



The New York City Department of Education



Quality Review Report

Bronx High School of Science

High School 445

705 West 205th Street

Bronx

NY 10468

Principal: Valerie Reidy

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Reviewer: Chrissie Pittman

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Part 1: The school context

Information about the school

The Bronx High School of Science is a large high school serving a culturally diverse population of students from all the New York boroughs. Admission is by an entrance examination and the school has 2,488 gifted and talented students from grades 9 through 12. The greatest proportion of pupils (57.2%) is Asia. The next largest group (28.5%), is White, 7.2% are Hispanic, and (4.2%) are Black. All students speak English fluently, although they speak diverse languages at home. The services the school provides for the very few English language learners are very good. Similarly, the number of special education students is so few that they do not constitute a formal group but the services provided for them are also very good. The school is not in receipt of Title 1 funding. Attendance is 96% which is much higher than in similar and City schools because of the emphasis the school places on this aspect.

Part 2: Overview

What the school does well

- The principal is an inspirational leader, manages the school excellently and is highly respected by staff, parents and pupils alike.
- Students achieve very well, are making excellent progress and say the school has taught them to be 'life long learners.'
- As a result of excellent data analysis, planning and links to instruction, achievement in English, mathematics, science, global history and United States history is very good
- Teachers set very demanding targets for the students which promote their high achievement levels.
- Relationships between the students and between students and their teachers are excellent.
- School leaders use extensive data to understand what each student knows and can do in order to effectively monitor their progress over time.
- The behavior of the students is excellent and many described the school as a place where they could thrive as individuals.
- Monitoring of teaching and learning throughout the school is very good.
- There is a particularly wide range of enrichment activities which provide good, well rounded development for all students.
- Parents are delighted with the school saying it is a "home away from home" for their children.

What the school needs to improve

- Further improve long term strategic planning to extend the time scale of the plan.
- Identify interim goals and costings more specifically to enable the school to more effectively monitor the individual progress being made by each student.

Part 3: Main findings

Overall Evaluation

This is a well-developed school.

The Bronx High School of Science is characterized not only by its exceptional examination results but also by its passionate concern for the welfare of its students. Regardless of the fact that this is one of the larger schools in the City, students are well known to the principal and staff, who appreciate and respect them as individuals and take pleasure in their excellent academic and social success.

Leadership and management are of very high quality. The principal is an inspirational leader and her assistant principals are excellent managers. Teachers are very well monitored and data is used very effectively to improve student progress. The curriculum is exciting and varied and students have access to a large range of enrichment activities that ensure they are highly motivated life long learners. Lessons are lively and interesting and students actively assess their own learning, because they want to maximize their potential. This very good teaching and learning is central to the school's success. Students are achieving standards well above those of similar and City schools. There is a sense of drive and high expectations that stimulates students and staff alike. This is a well developed school that is fully committed to continuous improvement.

How well the school meets New York City's evaluation criteria

Quality Statement 1 – Gather Data: School leaders and faculty consistently gather data and use it to understand what each student knows and is able to do and to monitor student progress over time.

This area of the school's work is well developed.

The school uses data from State assessments and an impressive amount of its own data to identify the performance of its students. For example, data from diagnostic assessments the school administers before students arrive and its own assessments are used to identify the knowledge, understanding and skills students have upon entry to the school. The school analyzes its in-house database very effectively to identify trends and student needs by student, class and grade. This has positive impact on staff, who use this information to build on students' prior achievement to maintain student challenge and involvement.

The database is also used very successfully to monitor the performance and progress of differing groups including by ethnicity. For example, good data analysis has identified problems with some students not using syntax well in writing. This was promptly addressed through creating a writing course and a 'writing across the curriculum' initiative to enable students to use English more effectively. The school has very few English language learners and special education students to monitor them as formal groups. However, it uses data thoroughly to monitor the performance and progress of other groups in order to improve student performance. The school uses data very effectively to make wider comparisons with similar schools. It also uses data effectively to compare students and classes and this has a significant impact in maintaining the high levels of achievement in the school. Data is used rigorously to compare grade levels to identify whether any

particular cohort makes better year to year progress than another. The data is less well used however, to compare subjects. Students' performance in different subjects is not yet systematically compared to ascertain which subjects are achieving better results, relative to others, to identify patterns and trends. However, the school is proactive in effectively using data taken from advanced placement examination results, college course passing rates and student surveys to evaluate and to strengthen the curriculum and to determine suitable student placement in advanced courses.

Quality Statement 2 – Plan and Set Goals: School leaders and faculty consistently use available data to understand each student's next learning step. Through collaborative planning and student and parent engagement, they set high goals for improving teaching practice and accelerating each student's learning.

This area of the school's work is well developed.

The school uses the substantive data it collects to enable the setting of whole school goals and to ensure that students make good progress. Processes and systems are managed by the appropriate staff and each faculty leader has the responsibility of writing their own goals within the bigger picture of the school's goals. Students and their parents know precisely what they have to do to improve and can articulate why goals and targets have been set. The school finds creative ways to fully involve students and their parents in setting goals and targets. For example, to ensure that the goal "success for every student" was implemented, formative and summative assessment data and student grades were analyzed and resulted in the creation of a tutoring center, "guardian angel" and the "adopt a student" program. Students in the greatest need of improvement are identified early and flagged for tutoring and academic guidance interventions. As a result these students have made good progress and the group changes constantly in response to data analysis.

Successes and achievements are widely celebrated to consistently raise expectations. The pupil personnel team meets on a regular basis. Every month any student causing concern is referred to the guidance counselor and the student's progress and improvement is looked at after speaking to the student, staff and their parents. The sharing of such expertise ensures teachers' planning is well matched to the needs of all students. Expectations for all students are very high and the school climate is well focused on academic success. The entire school community places a high value on learning. Consequently goals and plans for improving student performance and progress drive all of its members. Progress towards the goals is well tracked to ensure all students are achieving according to their potential. The school has recently hired a large number of guidance counselors to modify the guidance and college process so that students have every opportunity to succeed in their work.

In Quality Statement 3 – Align Instruction: The school aligns its instructional activity and resources, and student engagement around its focused plans for accelerating learning for each student.

This area of the school's work is well developed.

The school regularly adapts the curriculum to groups and individuals in response to needs identified through analysis of qualitative and quantitative data. For example, the school has recently created a new mathematics course at a very high level and redesigned a pre-calculus course to allow for students who did not do algebra in their middle school. In addition to the mandated curriculum the school teaches nine languages, research

sciences, and subjects like robotics engineering. In addition, there are several robust advance placement courses, honors classes and college courses with credits awarded from universities such as Syracuse, Colombia and Albany to engage students with challenging, exciting work, leading to very high levels of learning.

The degree to which instruction is planned and modified according to the needs of students is excellent. All teachers differentiate their instruction to respond to the specific needs identified through data analysis. This is part of normal, expected practice within the school. They work very well together in curriculum mapping exercises to ensure the alignment of instruction with the necessary skills and concepts needed to maintain and improve standards. This is reflected in the continuing emphasis which is being given to addressing the needs of the small group of students in the greatest need of improvement. Teachers' planning for differentiation is reflected in their awareness for the different learning styles of students. This results in a very high level of motivation, engagement and enjoyment of students in their lessons.

Students say that they feel safe in the family atmosphere knowing there is always someone they can go to who is concerned about their welfare and support. Many said they were grateful to the school for making them into life long learners. Students acknowledge that relationships between all adults and students are excellent and that they are trusted and well supported by the staff. Their attitude towards school is reflected in student attendance which is above average when compared with similar schools. The school shows the priority it gives to this by its very efficient means of following up lateness and absences.

The school budget is used carefully to support the curriculum and planned improvements. Staffing decisions are also closely aligned to curriculum and learning needs. The drive to improve standards has resulted in the hiring of highly qualified staff to promote the achievement agenda. The scheduling decisions in relation to music lessons for over 100 students show the school is responsive to the needs of these students and to its own mission to continue to improve and provide opportunities for all students to excel.

Quality Statement 4 - Build and Align Capacity: The development of instructional leadership, staff, and capacity are aligned around the school's collaboratively established goals for accelerating the learning of each student.

This area of the school's work is well developed.

The school has stringent criteria for the hiring of staff based upon very high expectations related to student achievement. The selection process for new staff includes a specific focus on identifying the potential of the individual to use data to set high expectations for student performance. The facility to accurately analyze data is reflected in the well documented assessment portfolios maintained by staff. The school has a very effective professional development strategy which is differentiated and has substantially increased competence in all staff to use data effectively to improve student outcomes by being centered on developing instruction. For example, assistant principals are 'buddied' with new teachers who they meet with once a week for ongoing professional development. This has resulted in improved performance. Teachers are very supportive of each other and are effectively involved in peer assessments. These activities help to sustain the improvements seen throughout the school.

The principal and her assistant principals have an excellent program for observing classroom teaching and a considered strategy for improving the quality of each teacher.

Teachers are given opportunities to observe each other which help them to share their good practice. Department meetings are well run and emphasize accountability. These collaborative activities make a significant contribution to the evaluation and improvement of curriculum planning. The principal is very well respected by the staff, students, parents and local community. She has a high profile in the school and parents support the changes she has brought about. The impressive improvements in the school are a direct consequence of her drive and energy and she has significant capacity to manage still more. Procedures are clear and communicated to all and the school runs efficiently in quiet good order.

The school has established numerous excellent partnerships with a wide range of external and community-based organizations and institutions, which significantly enhance the education provided by the school. For example there are established partnerships with the Lehman and the City University of New York Colleges, research facilities and universities and numerous connections with organizations offering academic tutoring, scholastic aptitude tests and clubs ranging from origami to jewelry making. Visiting specialists, such as dance and physical education coaches provide students with specialist instruction to further extend and enrich their learning experience.

Quality Statement 5 - Monitor and Revise: The school has built-in structures for evaluating each student's progress throughout the year, recognizing weaknesses in its improvement plans and teaching practices, and flexibly adapting plans and practices to meet its goals for accelerated learning.

This area of the school's work is proficient.

The school administration and leadership team systematically review its goals and plans drawing on all the available data. All school goal and target setting processes are securely based on the analysis of data. The school goals are realistic and provide good challenge. However, the Comprehensive Education Plan has not been fully utilized as a working document and does not cover a long enough period to be of use as a strategic planning tool. The school is planning to extend its development plan to three years to enable it to be more proactive in setting long term measurable objectives. The effectiveness of shorter term diagnostic assessments is highlighted by the success of the many research programs. In a broader context the school's plans and goals are continuously modified, realigned and revised in the light of a wide range of precise data and information. For example, the school reacted immediately to the problems experienced by students in relation to its college application process and hired eight guidance counselors to enhance students' chances of getting into college.

The monitoring and revision of planning for all students is so systematic that it is almost taken for granted among staff. As a result, staff plan regularly and evaluate and revise interventions and initiatives according to the needs of the students. Comparisons of student progress within and across classrooms are discussed in weekly cabinet meetings with all assistant principals to assess and evaluate the data. Measurable targets are set which allow for ease of evaluation and accountability. The school is very responsive to student need and has extensive capacity to sustain and further develop the very high standards of achievement it has established.

Part 4: School Quality Criteria Summary

SCHOOL NAME: The Bronx High School of Science (HS 445)	∅	✓	+
Quality Score			X

Quality Statement 1 – Gather Data: School leaders and faculty consistently gather data and use it to understand what each student knows and is able to do and to monitor student progress over time.	∅	✓	+
1.1 The school uses available data and generates its own data to provide an objective, constantly updated understanding of the performance and progress of: <ul style="list-style-type: none"> • each student, classroom, grade level, 			X
1.2 The school uses available data and generates its own data to provide an objective, constantly updated understanding of the performance and progress of: <ul style="list-style-type: none"> • ethnic groups, English language learners, special education students* 			X
1.3 The school uses available data and generates its own data to provide an objective, constantly updated understanding of the performance and progress of: <ul style="list-style-type: none"> • all other categories of interest to the school* 			X
1.4 Performance and progress are measured based on comparisons with similar schools, with the school's own past performance, and among students, classrooms, grade levels, academic subject areas, ethnic groups, and other groupings of interest within the school.			X
Overall score for Quality Statement 1			X

* These criteria are partially aspirational as of now because schools do not have routine access to all of this data. The NYC DOE plans to provide schools with enhanced access to the necessary data in 2007.

Quality Statement 2 – Plan and Set Goals: School leaders and faculty consistently use available data to understand each student's next learning step. Through collaborative planning and student and parent engagement, they set high goals for improving teaching practice and accelerating each student's learning.	∅	✓	+
2.1 Using data, school leaders and faculty engage in a collaborative process to set demanding, objectively measurable goals for immediate and long-range improvement, and to develop plans and timeframes for reaching those goals.		X	
2.2 Goals and plans focus on the school as a whole and on each student, classroom, grade level, academic subject, and group of students whose performance or progress has been identified by the school as a particular focus area.			X
2.3 Particular attention is given to improving the performance and progress of students in greatest need of improvement.			X
2.4 High expectations are conveyed to students and parents/caregivers. Students and their parents/caregivers are regularly invited to provide information about each student's performance and how to improve. This information is central to setting challenging goals and developing, evaluating, and revising plans.			X
2.5 Goals and plans for improving student performance and progress drive the activity of all members of the school community: leaders, staff, students, parents, and other partners.			X
Overall score for Quality Statement 2			X

Quality Statement 3 – Align Instruction: The school aligns its instructional activity, resources, and student engagement around its focused plans for accelerating learning for each student.	∅	✓	+
3.1 The school selects the curriculum based on how well it aligns with or implements the mandated curriculum and on the curriculum's capacity to generate meaningful interim data about progress towards goals and to support the school's high expectations and improvement plans.			X
3.2 Teachers are accountable for improving instruction and student outcomes. They plan and differentiate their instruction based on the needs revealed by student data and by the focused plan the school has developed to improve each student's and group of students' outcomes.			X
3.3 Budgeting decisions are driven by the needs revealed by student data and by the focused plan the school has developed to improve each student's and group of students' outcomes.			X
3.4 Staffing decisions are driven by the needs revealed by student data and by the focused plan the school has developed to improve each student's and group of students' outcomes.			X
3.5 Scheduling decisions about the use of teacher and student time are guided by the needs that emerge from examining student data and by the focused plan the school develops to improve student outcomes.			X
3.6 Instructional programs actively engage students.			X
3.7 Staff know and respect students and respond to their academic needs, as well as their personal needs that affect academic performance. Each student knows and trusts an adult on the staff who is concerned about him or her.			X
3.8 Student attendance and engagement are high priorities. High rates and patterns of absences trigger immediate intervention.			X
Overall score for Quality Statement 3			X
Quality Statement 4 – Build and Align Capacity: The development of instructional leadership, staff, and capacity are aligned around the school's collaboratively established goals for accelerating the learning of each student.	∅	✓	+
4.1 Leaders, faculty, and staff are selected based on their high expectations for student performance and progress and based on their commitment and capacity to use data, compare outcomes within and across classrooms and schools and develop and revise plans and methods to improve performance and progress.			X
4.2 Professional development decisions are driven by the needs revealed by student data and by the focused plan the school has developed to improve each student's and group of students' outcomes. Professional development is designed to help leaders, faculty, and staff use data, self- and peer-assessments, and collaboration with peers to achieve goals for improved school and student outcomes. Professional development and self- and peer-evaluation are aligned and overlap.			X
4.3 The principal frequently observes classroom teaching and has a considered strategy for improving the quality of each teacher's instruction. Teachers frequently observe and support each other's classroom instruction with the goal of improving student outcomes.			X
4.4 Planning, evaluation of results, and revision of plans takes place in teams. Leaders and faculty inform each other of their goals and results, candidly evaluate themselves and each other, and use what is learned to drive improvement.			X
4.5 The principal is respected and has capacity to effect change.			X
4.6 The school runs smoothly. Procedures are clear, communicated to all, and are generally followed.			X
4.7 The school aligns youth development and support services around stated academic goals. Partnerships with outside bodies are routinely used to achieve academic goals.			X
Overall score for Quality Statement 4			X
Quality Statement 5 – Monitor and Revise: The school has built-in structures for evaluating each student's progress throughout the year, recognizing weaknesses in its improvement plans and teaching practices, and flexibly adapting plans and practices to meet its goals for accelerating learning.	∅	✓	+
5.1 All school plans and other interventions include frequent interim goals and diagnostic assessments of progress designed to reveal in objectively measurable ways whether the plan is being effectively implemented and reaching stated goals.		X	
5.2 Comparisons of student progress within and across classrooms and schools are used in making interim diagnostic assessments and measuring the progress of plans and interventions.			X
5.3 Information generated by periodic assessments and diagnostic measures of progress and comparisons is used to revise plans immediately in order to reach stated goals. Interim and final goals are modified when data objectively demonstrate that revision is required.			X
5.4 Each plan's interim and final outcomes drive successive phases of goal setting and improvement planning, and each successive phase is characterized by agile and flexible realignment of practices and resources to improve student academic outcomes.		X	
Overall score for Quality Statement 5		X	