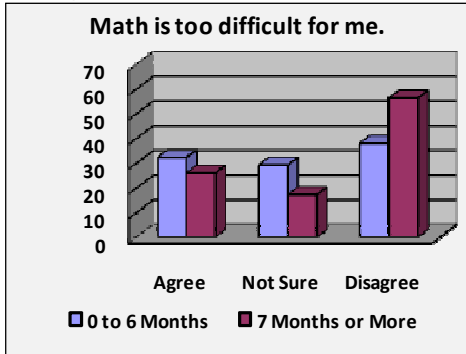
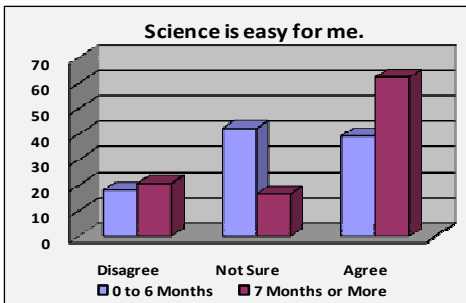


From the Student's Perspective:

Self-Reports administered at multiple time increments suggest that Tech Success students' beliefs about their abilities in math and science may increase as they continue to participate in the program—their self-efficacy increases. Simply put, self-efficacy (as defined by Albert Bandura, 1997) is an individual's belief that she/he is capable of producing results through her/his own actions.



Of the 58 Tech Success middle school students surveyed during the first 2½ years of the NSF/ITEST project, more students expressed belief in their math, science, and computer abilities after at least 7 months in the program.



Percent of Students Showing High Self-Efficacy or High Motivation at 6 Month Intervals into the Program:

Student Survey Item	0 to 6 Months	7 Months or More
Math is (NOT) too difficult for me.	38.2	56.5
Science is easy for me.	39.4	65.5
Learning to use computers will help me do well in math.	60.6	73.9
I expect to make good grades in math when I am in high school.	81.8	87.5
Science class is (NOT) boring to me.	50.0	63.6
When I get low grades, I feel discouraged.	59.4	73.9
Having a tutor help me understand math would improve my grades.	57.6	62.5
I am good at using computers.	67.6	83.3

Tech Success Outcomes

From the Teacher's Perspective:

The *Teacher Report of Student Engagement* focuses on cognitive, behavioral, and affective indicators of student engagement in learning tasks. Students in the program for 7 months or longer received statistically significant higher ratings on four indicators of engagement:

- Paying attention to all topics—not just those of personal interest;
- Being creative in schoolwork;
- Finding unique ways to complete assignments;
- Doing more than what is required.

Teachers who have integrated Tech Success strategies into their regular classrooms may be particularly effective when they instruct their Tech Success students in multiple venues. Their students appear to be significantly more likely to:

- Enjoy figuring out things for themselves;
- Enjoy the challenge of finding a solution to a difficult topic or question;
- Express creativity in schoolwork;
- Find unique ways to complete assignments;
- Be willing to do more than the work that is required of them.

Students participating in the Tech Success program were also rated on SCANS employability skills. Students in the program 7 months or more were rated significantly higher on a 5-point scale than students in the program 6 months or less on the following foundation and functional skills:

Listening - receives, attends to, interprets, and responds to verbal messages and other cues (mean increase of .55).

Decision making - specifies goals and constraints, generates alternatives, considers risks, evaluates and chooses the best alternative (mean increase of .65).

Sociability - demonstrates understanding, friendliness, adaptability, empathy, and politeness in group settings (mean +.70).

Using Money – budgets, keeps records, and makes adjustments for a task (+.85).

Selects technology – knows what tools, materials are needed for a task (+.55).

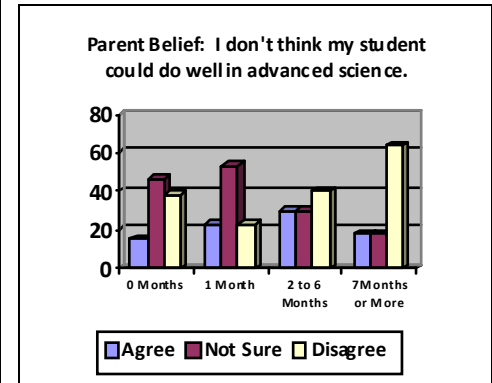
Applies technology to task – knows how to use tools and equipment effectively for a task (mean increase of .65).

Maintains and troubleshoots equipment – prevents, identifies or solves problems with equipment (mean increase of .55).

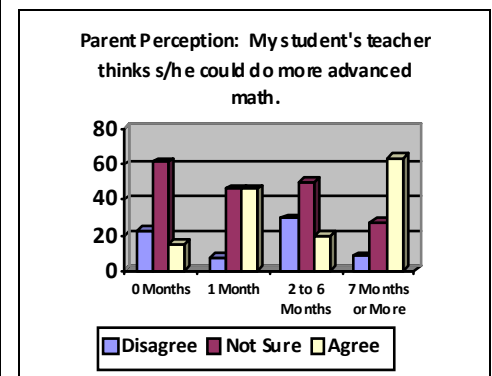
From the Parent's Perspective:

Parents of students participating in Tech Success for more than one month report greater interest by their students in science and math than do parents whose students are just entering the program.

Parent beliefs about what their student can accomplish in science increased as the length of time students were in Tech Success increased. Parent uncertainty about their child's academic abilities also declined over the course of the program.



Parent beliefs about their student's ability is capable of doing appears to increase for both science and math and reflects their belief that teachers concur.



Parent's perceptions of student abilities and interest increased between 0 and 7+ months in Tech Success on several items.

Parent Survey Item	0 Months	7 Mos. or More
My student looks forward to science lessons in school.	61.5	81.8
I don't (DO) think my student could do well in advanced science.	38.5	63.6
My student's teacher thinks s/he could do more advanced math.	15.4	63.6
My student likes to understand the scientific explanation for things.	69.2	81.8
The challenge of science problems appeals to my student.	30.8	72.7
I think my student could have a successful career in science.	53.8	72.7