is dramatically below grade level one enrollment at NYAS, attempts will be made to secure records from the previous school to ascertain if previous formal testing had been completed. If a 504 plan IEP has been developed for that student, it will immediately be activated at NYAS by the appropriate instructor. If there are no previous test results or educational plans in place, the intervention team will convene to identify the course of action to be taken for this school. Based on the

team's assessment, a decision will be made for providing that student with the level of remediation needed. The teams' decision may dictate an intervention strategy, specialized testing, etc.

An LPDC will be formed to assign CEUs to the PD programs which will promote teachers' ability to fulfill appropriate licensure requirements. We will hire only highly qualified teachers per federal guidelines outlined in No Child Left Behind. A Peer Assistance and Review (PAR) program will be created, capitalizing on the classroom observations and teacher evaluations rated against an educational practices rubric.

A. NYAS will reside in the New York District #18. New York School geographic District #18 has eight high schools in the 11236 zip code Brooklyn area, one which is a charter school. is in good standing on the school's academic report card with the designation from the State of New York Department of Education. The school has met in School Environment an (A) School Performance (D) School Progress (D) but the overall score is a (C), state Indicator reaching 10.4 Points out of 25 in their Performance Index Score. Williamsburg Charter High School has a status that met for the Adequate Yearly Progress.. The scores for math and science standardized testing are low even for the gifted students in this population. When reviewing test results of the racial segments of students it is noted that minority students are scoring lower than all other groups and male students score even lower. Although the students' standardized test results have improved, they are still below the state average. The school has 580 students with 60% Hispanic 29% black, 10% white, and 1% other. The majority of the students are economically disadvantaged.

B. NYAS Academy will be located in the 11236 zip code Brooklyn area in which 72% of it's' residents are black and 16% are white. The median household income is \$52,050. 20% have income below the federally designated poverty level. 73.7% of the residents age 25 and over have at least a high school diploma while only 19.% have a Bachelor's degree or higher.

The academic demographics of the zip code NYDE provide a plethora of community and public schools ranging from elementary to high school. These schools offer a range of

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academic programs to the students in the area. But there are many schools that are not in academic (Good Standing) and therefore present an opportunity for strong recruitment results for NYAS Academy.

C. High Schools in 11236 Zip Code NYDE

School	NYC STATUS	Free/Red Lunch	School Type
High Schools			
Brooklyn Bridge Academy	Low	97%	Public
Victory Collegiate High School	Low	29.9%	Public
South Shore High	N/A	0%	Public
Brooklyn Generation School	Academic Watch	84%	Public
Williamsburg Charter High School	Good Standing	88%	Charter

An infusion of math and science instruction to prepare students for different career choices would be invaluable in this community even though some of the schools have earned an Effective or Continuous Improvement rating. Providing the students with additional S.T.E.M. instruction would also be beneficial as many of the students scored below the state mandated level of 75% in math and science.

Two of three of the existing middle schools are currently in an emergency or watch status. Therefore parents will be particularly attracted to NYAS Academy’s intensive math and reading programs for those youngsters who are performing below grade level. Although this group of youngsters may not qualify for special education instruction, an individualized educational plan will be created and implemented to allow them to achieve

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grade level competency within one to two years. The school plans to contract special education specialist to assist with organizing children with disabilities.

Even though the high schools located in the 11236 zip code Brooklyn area aren't experiencing failing academic difficulties, NYAS Academy will become a desirable school for youngsters as a result of its rigorous curriculum and the fact that it'll be the only such school with an S.T.E.M. focus. NYAS Academy elementary students will have a very challenging academic program with literacy and math as its cornerstone. Online Saxon Math and Reading programs will equip students with a superior foundation of skills. This is especially true of Saxon's literacy program as it offers students a

balanced selection of phonics, whole language, writing, and spelling instruction. The Saxon programs have the flexibility of being used in whole class environments or remedial and enrichment settings. The introductory, reinforcement and homework components serve to strengthen early conceptual and application skills in preparation for advanced information. The parent support materials and ongoing assessment feature will further prepare students to excel at higher levels of each subject. Math and Reading instruction will be supplemented with developmentally appropriate hands on S.T.E.M. related activities to engage students as they develop skills and experience the exhilaration and satisfaction of exploring via science, technology and engineering projects and activities.

MARKETING STRATEGY

NYAS recruiting and marketing campaign will consist of the following strategies that will target even the most difficult to reach families:

- A. Website: The NYAS web site at WWW.NYAS.ORG will provide the community with an overview of our vision, mission, staff profiles, curriculum highlights, and a detailed explanation of the registration process. In addition, parents will have an opportunity to download registration forms for completion and obtain contact information for individuals who can provide future assistance. We will post a calendar of activities which will include orientation sessions and the open house visitation schedule.

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Public Service Radio Announcements: NYAS will begin radio announcements informing the community of the school's opening and registration process approximately 8 weeks prior to opening.

Newspaper Notifications: An overview of our vision, mission, curriculum and the registration dates and times will be published in selected community newspapers.

Brochures and flyers: Our staff will work with targeted community churches, youth recreational centers, and restaurants to post flyers and distribute brochures at those locations. All print marketing materials will be produced in English and Spanish.

Door- to- Door Campaigns – NYAS Academy recruiters will target communities for door-to-door solicitation of students.

- B.** Through recruitment and admissions practices, NYAS will strive to achieve racial and ethnic balance among its students reflecting the general population of the New York School geographic District #18 district. The racial and ethnic composition will be Asian American 2.36%, African American 72%, Hispanic 1.07%, Native American .18%, Multi-Racial 1.40%, and Caucasian 17%. NYAS will institute a fair and open student recruitment, application, and enrollment plan. The NYAS staff will comply with the New York Charter School ACT Law. The marketing plan execution will be monitored to ensure that it is demographically representative of the community served. We will distribute an admissions policy in writing in order to reduce the possibility of contending with disgruntled parents who do not understand timelines, requirements, and other admission criteria.
- C.** NYAS will adhere to the admission policy in accordance with the New York Revised CNYDE section S. 2854(2). Our enrollment policy states that all students in Brooklyn and contingent areas are welcome to attend the academy. NYAS is open to all students in the New York School geographic District #18 district and contingent districts in grades 9-12. Preference will be granted to those residing within New York geographic District #18 boundaries. There will be no discrimination in the admission of students to NYAS on the basis of race, creed, color, handicapping condition or sex. NYAS will not exclude students based on intelligence testing, past achievements, or athletic ability. The academy will not enroll more students than is identified in the contract. Information.

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Following is the recruitment timeline:

March - Distributing marketing literature at libraries, churches, centers.

March – Facilitated community information sessions at the libraries.

March – Facilitated information sessions at elementary / middle schools.

April - Will launch 2 week radio advertising.

April – Will continue convening parent information sessions at libraries.

May – Will revisit parents to collect applications.

May - Will implement 2 week advertising campaign.

June – Will begin going door- to- door for recruitment.

June – Will purchase booth space at 2 community events for recruitment.

July – Revisit parents to collect enrollment documentation.

July – Host a family event to provide program and curricular info.

August – Host a building and open house tour event to introduce staff.

II. School Design

- a. The school plans to increase student achievement by taken student data and driven the curriculum for math and reading. We will create learning communities, and evaluate outcomes. We will approach this student achievement with the Japanese lesson study which is supporting the beginning teacher and principals with mentors. District wide trainings and implementing vocabulary programs.

- b. NYAS goals are to have at lease an 85% graduation rate. We will address this by implementing a credit recovery course for those individuals who have not received a NYAS grade during seat time. This course will be design as a web base class. The services will be rendered by PLATO

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- c. curriculum which will be aligned with the New York state standard. This will allow children to be held accountable and work at their own pace to receive the credits they need to graduate.
- d. The assessment system will be standards driven, student centered, learning focused. Its curricular aims will prepare the student for post-secondary success. It will serve all students, measuring student performance across the full scale of proficiency and mastery, so that it is relevant for excelling, achieving, and struggling student across grades and between schools and between districts. It will enable others who provide external assistance to access results and provide recommendations to improve learning.
- The assessment system will support instruction. The system will be based on curricular aims that succinctly and clearly describe the desired student mastery of a manageable number of curricular aims and knowledge content that build directly to post-secondary success.
- The assessment system will help the academy effectively educate their students. The curricular aims of the system will support the mission that all students graduate with the skills necessary to succeed in future endeavors and work in an increasingly competitive world. It will be understood by, and be useful to, the educators. An assessment system will be reliable, valid, consistent with assessment standards, and compliant. It will measure student mastery of and proficiency in New York 's standards; meet requirements of federal and state law; preserve data from previous assessments; and enable use of historical data for the student, school and district.
The academy's assessment system includes achievement, diagnostic, school developed assessments and classroom assessments. Each provides invaluable information to educators, parents, students, and communities. While each piece supports the others, individual tests serve their own purpose. The achievement tests measure student achievement in the content areas and shows evidence of continuous improvement. They also provide data for the school's accountability system. Diagnostic tests monitor student progress, impacts instructional decision-making and generate information for students, parents and teachers. They may also be used as screening measures. Classroom assessments measure process as well as product of student understanding. In addition, they also inform teachers and students about progress and provide information for instructional planning. These could be end-of-course exams, end-of-chapter

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Quizzes, oral presentations, and projects. Students will complete the following formal tests:

- Iowa Test of Basic Skills
 - Stanford Achievement Test
 - American Guidance Service Diagnostic Tests
 - Otis-Lennon School Ability Test
- e. NYAS will establish a data coordinator responsibility within the administrative ranks. Additionally, NYAS will establish a Data Analysis/Improvement sub-committee of the Professional Learning Committee (PLC) to identify data to substantiate the progress in achieving our goals and objectives. In turn, the results will guide decisions to modify strategies and action steps to meet the stated goals and objectives. The New York Decision Framework and the New York Improvement Process (DF:OIP) will be the overarching format for collecting, analyzing, and implementing changes suggested by the data. The DF:OIP will be initialized with staff and parents during the first professional development as well as during the parent workshops scheduled for July-August, 2011.

The articulation for the data and analysis will be founded on the work of Dr. McNulty of the Leadership and Learning Center. The core strategies outlined in Robert Marzano's book, Classroom Instruction That Works will also be included in the analysis. Links within the teaching and learning environment will capture data related to curriculum alignment, classroom instructional management, school climate, student motivation, and parent engagement. Data collection will include student profiles transferred in from the students' prior school including pertinent assessments such as district testing, OAT/OGT results, and ancillary data such as attendance, credit transcripts, citizenship/career activities, special needs including IEP information, and disciplinary actions. Other early capture of data will include NYAS skill assessments in reading and mathematics based on the Glencoe, Saxon, and Lindamood-Bell curriculum supports. The DF:OIP will be initially populated from the above data and while our goals will remain in place, some action steps may be modified to reflect the data. We are committed to allow early data analysis to drive our school operation, our identity, and subsequently, our academic performance. There will be no official Regions Exam data available to us until late June, 2011 or final test results until August, 2012; therefore, the internal data collected throughout the year and analyzed on at least a quarterly basis

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will provide some insight into the overall success in meeting our stated goals. Our goal will be to meet Adequate Yearly Progress in reading and mathematics. Value-added measures will also be available and be closely analyzed for achievement and progress year to year. The short-cycle and summative achievement data should provide a contextual basis for our PLC to address curriculum alignment, classroom instructional practices, professional development, instructional resources, and parent engagement. Data analysis will be completed by multiple groups within the school community.

f.

NYAS acknowledges the importance of sound, scientifically research-based professional development that is on-going and meets the needs of all administrators, teachers, and staff and surrounding schools. Studying the large body of work by D. B. Reeves, we realize that the most effective professional development programs have their tenets and goals rooted in impacting classroom instructional practices which, in turn, directly leads to improved student achievement. We have allocated 15 days for PD; 5–8 of those days will occur in the summer prior to the opening; the remainder will be interspersed throughout the school year. Much of the foundational elements of the PD plans will be addressed in the final application with the added inclusion of the development of a school wide discipline plan conceptualized by administrators, teachers, and staff of the school as well as for our schools in the

community that are have low-performance to be mentor by our PD leaders. Input from parents and board members will also be encouraged to enhance all aspects of our PD plans. NYAS has chosen to identify two general categories of high-quality, meaningful PD which we will deliver during the course of the school year. Foremost is our desire to build a Professional Learning Community whose characteristics and practices include, but are not limited to, ensuring that all students achieve, establishing a culture of collaboration from the area schools and leaders of the community , and judging our effectiveness on the basis of results.

NYAS Academy has incorporated at the state level as a non-profit, but will submit the required documentation to the Internal Revenue Service to secure the Federal non-profit status when appropriate. . The internal management of the academy is comprised of the Board of Directors, School Principle, the Executive Director and the Treasurer for the school. The Board of Directors is the entity that functions with the

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best interest of the public and school in mind by maintaining accountability, safeguarding public trust and carrying out the charter of NYAS. They will manage the affairs of the school and its members will be committed to a quality public education for children, have the NYAS to work on behalf of students, and will allocate the appropriate time to execute responsibilities. The Treasurer, advisors, and Board of Directors will identify the reporting needs of the Department of Education, the auditor, sponsor and other agencies and will delegate the responsibility of collecting, organizing and submitting reports.

G. NYAS will partner Project Lead the Way (PLTW) which has an articulation agreement with Rochester Institute of Technology (RTI) in one of the third largest city in New York State, Rochester is home to not only RIT, but to 11 colleges and universities that our students that attend NYAS will either visit on Collage visit days. The PLTW gives an advantage over some other school districts because it will provide our high school students with a post-secondary credit towards college. NYAS will also partner with engineering companies from computer technology to auto mechanical businesses for an out of the classroom experience through an internship. The school also has support through Total Education Solution which can render Special Education Services to all students with ELL, and SWD. They will also assist with identifying and other student that may need special services through the RTI process. We also has support through local churches, libraries and other community involvement. Founders of NYAS research there observations and subsequently found the following to be true as captured

in the following conclusions by I.P.McPhail, Ed.D., chief operating officer for National Action Council for Minorities in Engineering. (NACME, 2008) McPhail concluded that urban students often have difficulty making informed decisions about future employment or educational endeavors involving science or technology because their educational or personal experiences haven't included science or technology to the extent required. He further contends, "Our country is facing a shortage of professionals in science, technology, engineering, and math (STEM) fields and a shortage of students entering those fields... and how can we protect American competitiveness in STEM by tapping minorities traditionally underrepresented in those fields?" Armed with this research, founders began the journey to establish NYAS for unsuspecting students to do great things. The planning was characterized by neighborhood canvassing and talking with parents in areas that have high poverty and low graduation rates, and parents wanting immediate and long term educational opportunities for their children. Those parents became active focus groups to identify their children's needs as well as their need as families supporting their children's education. Businesses and organizations the

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Center of Science and Industry and the King Arts Center became valued contributors to the conceptual framework for NYAS. RTI representatives offered continuous insights into the dynamics of providing academically challenging curriculum for students potentially disengaged from the rigors of advanced mathematics, science, and technology. Since NYAS believes that our students learn best through personal experience, we have partnered with the Youth for Understanding International Exchange Program (YFY). This organization will allow our students to receive scholarships and to travel abroad to countries like Korea, Japan, and China to see how STEM personally relates. Internships and apprenticeship options with Honda and Battelle will also be explored. Additionally, collegial exchanges with other STEM schools such as MC2 provided the benchmarks for developing an academically high performing school. The three dimensional planning components consisting of parent, business and community resources and operational schools served as a basis for the planning and all continue to have a role in the implementation of the school as articulated in other sections of this application. The development of the Professional Learning Community (PLC) dramatically expands the initial planning formats and, in fact, enhances the role of parents, business, and community leaders, and other STEM schools. As noted in our description of the board membership and operator, those same members will be included in the PLC and therefore explicitly part of the continuum of planning, implementation, and evaluation. NYAS will hold an “open-door” policy encouraging parents, business partners, and community leaders to visit the school, observe its innovative teaching methods, and participate in its curriculum. NYAS welcomes the input of all valued stakeholders and views their contributions as vital to the continual success of the school.

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Evaluation Criteria:

NYAS has diligently researched the curriculum and practices of STEM-related programs through study and observation. Using the New York STEM school network as a resourceful guide, as well as the large body of work by Janice Morrison of TIES (Teaching Institute for Excellence in STEM) NYAS endorses and commits to the following concepts and design principles: STEM schools embrace a comprehensive education philosophy, based on student inquiry and experience. STEM schools thrive in a tightly articulated K-12 education continuum, where students cultivate a NYAS ion of STEM subject matter in the early grades and experience internships and apprenticeships in the later grades. STEM schools educate the “whole” child, incorporating the arts, languages, and humanities.

STEM schools employ an interdisciplinary approach to learning; encouraging collaboration and collegiality. STEM schools engage students early and often in technological processes to enhance their personal learning experiences as well as to build their technology literacy for the future. NYAS intends to challenge its students to become problem-solvers, innovators, inventors, designers, and logical thinkers. The National Science Foundation tells us that 80% of future jobs will be in STEM-related fields such as science, biology and computer technology. The Occupational Outlook Quarterly reports that STEM workers earn approximately 70% more on the average which translates into incomes of \$74,000 versus \$37,870. Jan Morrison, in her Education Week article published in March, 2009, in collaboration with Raymond Bartlett, writes, “Our observation is that these (STEM) efforts must be homegrown to succeed. Success will demand, for example, that the community make internships available to all students who need or want them.” In addition to extensive research, the founders of NYAS have visited two successful STEM programs operating in New York. MC2 in Cleveland and the Metro School in Upper Arrington were greatly influential in the design of NYAS. The developers found the programs in both schools exciting and inspirational and, from the observations and experiences gleaned from his visitations; we resolved to support and uphold STEM practices at NYAS. Housing a 9-12 population, NYAS has a compelling opportunity to develop a strongly articulated, Professional Learning Community. One of several positive by-products of the 9-12 configurations is that it fosters a thirteen year commitment to NYAS for its students and families. An increase in parent involvement and the sustaining of that involvement, especially in the upper grades, is more likely to occur. Additionally, the 9-12 school will promote cross-age activities with older students who will become role model for the younger children. Teachers also benefit from the 9-12 configurations as it increases

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their opportunities to collaborate and mentor as well as to provide continuity in their instruction from grade level to grade level. (NWREL, 1999) By studying the research of Simons and Friedman whose findings were published in April 2008, NYAS acknowledges that there are challenges in educating a diverse population. Three such challenges are foremost in the planning and strategizing for our effectiveness: the achievement gap, the lack of parental involvement, and teacher quality. We will address the achievement gap challenge by committing to early rigorous assessment, frequent substantive data collection, and swift, subsequent analysis to identify strengths and weaknesses of every student. Regarding the parental involvement challenge, NYAS will dedicate time and resources to aggressively recruit parents to share not only in their child's education but also in the community of the school. We will attend to sustaining teacher quality issues with an entry-year mentoring program and ample professional development that will result in the establishment of a Professional Learning Community.

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