HighTechHigh-Los Angeles
Final Evaluation Report

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Research conducted by:

Michael Butler
Mercy Sanchez

Public *Works*, Inc.
90 N. Daisy Avenue
Pasadena, CA 91107
(626) 564-9890
(626) 564-0657 fax

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I. Introduction and Methods

Overview and History of High Tech High

High Tech High-Los Angeles (HTH-LA) is a technology-based charter school founded in 2000. The primary mission of the school is to create a small, diverse learning community that engages each student in a rigorous academic program with an emphasis on math, science, technology, and engineering, to prepare them to succeed in college and to be the innovative knowledge workers of tomorrow.

In 2001, the HTH-LA Foundation was incorporated as a non-profit corporation with a board of directors and a board of industry advisors. In the 2002-03 school year, a director and teachers were hired and HTH-LA began operation as a school providing a standards-based, college preparatory education to 55 grade 9 students. In 2003-04, the school served 91 students in grades 9 and 10. Beginning in the 2004-05 school year, HTH-LA began operation in its newly constructed facility. Student enrollment doubled to 191 students with the arrival of a new cohort of 9th grade students.[1] In addition, the size of faculty increased from four to ten serving students grades 9-11.

Mission Statement:

HTH-LA is a diverse community of active learners dedicated to fusing the traditional academic subjects with real-world, technical applications and problem solving skills. Students are productive, self-directed learners, engaged in rigorous, relevant work. HTH-LA prepares students to be motivated, influential leaders committed to the challenge of connecting our community to the larger society.

Context for Evaluation

Since 2003-04, Public *Works*, Inc. has been contracted to design and provide the school with an assessment of the program implementation of HTH-LA under its charter petition. The evaluation has focused on two key research questions:

1) *What progress has been made in terms of implementing the charter petition for HTH-LA?*

2) *What are the chief benefits to student achievement and school performance outcomes that result from participation in HTH-LA?*

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[1] By the end of the 2004-05 school year, HTH-LA enrolled 98 9th graders, 38 10th graders, and 27 11th grade students. Approximately 28 (primarily 9th grade) students left the school between October 2004 and June 2005.

For the implementation of the charter, the evaluation examined the impact or benefits of the program to the following:

❖ **Curriculum and Instruction**. How has the implementation of the charter affected classroom teaching and learning (e.g., extent of standards integration, differentiated and personalized instruction, assessment practices, curricular innovation and creativity, exposure to project-based learning, etc.)?

❖ **Teacher Support**. To what extent has the implementation of the charter affected teacher professional development, collaboration/articulation, access to instructional materials and resources, teacher recruitment and retention, etc.)?

❖ **Parent/Community Involvement**. What strategies are being used to meaningfully involve parents/community in schools and improving student learning?

The evaluation of student achievement focused on high stakes accountability measures including California High School Exit Exam (CAHSEE), California Standards Test (CST), as well as course grades and school attendance.

Evaluation Methods

In order to evaluate HTH-LA, the evaluation team from Public *Works*, Inc. engaged in the following data collection and analysis methods during 2004-05:

• **Document Review**. In preparation for the evaluation, Public *Works*, Inc. reviewed the school's charter petition and examined other data related to student demographics and school budgets.

• **Focus Groups and Interviews**. Focus groups and individual interviews were conducted with all teachers employed by HTH-LA. Evaluation team members also conducted focus groups with students grades 9-11 enrolled in HTH-LA. Student focus groups were comprised of 4-9 students. Public *Works*, Inc. also interviewed the school principal.

• **Observations**. Evaluation team members observed classroom instruction in all ten teachers' classrooms at HTH-LA. Observations were based on the *California Standards for the Teaching Profession*, supplemented by observation of school-to-career linkages and the instructional use of technology. Public *Works*, Inc. also observed two *Presentations of Learning* (POLs) where students delivered cumulative presentations designed to showcase disciplinary and/or interdisciplinary work from the classroom.

• **Surveys**. In Spring 2005, Public *Works*, Inc. administered surveys to all students and their parents. A total of 160 student surveys were returned for a response rate of about 88%. Similarly, a total of 94 parent surveys were

returned, representing about 52% of student enrollment. Copies of the surveys are provided in **Appendix A** and **Appendix B** of this report.

- **Quantitative Data Analysis**. To evaluate student achievement and school performance gains at HTH-LA, Public *Works*, Inc. obtained student level data on all students enrolled in HTH-LA from 2003-2005 including: CST data, CAHSEE scores (10-11th grade only), course grades, and school day attendance.

2. Charter Implementation Findings

Student Recruitment

Enrollment in HTH-LA is open to all LAUSD students, regardless of prior grades or academic progress. Following an application process, students are selected by lottery.

Survey results indicate that friends and relatives are referring many more students to the school in 2005 compared to 2004 (see Table 2.1 below). Moreover, parents were more likely to hear about HTH-LA from their child rather than from a school professional. While technology is still an attraction, more students are also attending HTH-LA in response to parental desire and/or as preparation for college and careers.

Table 2.1: What is the primary reason you enrolled (your child) in HTH-LA? (top three)

Student Responses	*2004 (n=87)*	*2005 (n=160)*
Interest in technology	48%	28%
Better preparation for college	17%	17%
Opportunities for career experience	15%	12%
Parent wanted me to attend	12%	21%
More challenging courses	4%	1%
Smaller school size	2%	7%

Parent Responses	*2004 (n=70)*	*2005 (n=90)*
Child's interest in technology	56%	26%
Opportunities for child to explore careers	19%	20%
Better preparation for college	14%	26%
More challenging courses	2%	7%
Smaller school size	2%	12%

Curriculum and Instruction

HTH-LA's curriculum is based on delivering a standards-based and technology-infused curriculum that emphasizes mathematics, science, and engineering in order to prepare students for postsecondary education and careers in high technology fields. In 2004-05, HTH-LA offered the following classes to all students:

Table 2.2: Student Courses by Grade

9th Grade	10th Grade	11th Grade
English	English	English
Math – Integrated I	Math – Integrated II	Math – Integrated III
Science - Physics	Science - Biology	Science - Chemistry
Humanities	World History	U.S. History
Elective	Elective	Photo
Spanish	Spanish	Elective
Tai-Chi (Physical Education)	Tai-Chi (Physical Education)	Tai-Chi (Physical Education)

The core curricular programs in use at HTH-LA are based on the A-G requirements, which establish eligibility for public four-year colleges and universities in California. As shown above, students are also required to take a technology-based elective course in each of the four years. This year Foreign Language and Physical Education courses were added to the course curriculum.

In general, classroom instruction at HTH-LA in 2004-05 continued to balance whole-group instruction with small group work and independent self-pacing (particularly in math). Instructors regularly employ supplemental resources to go beyond the textbook, and there is a strong emphasis on differentiating instruction to met individual student needs. Key instructional and curricular innovations employed at HTH-LA are listed throughout the report.

Modification of Course Sequencing

In 2004-05, HTH-LA adopted an Integrated Math sequence[2] in order to more closely tailor its instruction to the school's mission statement. Teachers indicated they feel strongly that the Integrated Math curriculum does a better job of emphasizing self-evaluated learning because students learn and solve problems independently.

Another curricular innovation at HTH-LA involves a change in the traditional Science course sequence. At HTH-LA, 9th grade students are enrolled in Physics. In this way, the school aims to emphasize scientific concepts and applications so that students' will have an enriched understanding of Science that will, in turn, strengthen student understanding in Chemistry and Biology. This change to the Science course sequence has proven difficult for many 9th grade students (see Tables 3.5-3.7 in the next section of the report).

Personalized Instruction

HTH-LA has taken advantage of its relatively small size to promote a more intimate educational experience. Personalization is evident in regular monitoring of student

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[2] Integrated Math (I-III) replaced the traditional mathematics course sequence of Algebra I, Geometry, and Algebra II.

performance by the faculty. In addition, each HTH-LA teacher is responsible for instructing an advisory course, in which he/she serves as the point person for dealing with students' academic, behavioral, and/or personal issues. During 2004-05, the advisory program served as an important mechanism for coordinating parent-teacher conferences, particularly among 9th grade students. In 2005-06, HTH-LA plans to use the advisory program to highlight real-world, career connections for students.

As shown in Table 2.3, survey responses indicate that most students and parents appreciate the benefits of HTH-LA's personalized environment. Students and parents were positive about the school's size, relationships with teachers, teacher expectations and expertise, and classroom behavior. Students (at all grade levels) and parents were least positive about the classroom learning environment. Students were also less positive about differentiation of instruction to meet the different learning styles/needs of students.

Table 2.3: Perceptions of Classroom Instruction (% Agreement)

	Students		Parents	
Student Responses	2004 (n=87)	2005 (n=160)	2004 (n=70)	2005 (n=90)
Classes are small enough so that all students receive personalized attention.	85%	76%	78%	77%
The fact that students share the same group of teachers is beneficial to students.	87%	77%	84%	81%
Teachers hold high academic expectations for all students.	86%	80%	83%	82%
Teachers know their subject well and communicate their expertise to students.	92%	82%	79%	74%
There are clear standards for student behavior in the classroom that are followed.	82%	79%	79%	84%
The classroom environment is engaging and helps promote student learning.	70%	55%	81%	71%
Teachers use a variety of instructional methods to meet the needs of different kinds of students.	69%	58%	n.a.	n.a.

Declines in student perceptions from 2004 to 2005 in the overall level of agreement are attributable to the fact that 9th graders in 2004-05 were much less positive about the school than prior cohorts of students. For instance, all (100%) of 10th and 11th graders responded positively to the statement, "Classes are small enough so that all students receive personalized instruction." By contrast, far fewer 9th grade students agreed with this statement. Because 9th graders constituted more than half of student enrollment, lower levels of 9th grade satisfaction had a large impact on overall school averages.

Project-based Learning

Project-based learning remains a major force in fueling curricular innovation at HTH-LA, and instructional use of technology remains the chief mechanism for "packaging" project-based activities. Teachers regularly integrate project-based activities into their lesson plans, and students largely agree (see Table 2.4). As indicated above, declines from 2004 to 2005 in the overall level of agreement are

attributable to the fact that 9th graders in 2004-05 were much less positive about the school than prior cohorts of students (i.e., 10th and 11th grade students remain overwhelmingly positive).

Table 2.4: Perceptions of Project-Based and Interdisciplinary Learning (% Agreement)

	Students		Parents	
Student Responses	2004 (n=87)	2005 (n=160)	2004 (n=70)	2005 (n=90)
Students regularly work on projects & other hands-on activities.	92%	76%	87%	74%
Teachers show how learning in one subject area is connected to other courses.	77%	76%	68%	60%

The majority of staff members agree the culture at HTH-LA is defined by the ability of instructors to engage students in collaborative learning and to motivate students through the use of technology. Students are regularly placed in small group settings and given a common project or goal to complete.   This type of instructional strategy highlights a "real world" setting in which people regularly work together in teams to manage tasks and achieve goals.

Despite the strong emphasis on project-based learning, student were not typically involved in interdisciplinary projects. Although faculty had committed to using common planning time to design interdisciplinary projects, the need for extensive parent-teacher conferencing to discuss academic and behavioral issues (particularly with the 9th grade cohort of students) took precedence over collaborative planning of this nature.

Nonetheless, HTH-LA has made efforts to provide students with learning experiences that emphasize cross-curricular connections. Survey results among both students and parents show that most respondents agree that learning at HTH-LA is connected across different subject areas, although parents are less positive than students in this respect. In 2005-06, HTH-LA plans to focus on giving students more "real world" experience by giving them the opportunity to intern, as well as practice more "Power Lunches" with members of the business community.

Assessment Practices

Student achievement in California is measured using the California Standards Tests (CST) in English/Language Arts, Mathematics, Science, and Social Studies.   As such, the evaluation team looked for evidence of standards being taught and assessed in the classroom. Classroom observations and follow-up teacher focus groups indicated that newer teachers were more inclined to overtly integrate the State content standards into daily lesson plans and showcase standards connections to students.

While teachers at HTH-LA acknowledge the importance of standards in measuring student progress, most faculty members believe strongly in performance-based assessment. A key performance-based vehicle for measuring student achievement at HTH-LA is the *Presentation of Learning* (POL). During the POL, small groups of students present a culminating project linked to course content to an audience of teachers, school administrators, parents, and community members.

Examples of Presentations of Learning projects

Students made a power-point presentation on a cross-curricular project between their Social Studies and English course that consisted of the process of creating a comic book centered on a major historical event.

Students presented a dictionary definition of the word beauty, and then followed with an audio/visual presentation of student interviews showcasing different responses to the question "What is Beauty?"

Students interviewed local business personnel on their opinions regarding air pollution, then gave a power-point presentation on the chemical properties that make pollution dangerous, and the players involved on regulating pollution in the United States.

HTH-LA students are required to participate in a POL at least once per semester, in order to enhance presentation skills and highlight a "real world" environment in which people regularly manage tasks and responsibilities. In addition, the POLs provide parents and community members with concrete information on what students have learned, as well as giving students feedback from adults other than their teachers.

As shown in Table 2.5, student survey responses indicate that vast majority (85%) of students reported that they know what to do to get good grades. More than two-thirds also indicated that teachers point out connections between classroom learning and high stakes assessments and that tests and other assessments are accurate measures of what has been learned in class.

However, almost half (45%) of students said that they were dissatisfied with the amount and/or frequency of feedback from teachers on their progress. Dissatisfaction more than doubled among 10th graders (from 17% in 2004 to 39% in 2005); dissatisfaction also rose among current 11th graders (from 31% in 2004 to 40% in 2005).

Table 2.5: Student Perceptions of Assessment (% Agreement)

Student Responses	2004 (n=87)	2005 (n=160)
I know what is required to succeed in my classes.	92%	85%
I receive regular and timely feedback about my progress.	73%	51%
Graded projects and Presentations of Learning are a better measure of what I know than tests.	72%	65%

Instructional Use of Technology

HTH-LA's ability to provide students with access to state-of-the-art technology remains one of main criteria that set it apart. Students were asked to indicate on the survey how they had used technology in their classrooms. As shown on Chart 2.1, students were most likely to cite the use of technology for word processing, graphic presentations, spreadsheets, and research.

Chart 2.1: Student Reported Use of Technology
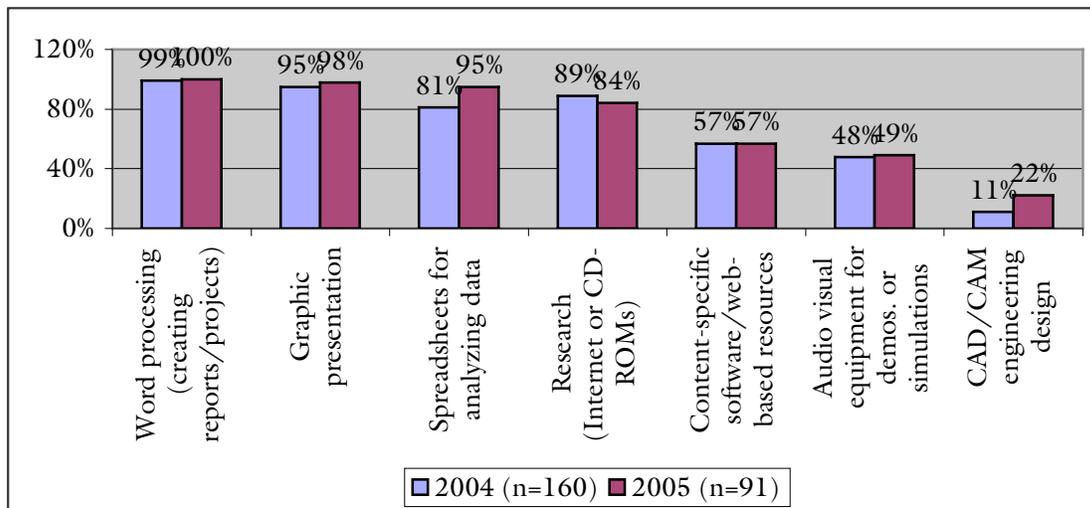
In addition, the percentage of students that report using different technologies in the classroom has increased, particularly among students in the 10-11th grade cohorts. Furthermore, there has been a consistent increase in the percentage of students that report using audio/visual equipment and CAD/CAM engineering design in their classes.

Observations of classroom instruction confirmed that many instructors use technology as a tool for delivering instruction. Students at HTH-LA were observed using technological tools to solve math problems, downloading homework and completing writing assignments electronically, accessing on-line resources for research projects, and employing audio/visual technology for presentations.

Student and parent surveys results suggest that they are by in large pleased with the access and use of technology at HTH-LA (see Table 2.6). The vast majority of students report that they have access to computers and the Internet. Parents are especially positive about technology's role in motivating and benefiting students. Students in the 10th and 11th grade were more positive about the impact of of technology compared to 9th grade respondents. For example, 88% of 11th graders and 92% of 10th graders said that classroom use of technology had benefited them as a student, compared to about half of 9th graders. As in other sections of the survey, 9th grade dissatisfaction pulled pulled down the overall student percentage of agreement to these survey items.

Table 2.6: Perceptions of Technology in the Classroom (% Agreement)

	Students		Parents	
	2004 (n=87)	2005 (n=160)	2004 (n=70)	2005 (n=90)
There is an adequate supply of computers in classrooms.	98%	89%	86%	91%
Using technology in the classroom helps motivate me/ my child in school.	81%	61%	89%	78%
Use of technology in the classroom has benefited me/my child as a student.	90%	65%	88%	85%

School Counseling and Guidance

Although the majority expressed satisfaction about school counseling and guidance in terms of preparing students for life after high school, the percentage of both groups of respondents responding positively was relatively low compared to other areas of the survey (see Table 2.7). For example, nearly one-in-four students (41%) disagreed that HTH-LA had helped them better define their educational goals in 2005.   In addition, the percentage of students who *disagreed* that HTH-LA helped them better define their educational goals more than doubled (from 16% in 2004 to 41% in 2005). As in other areas of the survey, 9th grade students were least positive and pulled down the overall school averages.

Table 2.7: Perceptions of School Guidance and Counseling (% Agreement) – All Grades

	Students		Parents	
	2004 (n=87)	2005 (n=160)	2004 (n=70)	2005 (n=90)
HTH-LA has helped me learn about work and possible careers.	80%	66%	80%	78%
HTH-LA has helped me better define my educational goals.	74%	54%	76%	70%
I have received guidance on further education and college through HTH-LA.	75%	62%	64%	74%
I/my child is pretty sure what I will do after graduation.	54%	60%	60%	70%

However, it is important to note that students in grades 10 and 11 were overwhelmingly positive (see Table 2.8). These are the students who were the focus of school guidance and counseling on planning for life after high school.

Table 2.8: Perceptions of School Guidance and Counseling (% Agreement) – 10th and 11th Grades Only

	10th Grade Students		11 Grade Students	
	2004 (n=39)	2005 (n=37)	2004 (n=46)	2005 (n=31)
HTH-LA has helped me learn about work and possible careers.	95%	100%	100%	97%
HTH-LA has helped me better define my educational goals.	88%	97%	91%	94%
I have received guidance on further education and college through HTH-LA.	98%	97%	96%	94%
I am pretty sure what I will do after graduation.	95%	92%	83%	91%

In addition, expansion of the Advisory program in 2005-06 may go a long way toward improving student perceptions of school counseling and guidance services.

Teacher Support and Collaboration

Teacher Recruitment and Retention

This year six new staff members were added to the faculty and the school and the school doubled in enrollment to 181 students. New teachers were hired across all subject areas (two English, one Chemistry, two Spanish, one Math, and one Art). A former HTH-LA English teacher functions as the school's full-time counselor, a position previously held *de facto* by the school's principal. Teachers were attracted to the school's small size, opportunities for greater autonomy, and the school's focused, innovative approach to student learning.

Professional Development

In order to provide a unique learning environment HTH-LA provides mandatory training for all teachers. For instance, this year professional development activities included whole-staff training on project-based learning techniques from the Buck Institute. Teachers were overwhelmingly positive about this training and several newer teachers indicated this was instrumental in helping them understand major tenets of the school's philosophy, such as integrating technology into instruction. In addition, instructors individually attended conferences in their area of interest.

Furthermore this year, the staff of HTH-LA met three weeks prior to the start of school, in order to plan the school year. Staff indicated this was pivotal to coordinating the start of the new school year, and new staff in particular felt it to be crucial to aiding their transition into HTH-LA.

Teacher Collaboration

During 2004-05, school-wide common planning time occurred before school on Monday and Thursday mornings. During this time teachers met as a group with the school's principal to discuss common issues, changes related to the bell schedule, decide on school priorities, and plan for the future. In addition, teachers were expected to meet individually before school on Tuesdays, Wednesdays, and Fridays. Staff designated this time for discussing cross-curricular planning, identifying issues and discussing student achievement and/or behavioral problems. However, as previously mentioned, teacher common planning time was largely devoted to meeting with parents regarding achievement and behavioral problems with the new cohort of 9th grade students.

Parent/Community Involvement

There is a general consensus amongst faculty that parents at HTH-LA are very active in school activities. Survey data from parents suggests there is room for improvement in terms of home-school communication (see Table 2.9). In particular, parents were least likely to say that they have received regular and timely information about their child's progress in both 2004 and 2005. These survey findings are at odds with data from staff focus groups where several faculty members indicated they have met with some parents (primarily those of 9th grade students) on a weekly basis to address academic and/or behavioral concerns. At the same time, it is interesting to note that students were less positive about the extent of timely feedback from teachers as well (see Table 2.5).

Table 2.9: Perceptions of Parent Involvement (% Agreement)

	Students		Parents	
	2004 (n=87)	2005 (n=160)	2004 (n=70)	2005 (n=90)
I/my parents have received information about my (child's) progress.	78%	92%	57%	65%
I/my parents know what I (my child) am learning.	57%	74%	72%	87%
I know how my (child's) academic progress is measured.	76%	62%	69%	74%
I/my parents know who to talk to if they have a question or concern.	83%	70%	77%	79%

Another area with room for improvement is parent involvement in school activities and decision-making. School governance and decision-making is primarily exercised through the school's director and teaching staff. Parents and students play a very small role, if any, in making decisions for the school. At present there is no organized parent group coordinating parent activities or volunteerism. The school recognizes the need for expanding the decision-making structure to include parents as well as the need for establishing a student leadership group.

Staff at HTH-LA reported that parents within the first two cohorts have been less motivated to be involved. At the same time, they acknowledge that there has not been an emphasis on recruiting parents as volunteers or involving parents in school planning decisions. However, the student application process has become more competitive and formalized over time. As a result, HTH-LA staff expect that parents will increasingly identify with the school and become more active participants.

In addition, HTH-LA continues to make efforts to involve more members of the surrounding business community, mostly through the school's Power Lunches and Presentations of Learning. Through these, the school also attempts to gain more visibility and support in the community. In addition, there are plans to set up internships in the local community for students.

3. Student Outcome Findings

Data Indicators

The students enrolled in HTH-LA in 2004-05 included 107 9th graders, 39 10th graders and 27 11th grade students.[3] Based on data extracted from the Student Information System (SIS) at HTH-LA and the California Department of Education (CDE) databases, Public *Works*, Inc. was able to extract the following data:

- *California Standards Test (CST):* The percentage of students scoring in the various proficiency levels (Advanced, Proficient, Basic, Below Basic, and Far Below Basic) in English/Language Arts and Mathematics.
- *California High School Exit Exam (CAHSEE):* The percentage of 10th graders who passed either or both the English/Language Arts and Mathematics sections of the CAHSEE.[4]
- *Final Course Grades.* The percentage of students earning grades of A, B, C, D, or F in core academic classes.
- *School Attendance:* The average attendance rate of students by grade based on number of days present out of 180 possible school days.

Unlike the prior year evaluation, we did not examine data from the California Achievement Test (CAT-6). This examination is no longer administered to high school students in California public schools.

To report the results by indicator, students were divided into cohorts:

- ➢ **Cohort 1:** The first cohort of students to enter HTH-LA. These students were in the 11th grade in 2004-05 (currently 12th graders).

- ➢ **Cohort 2:** The second cohort of students to enter HTH-LA. These students were in the 10th grade in 2004-05 (currently 11th graders).

- ➢ **Cohort 3:** The third cohort of students to enter HTH-LA. These students were in the 9th grade in 2004-05 (currently 10th graders).

The achievement data clearly show large differences in the achievement of these different cohorts of students.

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[3] Note: We were able to obtain achievement data for 79 students (39 9th graders and 40 10th graders)

[4] Students take the CAHSEE for the first time in Spring of the 10th grade year. Students who do not pass either section may take the exam multiple times as juniors and/or seniors.

California Standards Test

All students take a grade level CST in English/Language Arts. For Math, students take the CST that corresponds to their math class. This year students were placed in math courses based on their grade-level (i.e., Integrated III = 11th graders, Integrated II = 10th graders, and Integrated I = 9th graders).

As shown in Table 3.1, Cohort 1 students performed at high levels in English/Language Arts.   Approximately half of Cohort 1 students scored Advanced or Proficient in the last two years.   In mathematics, the proportion of students at the highest proficiency levels is much lower. Indeed, more than half of the Cohort 1 students are underperforming in mathematics in the past two years.

Table 3.1: CST Data[5] for Cohort 1 Students, 2003-04 and 2004-05

2003-2004					2004-2005			
Course	N	% Advanced/ Proficient	% Basic	% Below Basic/ Far Below Basic	Course	N	% Advanced/ Proficient	% Basic	% Below Basic/ Far Below Basic
English	39	54%	33%	13%	English	32	44%	31%	13%
Algebra I	4	25%	25%	50%	Integrated I	n.a.	n.a.	n.a.	n.a.
Geometry	25	20%	28%	52%	Integrated II	n.a.	n.a.	n.a.	n.a.
Algebra II	9	44%	11%	44%	Integrated III	32	15%	25%	59%

Cohort 2 students performed at high levels in English/Language Arts (see Table 3.2).   More than half of Cohort 2 students scored Advanced or Proficient in 2004 and 80% achieved the highest proficiency levels in 2005.   In mathematics, the proportion of students at the highest proficiency levels is quite similar.   Very few students in Cohort 2 have underperformed in mathematics in the past two years.

Table 3.2: CST Data for Cohort 2 Students, 2003-04 and 2004-05

2003-2004					2004-2005			
Course	N	% Advanced/ Proficient	% Basic	% Below Basic/ Far Below Basic	Course	N	% Advanced/ Proficient	% Basic	% Below Basic/ Far Below Basic
English	36	58.4	33.3	8.3	English	39	80%	21%	0%
Algebra I	10	30	50	20	Integrated I	n.a.	n.a.	n.a.	n.a.
Geometry	24	58.3	33.3	8.3	Integrated II	39	70%	21%	11%
Algebra II	3	66.6	33.3	0	Integrated III	n.a.	n.a.	n.a.	n.a.

Cohort 3 students performed at high levels in English/Language Arts in 2005. The overwhelming majority of Cohort 3 students scored Advanced or Proficient. In mathematics, the proportion of students at each of the proficiency levels was approximately equal.

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[5] All CST data obtained from the California Department of Education using a roster of students from the Birmingham SIS.

Table 3.3: CST Data for Cohort 3 Students, 2003-04 and 2004-05

2003-2004					2004-2005				
Course	N	% Advanced/ Proficient	% Basic	% Below Basic/ Far Below Basic	Course	N	% Advanced/ Proficient	% Basic	% Below Basic/ Far Below Basic
English	n.a.	n.a.	n.a.	n.a.	English	107	73%	21%	5%
Algebra I	n.a.	n.a.	n.a.	n.a.	Integrated I	107	35%	37%	28%
Geometry	n.a.	n.a.	n.a.	n.a.	Integrated II	n.a.	n.a.	n.a.	n.a.
Algebra II	n.a.	n.a.	n.a.	n.a.	Integrated III	n.a.	n.a.	n.a.	n.a.

California High School Exit Exam

The two cohorts (Cohort 1 and Cohort 2) who have been tested on the CAHSEE have done exceedingly well. Nearly all (97%) of the Cohort 1 students passed the English/Language Arts section of the exam as 10th graders. The vast majority (85%) also passed the Mathematics section as 10th graders. District averages for CAHSEE achievement. As shown in Table 3.4, all students in Cohort 2 passed both sections of the CAHSEE as 10th graders.

Table 3.4: CAHSEE Results as 10th graders[6], Cohort 1 and Cohort 2

	2004 (Cohort 1)		2005 (Cohort 2)	
	N of Test Takers	% Passing	N of Test Takers	% Passing
Cohort 1				
English/Language Arts	38	97%	39	100%
Math	40	85%	39	100%

Source: LAUSD DSS

It should be noted that HTH-LA achieved an Academic Performance Index (API) score of 831 in 2005 based on a weighted combination of CST and CAHSEE scores. HTH-LA's score is above the State-wide benchmark of 800. As such, HTH-LA will not be accountable for an API growth target in 2006.

Course Grades

Data on students' grades in core academic classes largely mirrors that of the CST data. Cohort 1 (11th grade) students show their highest performance in English with low performance in Science (Physics). Cohort 1 students are achieving at higher levels under the Integrated Math sequence.

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[6] Note: CAHSEE scores of 10th graders (i.e., first time test takers) is the key accountability metric used to compute Adequate Yearly Progress, the Federal measure of school accountability.

Table 3.5 Cohort 1 Students, 2003-2004 & 2004-2005

	2003-2004				2004-2005			
	N	Grade A & B	Grade C	Grade D & F		N	Grade A & B	Grade C	Grade D & F
English	40	35%	35%	30%	English	27	48%	52%	0%
Algebra I	n.a.	n.a.	n.a.	n.a.	Integrated I	n.a.	n.a.	n.a.	n.a.
Geometry	4	75%	25%	0	Integrated II	n.a.	n.a.	n.a.	n.a.
Algebra II	26	42%	15%	42%	Integrated III	27	37%	33%	30%
Physics	40	3%	35%	57%	Physics	n.a.	n.a.	n.a.	n.a.

Cohort 2 (10th grade) students were the highest-achieving cohort on both CST and course grades in the last two years. The majority of Cohort 2 students earned letter grades of A or B in each of the last two years. These students also showed the highest level of performance in Science (Physics).

Table 3.6 Cohort 2 Students, 2003-2004 & 2004-2005

	2003-2004				2004-2005			
	N	Grade A & B	Grade C	Grade D & F		N	Grade A & B	Grade C	Grade D & F
English	39	62%	26%	13%	English	38	66%	26%	8%
Algebra I	n.a.	n.a.	n.a.	n.a.	Integrated I	n.a.	n.a.	n.a.	n.a.
Geometry	10	70%	10%	20%	Integrated II	n.a.	n.a.	n.a.	n.a.
Algebra II	26	81%	8%	12%	Integrated III	38	58%	21%	21%
Physics	39	21%	39%	41%	Physics	n.a.	n.a.	n.a.	n.a.

Cohort 3 (9th grade) students showed the most even distribution of course grades. Like Cohort 1, student grades are highest in English, followed by Math and then Science (Physics) in 2004-05.

Table 3.7 Cohort 3 Students, 2003-2004 & 2004-2005

	2003-2004				2004-2005			
	N	Grade A & B	Grade C	Grade D & F		N	Grade A & B	Grade C	Grade D & F
English	n.a.	n.a.	n.a.	n.a.	English	95	31%	41%	28%
Algebra I	n.a.	n.a.	n.a.	n.a.	Integrated I	95	31%	20%	49%
Geometry	n.a.	n.a.	n.a.	n.a.	Integrated II	n.a.	n.a.	n.a.	n.a.
Algebra II	n.a.	n.a.	n.a.	n.a.	Integrated III	n.a.	n.a.	n.a.	n.a.
Physics	n.a.	n.a.	n.a.	n.a.	Physics	95	17%	32%	49%

School Attendance

Regular school n addition, student attendance at HTH-LA has remained at or above the 90% benchmark recommended for secondary schools by LAUSD. In 2003-04, students at HTH-LA attended 95.6% of the time. In 2004-05, the school's attendance rate declined slightly to 93.7%.[7]

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[7] Data obtained from LAUSD Decision Support System (DSS).

Conclusions & Recommendations

Curriculum and Instruction

HTH-LA remains successful in developing an innovative educational program that provides students with personalized instruction and hands-on learning experiences. Students and staff are overwhelmingly positive about the school, citing the small school environment, which promotes interactions between teachers and students as well as access to technology as key school strengths.

> ➢ **Recommendation 1:** Expand explicit instructional connections to the real-world and student access to work-based experiences. Continue guest speaker program and use *Presentations of Learning* (POLs) to highlight postsecondary connections and career options. Develop formal written plans for each student outlining postsecondary and career goals.

> ➢ **Recommendation 2:** Refine the POLs as a defining feature of the school's educational experience and assessment process. Develop a more comprehensive plan for structuring the POLs, including guidelines for assessing students. HTH-LA staff should re-explain the purpose and structure of the POLs to students and parents.

Teacher Support and Collaboration

The unique academic identity, small school size, and staff inclusion in school planning and decision-making have helped nurture a supportive and collaborative school culture that has integrated new staff members.

> ➢ **Recommendation 3:** Build on existing collaboration to make interdisciplinary connections across content areas and project-based learning more regular and conscious aspects of professional development, staff planning, and instructional delivery. In addition, HTH-LA should provide professional development and or common planning time for teacher to discuss how best to use classroom learning environment to engage students and promote learning, as well as strategies for differentiation instruction to address different learning styles/modalities among students.

> ➢ **Recommendation 4:** Student grades suggest that many 9th grade students are not successful in Physics. Therefore, HTH-LA should consider returning or a traditional Science sequence (Biology, Chemistry, Physics) in order to provide students with a smoother transition to high school science and better students' chances for academic success. Alternatively, HTH-LA may want to significantly revise the delivery of Physics as the introductory course to scaffold and differentiate instruction around conceptual understanding of math and science content in order to maximize student success.

Parent/Community Involvement

Parents of students enrolled at HTH-LA are largely supportive and positive about the school's educational philosophy, personalized connections between faculty and students, access to state-of-art technology, and options that the school provides to their children.

> ➢ **Recommendation 5:** HTH-LA should place greater emphasis on regular home-school communication regarding course expectations, student progress, and major school decisions.

Student Achievement

Overall, HTH-LA demonstrates high levels of academic achievement on the key high-stakes measures used to establish school accountability. The fact that HTH-LA achieved an API score above the State-wide benchmark indicates a higher level of secondary achievement than most schools in California and well above LAUSD averages. Indeed, the CAHSEE pass rates of 10th graders were extremely high compared to State and LAUSD averages. HTH-LA also has high rates of student attendance relative to other secondary schools.

However, there are significant differences in the achievement of the different cohorts of students. Cohort 2 (current 11th graders) are clearly the highest-achievers. Cohort 1 (current 12th graders) will be graduating in 2006 and will not participate in most high stakes testing in 2005-06. Cohort 3 shows the most variation in terms of achievement with students performing at the high, middle, and low ranges. .

Data on course grades show these same patterns. However, all students (regardless of cohort) experienced the least difficulty in English and the most difficulty in Science.

> ➢ **Recommendation 6:** Recognizing the differences between the cohorts of students in terms academic achievement, consider providing students in the current 10th grade cohort (Cohort 3) with on-going academic support and proactive intervention.

Appendix A
2005 Student Survey

HighTechHigh-Los Angeles, Student Survey (N=160)

Directions: We are conducting an evaluation of the HighTechHigh-LA (HTH-LA) to help improve the school as it grows. We are interested in your honest opinion of HTH-LA. The survey should take you 15 minutes to complete. All information will remain confidential and will be used only for evaluation purposes. Please do not write your name on the survey. Thanks!

Student Recruitment

1. How did you first hear about HTH-LA? (check **one**)

5% Counselor in Middle School	4% Counselor in High School
9% Teacher in Middle School	3% Teacher in High School
19% Friend	25% School bulletin/flyer
16% Parent/Relative	20% Other

2. What is the **primary** reason you enrolled in HTH-LA? (check **one**)

28% Interest in technology	1% More challenging courses
17% Better preparation for college	6% Recommendation from friend
12% Opportunities for career experience	7% Smaller school size
21% Parent wanted me to attend	8% Other

3. Where would you be if HTH-LA did not exist? (check **one**)

42% Birmingham High School	18% Other Magnet/Academy Program
28% Other Public High School near home	6% Other Public High School not near home
1% Private High School	5% Other

Respondent Demographics

4. What is your current grade level? (check **one**)   9th 59%   10th 22%   11th 18%

5. Do you have access to a computer at home?   Yes 98%   No 2%

6. Do you have access to the Internet at home?   Yes 95%   No 5%

7a. Do you or your parents have an e-mail account provided by the district/school? Yes 65%   No 35%

7b. Do you or your parents have an e-mail account NOT provided by the district/school? Yes 86%   No 15%

Appendix A – Student Survey Frequencies

Please indicate your level of agreement with the following statements about your experience at HTH-LA:

Classroom Instruction	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't Know
8. Classes are small enough so that all students receive personalized attention.	6%	15%	45%	31%	3%
9. Teachers balance lectures with small group work, discussions, and independent study.	6%	15%	56%	21%	3%
10. Students regularly work on projects and other hands-on kinds of learning opportunities.	5%	17%	54%	22%	2%
11. Teachers usually explain lesson objectives and the purpose of assignments.	4%	17%	53%	23%	2%
12. The fact that students share the same group of teachers is beneficial to students.	2%	13%	41%	36%	9%
13. Teachers use a variety of instructional methods to meet the needs of different kinds of students.	6%	29%	42%	16%	6%
14. Teachers strive to make learning meaningful and tied to real-life examples.	3%	22%	49%	21%	5%
15. Teachers hold high academic expectations for all students.	2%	12%	43%	37%	6%
16. There are clear standards for student behavior in the classroom that are followed.	3%	13%	52%	27%	5%
17. The physical classroom environment is engaging and helps promote student learning.	11%	23%	39%	16%	11%
18. Teachers know their subject well and communicate their area of expertise to students	2%	13%	47%	35%	3%
19. Teachers regularly show how learning in one subject area is connected to other courses.	3%	17%	53%	24%	3%
Measurement of Student Progress	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't Know
20. I know how my academic progress is measured.	3%	24%	48%	14%	11%
21. I receive regular and timely feedback from my teachers about my progress.	12%	33%	41%	10%	4%
22. Tests and other assessments measure what I have learned during lessons.	9%	20%	53%	14%	5%
23. Graded projects and the Presentations of Learning are a better measure of what I know and am able to do than tests.	10%	12%	24%	41%	14%
24. Teachers often point out how what I am learning in the classroom will be tested on tests like the CAT-6 or High School Exit Exam.	10%	16%	49%	19%	7%
25. I know what is required to succeed in my classes.	3%	9%	54%	31%	2%
Access and Use of Technology	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't Know
26. There is an adequate supply of computers in classrooms.	1%	6%	45%	44%	4%
27. School connections to the internet are adequate to serve my needs.	8%	19%	42%	29%	2%
28. If any piece of technology is not working, it is quickly fixed.	19%	30%	31%	16%	5%
29. Teachers usually integrate technology into the daily lessons.	12%	28%	46%	11%	4%
30. Using technology in the classroom helps motivate me to do my best.	11%	19%	33%	28%	9%

31. How have you used technology in the classroom? (check **all** that apply)

☐ Word Processing for creating reports or projects 99%
☐ Graphic presentations of material (e.g., PowerPoint) 95%
☐ Accessing content-specific software or Web-based resources 57%
☐ Spreadsheets for analyzing data (e.g., Excel) 81%
☐ Other 9%

☐ Research, using Internet or CD-ROMS 89%
☐ Audio visual equipment for demonstrations or simulations 49%
☐ Corresponding with experts, authors, students from other schools via e-mail and/or Internet 37%
☐ CAD/CAM engineering design 22%

32. How often and in what subjects is technology used?

Subject	Frequency of Use
English/Language Arts	☐ Daily 37% ☐ 2-5 days/week 5% ☐ 2-3 times per month 42% ☐ Less than monthly 15% ☐ Never 1%
Mathematics	☐ Daily 16% ☐ 2-5 days/week 13% ☐ 2-3 times per month 16% ☐ Less than monthly 18% ☐ Never 38%
Science	☐ Daily 37% ☐ 2-5 days/week 25% ☐ 2-3 times per month 5% ☐ Less than monthly 9% ☐ Never 24%
History/Social Science	☐ Daily 32% ☐ 2-5 days/week 3% ☐ Between once a week and monthly 43% ☐ Less than monthly 22% ☐ Never 1%

33. Have any of your teachers communicated with you or your parents via: (check **all** that apply)

Email 91%   Voice Mail 37%   Teacher Web Pages 7%   School Web Pages 7%

Please continue indicating your level of agreement with the following statements about HTH-LA:

Preparing for the Future	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't Know
34. HTH-LA has helped me learn about the world of work and possible future careers	11%	20%	51%	15%	4%
35. HTH-LA has helped me better define my educational goals.	16%	25%	42%	12%	4%
36. I have received guidance on further education and college through HTH-LA.	12%	20%	47%	15%	6%
37. I am pretty sure what I will do after graduating from HTH-LA.	16%	16%	31%	29%	8%
Parent Involvement	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't Know
38. My parents know what I am learning in HTH-LA.	13%	21%	40%	19%	8%
39. My parents know who to talk to if they have a concern about HTH-LA.	10%	12%	46%	24%	8%
40. My parents usually talk to me about school and homework.	11%	17%	44%	27%	2%
41. My parents have received information about my progress or performance in HTH-LA.	8%	11%	54%	24%	4%

Overall Assessment of the School	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't Know
42. I look forward to coming to HTH-LA.	24%	11%	35%	20%	10%
43. Since attending in HTH-LA, I am doing better in my academic classes.	31%	26%	25%	8%	10%
44. Use of technology in the classroom has benefited me as a student.	14%	15%	40%	25%	6%
45. Participation in school and classroom projects has helped me improve as a student.	10%	19%	48%	20%	5%
46. The smaller learning environment of HTH-LA has benefited me as a student.	17%	13%	36%	28%	7%
47. I would recommend HTH-LA to other students.	24%	15%	24%	20%	17%

Open Ended Responses

48. What is the single best thing about HTH-LA?

Students were most pleased with the access to technology and its integration into the academic program. Although several students suggested that it could be improved, particularly by providing more opportunities for project-based learning. Also, students this year reported feeling a sense of belonging in the school due to its small size.

49. If you could change one thing about HTH-LA, what would you improve?

Several students indicated that they would like to have access to extra-curricular aspects of a larger school (clubs, events, sports, etc.). Many students said they would incorporate a Physical Education course that provides more exercise, and an escape from the classroom atmosphere. Several students also noted that there are too many restrictions at HTH-LA, primarily in terms of dress code.

Thanks so much for helping us! Please return the survey to your teacher before leaving today.

Appendix B
2005 Parent Survey

HighTechHigh-Los Angeles, Parent Survey (N=94)

Directions: We are conducting an evaluation of High Tech High-Los Angeles (HTH-LA) to help improve the school as it grows. We contracted with Public *Works*, Inc., a non-profit educational consulting firm, as our evaluator. They have designed a survey intended to solicit your honest opinion of HTH-LA. Your son or daughter completed a similar survey. The survey should take you 10 minutes to complete. All information will remain confidential and will be used only for evaluation purposes. Please do not write your name on the survey. You should return the survey with your child **by Tuesday, April 26th**. Thanks!

Student Recruitment

1. How did you first hear about HTH-LA? (check **one**)

5% Counselor in Middle School	7% Counselor in High School
3% Teacher in Middle School	1% Teacher in High School
9% Friend/Relative	36% School bulletin/flyer
26% My Child	14% Other

2. What is the **primary** reason you enrolled your child in HTH-LA? (check **one**)

26% Child's interest in technology	7% More challenging courses
20% Opportunities for my child to explore a possible career	3% Recommendation from friend/relative
26% Better preparation for college	12% Smaller school size
7% Trust in school administrators	6% Other

3. Where would your child be if HTH-LA did not exist? (check **one**)

43% Birmingham High School	4% Other Magnet/Academy Program
21% Other Public High School near home	4% Other Public High School not near home
5% Private High School	6% Other

Home Access to Technology

4. Do you have access to a computer at home?   Yes 97%   No 3%

5. Do you have access to the Internet at home?   Yes 94%   No 7%

6a. Do you or your child have an e-mail account provided by the district/school?   Yes 86% No 14%

6b Do you or your child have an e-mail account NOT provided by the district/school? Yes   89% No 11%

7. Have any of your child's teachers communicated with you via: (check **all** that apply)

   78% Email   45% Voice Mail   10% Teacher Web Pages   9% School Web Pages

Appendix B – Parent Survey Frequencies

Please indicate your level of agreement with the following statements about HTH-LA:

Classroom Instruction	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't Know
8. Classes are small enough so that all students receive personalized attention.	2%	10%	38%	39%	11%
9. Students regularly work on projects and other hands-on kinds of learning opportunities.	1%	3%	50%	36%	10%
10. The fact that students share the same group of teachers benefits the students.	0%	3%	44%	37%	16%
11. Teachers hold high academic expectations for all students.	3%	3%	41%	41%	12%
12. There are clear standards for student behavior in the classroom that are followed.	0%	5%	48%	36%	11%
13. The physical classroom environment is engaging and helps promote student interest in learning.	2%	9%	41%	30%	18%
14. Teachers know their subject well and communicate their area of expertise to students	0%	3%	44%	30%	23%
15. Teachers regularly show how learning in one subject area is connected to other courses.	1%	6%	35%	25%	33%
16. Graded projects and Presentations of Learning are a better measure of what students know and are able to do than tests.	2%	5%	37%	34%	22%

Access and Use of Technology	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't Know
17. There is an adequate supply of computers in classrooms.	1%	1%	43%	48%	7%
18. School connections to the internet are adequate to serve my child's needs.	1%	2%	45%	44%	9%
19. If any piece of technology is not working, it is quickly fixed.	1%	10%	24%	23%	43%
20. Teachers usually integrate technology into the daily lessons.	0%	12%	43%	17%	29%
21. Using technology in the classroom helps motivate my child in school.	3%	9%	42%	36%	11%

22. How has your child used technology in the classroom? (check **all** that apply)

☐ Word Processing for creating reports or projects 93%
☐ Graphic presentations of material (e.g., PowerPoint) 84%
☐ Accessing content-specific software or web-based resources 54%
☐ Spreadsheets for analyzing data (e.g., Excel) 71%
☐ Other 7%

☐ Research, using Internet or CD-ROMS 86%
☐ Audio visual equipment for demonstrations or simulations 40%
☐ Corresponding with experts, authors, students from other schools via e-mail and/or Internet 32%
☐ CAD/CAM engineering design 14%

23. In what subjects do you feel technology is most likely to be used? (check **one**)

19% English   14% Math   30% Science   20% History/Social Science   19% Don't Know

Please continue indicating your level of agreement with the following statements:

Preparing for the Future	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't Know
24. HTH-LA has helped my child learn about the world of work and possible future careers	1%	11%	52%	26%	10%
25. HTH-LA has helped my child better define educational goals.	2%	21%	42%	28%	8%
26. My child has received guidance on further education and college through HTH-LA.	2%	14%	45%	29%	10%
27. My child is pretty sure what I he/she will do after graduating from HTH-LA.	9%	13%	42%	28%	9%
Parent Involvement	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't Know
28. I know what my child is learning in HTH-LA.	6%	15%	47%	25%	7%
29. I know who to talk to at HTH-LA if I have a concern.	3%	13%	45%	34%	5%
30. I usually talk to my child about school and homework.	2%	4%	39%	53%	1%
31. I know how my child's academic progress is measured.	2%	21%	46%	23%	8%
32. I receive regular and timely feedback from teachers about my child's progress.	13%	23%	41%	16%	8%
33. I know what is required for my child to succeed in his/her classes.	4%	12%	46%	35%	3%
Overall Assessment of the School	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't Know
34. My child looks forward to coming to HTH-LA.	12%	10%	35%	37%	7%
35. Since attending in HTH-LA, my child is doing better in academic classes.	7%	24%	42%	20%	8%
36. Participation in school and classroom projects has helped my child improve as a student.	4%	15%	51%	24%	7%
37. Use of technology in the classroom has benefited my child.	3%	9%	48%	37%	3%
38. The smaller learning environment of HTH-LA has benefited my child.	1%	9%	42%	42%	7%
39. I would recommend HTH-LA to other parents.	2%	5%	38%	46%	9%

Open Ended Responses

40. What is the single best thing about HTH-LA?

Parents were most pleased with the technology aspect the school offers, and the opportunities for success available through studying at HTH-LA. For instance, many parents mentioned that the curriculum at HTH serves as a great preparation for higher education. Several parents also expressed their satisfaction with the small class size, and the individualized attention available.

41. If you could change one thing about HTH-LA, what would you improve?

Parents were most concerned with the lack of physical activity available to their children, and indicated they would like to see more extra-curricular activities (clubs, sports, events, etc.) integrated into the learning environment at HTH-LA. Parents also indicated they would like to have more communication from teachers on their child's progress.

Participation in Parent Focus Group

The evaluation team from Public *Works*, Inc. will be conducting a focus group of HTH-LA parents. This is an opportunity to share your thoughts and concerns. If you would like to be part of a parent focus group, please give us your first name and a day time phone number to contact you. The focus group is likely to be held the first week of May in the evening at HTH-LA.

First Name _____   Day Phone Number: _____

Thanks so much for helping us! Please return with your child by Tuesday, April 26th.