

Interim Evaluation Report
For
The White Plains Youth Bureau's
21st CCLC STEAM After School Program
And
Summer Math Bridge Program
2020-2021

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**INTERIM EVALUATION of the
STEAM AFTER SCHOOL and SUMMER PROGRAMS
July 2020 – March 2021**

The STEAM Program initiated its fourth grant year in July 2020 with its annual Summer Math Bridge Program for rising 6th graders. The STEAM After School Program began operations in late October 2020. As detailed in this Evaluation Report, in response to the Coronavirus pandemic, the STEAM Program continued its Summer Math Program and its After School Program in modified formats. While the Summer Math Program was held in its usual location, the Eastview Middle School, the number of students participating in the Program and the length of the Program sessions were reduced. The STEAM After School Program continued to be provided to students in the five White Plains elementary schools in the virtual format established in Spring 2020 after White Plains schools closed in response to the pandemic. In-person programming continued at the two Community Centers in which the STEAM Program is offered for far fewer students. The After School Program expanded availability to more students by offering the Program to Middle and High School students through the White Plains Youth Bureau’s Saturday Academy.

Evaluation of the STEAM After School Program is an integral component of the Program Planning and Management. It includes both formative and summative data collection and analyses, as well as regular, on-going monitoring of Program operations to provide input to the Program Director for making programmatic adjustments and improvements:

- The Formative Evaluation focuses primarily on Program Planning and Management, and
- The Summative Evaluation centers on assessing the impact of the STEAM After School and Summer Programs on Student Learning and Engagement in Learning.

Purposes of the Evaluation

The primary purposes of the evaluation of the STEAM After School and Summer Programs are:

- To assess the effectiveness of the Programs:
 - In supporting student learning and academic enrichment in science, math, technology, engineering, and literacy;
 - In promoting Youth Development through team building, emphasis on respect for others, and encouraging students’ ability to make a difference in themselves, their families, communities, and country; and

- In providing a range of activities that engage students in learning and are at the same time appropriate for Out of School Time programming.
- To provide regular feedback to the program management team for program improvement and adjustments.

Evaluation Methodologies

The following evaluation methodologies were used between July 2020 and March 2021 to assess the STEAM Program’s progress in meeting its objectives for enhancing student achievement in science, math, and literacy, as well as promoting understanding of and skills in technology, engineering, and the arts through its Summer and After School Programs. Additionally, the evaluation assesses the STEAM Program’s impact in encouraging student engagement in learning and positive social and emotional development.

- **Evaluation Survey Instruments.** The Program Evaluator developed several Evaluation Survey instruments designed to measure the effectiveness of specific components of the STEAM After School and Summer Programs.
 - **Student Evaluation Surveys.** Student learning outcomes are measured through analysis of students’ responses to a Post-Program Evaluation Survey. The Evaluation Survey includes items to assess students’ learning and engagement in learning, as well as the extent to which the program has built their confidence for academic achievement. The Evaluation Surveys also compile information about what Program activities students like and their recommendations for Program changes. In July and August 2020 a Post-Program Evaluation Survey was administered to the students who participated in in Summer Math Bridge Program. The students’ responses to this evaluation survey are analyzed in this Report. A Post-Program Evaluation Survey will be administered to students currently participating in the After School Program at the end of the Program year.
 - **STEAM Staff Evaluation Survey.** This Survey is designed to obtain feedback on the experiences of the STEAM Program staff during the day-to day operations of the After School and Summer Programs. The Staff Evaluation Survey will be administered in May 2021.
 - **Classroom Teachers Evaluation Survey.** To obtain more information on the impact of the STEAM Program on improving students’ learning and social/emotional development, a survey was conducted with school day teachers who had one or more students in their class who participated in the STEAM After School program. This survey was conducted in February and March 2021.

- **Family Evaluation Surveys.** An evaluation survey instrument is developed to obtain feedback from families about their children’s experiences with the STEAM After School Program. An additional evaluation survey provides feedback from the families who participated in the STEAM Family Engagement programs that support families is assisting their children’s learning. These surveys will be administered in May 2021.
- **Interviews and meetings with the Program Director** to regularly monitor and assess project progress and to provide feedback and recommendations for on-going project adjustments and improvement.
- **Analysis of Program documents** to assess program planning and management.
- **Program Observations by the Program Evaluator:** the New York State Education Department’s Guidelines for evaluation of 21st CCLC programs requires two site visits. The first visit is conducted at the beginning of the program to verify implementation fidelity. In response to the pandemic limitations on direct interaction, a modified assessment of implementation fidelity was implemented in Fall 2020 through review of documents and interviews with the Program Director. The second required visit will be conducted virtually in April and May to obtain a more in-depth understanding of:
 - The activities and learning experiences being provided to students during the Program;
 - The level of student engagement in these activities; and
 - The students’ interactions with the STEAM Program instructors and facilitators and with each other during their time in the Program.
- **Observations of the STEAM Program Advisory Board Meetings.** The Program Evaluator participates in the meetings of the Advisory Board to assess the role of the Advisory Board in guiding Program development and quality improvement.

The findings of the Interim Evaluation of the STEAM Program that are summarized in the following report, focus on Program development and implementation between July 2020 and April 2021. The Formative evaluation findings are based on the collection of data on and analysis of the Program Planning and Management measures utilized to implement and maintain the STEAM Programs during this period. Summative evaluation of Program outcomes on student learning were collected for the Summer Math Bridge Program through Post-Program Evaluation Surveys administered to students participating in the Program. Additional assessments of the impact of the STEAM After School Program were obtained through an Evaluation Survey for Classroom Teachers who were asked to assess the extent to which students participating in the After School Program demonstrated improved learning and behavioral outcomes.

Summary of Evaluation Findings on Program Planning and Management

As previously indicated, the STEAM Program initiated its fourth grant year in July 2020 with its annual Summer Math Bridge Program for rising 6th graders. This Program was offered in-person at the Eastview Middle School to a limited number of students. The STEAM After School Program began operations in late October 2020 and was offered virtually to students from the five White Plains elementary schools. It also continued to be provided in-person at two community centers, the Slater Center and Passages Center for Excellence at Bethel Baptist Church. In addition, White Plains Middle and High School students participated in the STEAM Program through the Youth Bureau's Saturday Academy.

Student Enrollment

During its first two and a half years of operation, the STEAM Program demonstrated a very strong student enrollment and retention rate. For example, between October 2019 and March 2020, a total of 302 students were enrolled in the After School Program of whom 92.4% met the state's required minimum of 30 days participation in the Program and approximately 60 students were enrolled in the 2019 STEAM Summer Math Camp. The 2019-2020 Interim Evaluation Report concluded that the strong enrollment levels in the STEAM After School and Summer Programs reflect the successful recruitment strategies implemented by the Program Director. The Program Director was commended for the effectiveness of her approaches to generating families' interest in the STEAM After School Program

Since March 2020 and the shutdown of White Plains schools in response to the Coronavirus pandemic, student enrollment has been a challenge for the STEAM Program. As previously indicated, for most elementary students the STEAM Program was offered virtually. Limited in-person programming was offered at the Slater and Passages community centers. To make more extensive use of the Program's resources given the fairly low level of student participation at the elementary level, out of school time programming was made available for middle and high school students. Student enrollment in the STEAM program as of March is summarized in Table 1.

Table 1. Enrollment in the 2020-2021 STEAM Program
(July 2020 to April 2021):

Grade Level	Total enrolled
Summer Math Program: 4 Cohorts with a maximum of 9 students each	21
Virtual Elementary Program	74
Community-based Programs (2 sites)	17
Middle and High School Program	17
TOTALS	129

Analysis of Student Enrollment:

Since March 2020 when the STEAM Program started being offered primarily virtually, maintaining student enrollment levels has been a challenge. There are a number of factors that detract from student enrollments in the After School Program, one of the main one being that many students who are participating in the school day program virtually do not want to continue in a virtual after school program. It's often a problem to keep children online for an additional 3 hours after being online during the school day. Many parents are not inclined to subject their children to yet another session of "screen time". They have indicated that it also adds another layer of obligation to the already overwhelming situation of virtual school.

Another significant factor is that many families are not available to support their children's participation in the After School Program. The 21st CCLC funding that supports the STEAM Program is targeted for low-income families. These families often are not able to be home with their children because they need to work outside the home, and, in fact, they valued the in-person programming as providing a safe place for their children during the after school hours. For some families, internet access is a problem. Because it was an in-person program, student enrollments in the Summer Math Bridge Program were relatively stronger, although the program had enrollment caps for each session.

Measures for Student Recruitment.

Since the virtual Program became predominant in Spring 2020, the Program Director has made considerable efforts to continue recruiting more students to the STEAM Program. Her recruitment plan includes:

- Contacting parents, including parents of students previously enrolled in the STEAM Program, through calls, emails and texts. STEAM staff have assisted the Program Director in making calls to parents to encourage their children's participation in the Program. One of the STEAM staff members, who is bilingual, contacts Spanish-speaking families to inform them about the Program and provide information about how the Program can help their children in school.
- The Program Director also informs in-school teachers and staff about the availability of the STEAM Program, including speaking to the teachers directly and to students, when possible. A barrier to this recruitment measure is that the STEAM Program has limited access to the students since the schools are doing a hybrid model of teaching.
- An additional student recruitment measure is asking families participating in the Program's Family Involvement Workshops to spread the word about the benefits of the Program for their children.

STEAM Program Staffing.

The staff assigned to each grade level of the STEAM Program include the following:

Table 2. 2020-2021 STEAM Program Staff
(July 2020 to April 2021):

Grade Level	Total and Type of Staff
Summer Math Program	4 instructors, one of which served as Site Director; 1 Youth Employment Services student (door attendant)
Virtual Elementary Program	Initially 27, currently 19 instructors
Community-based Programs (2 sites)	Started with 6 instructors, currently have 5; plan to add staff as more students are added to the Slater Community Center site
Middle and High School Program	4 instructors
TOTALS	33 (current staff)

Analysis of Staffing

The Program Director has demonstrated a very good understanding of the challenges involved with recruiting appropriately qualified staff for the STEAM Program. A number of issues made it particularly problematic for the Program Director to appoint qualified staff for the STEAM Program during the 2020-2021 program year. The after school hours make it difficult to source qualified staff, which is a continuing issue with the Program. Because the majority of STEAM programming was virtual during the 2020-2021 program year, many of the staff who worked with the Program during the previous year did not stay on. Other reasons that staff have left the STEAM Program are not directly related to the work. Some staff had family obligations that precluded working in the STEAM Program; for example, the necessity of supporting their own children because of the shutdown of many childcare programs. The pay rate and limitation on work hours also contribute to the Program Director’s ability to utilize staff effectively and efficiently.

Professional Development for Staff

Between September 1 and October 6, 2020, a series of Professional Development sessions were provided to the STEAM Program staff to prepare them for providing the STEAM After School Program to students virtually. These staff orientation and training sessions were provided virtually and were developed in collaboration with Dr. Pauline Moseley, Professor of Pace University's Seidenberg School of CSIS.

The introductory staff orientation session was held for all staff, and provided:

- An overview of remote training objectives,
- Strategies and methodologies for engaging students virtually, and
- Techniques for using Zoom teaching strategies effectively\

A series of four two-hour training sessions were held for Grade 1 Teachers, Grades 2 and 3 Teachers, Grade 4 Teachers, and Grade 5 Teachers. Although the specific content of each session varied by grade level, all session included:

- **Technology Training** in the educational objectives, the use of the technological devices used in instruction, what problems the technology is intended to solve, and engaging students through technology.
- **Content Design** in planning activities on a daily basis
- **Implementing Activities** in ways to engage and motivate students, identifying what supplies are needed for the activity, and how to identify and correct what is not working.

The STEAM Program is planning an additional Professional Development session for staff on ACEs and Trauma Informed Practice.

Program Activities and Learning Experiences for Students.

The Summer Math Bridge Program was provided in-person for a limited number of rising 6th graders during two three-week sessions, each of which consisted of two cohorts, one that attended the Program in the morning and one in the afternoon. The daily schedule of Program activities included math instruction and math games. Students were provided with curriculum materials including the main text: "Everything You Need to Ace Math in One Big Fat Notebook."

The STEAM Elementary Level After School Program provides a schedule of structured learning experiences designed to enhance the participating students' knowledge and understanding of science, technology, engineering and math. Literacy activities focused on improving reading comprehension and writing also are central to the After School Program. As an Out of School Time program, the STEAM activities are designed to be fun while students are learning at the same time, and not to be repetitious of their in-school curriculum.

The Program Director with staff support developed detailed curricula and lesson plans for teachers to use with students at each grade level (grades 1 through 5), as well as student workbooks. The STEAM Program's After School curriculum was developed with the support of Dr. Pauline Mosley. Dr. Mosely makes regular contributions to maintaining the quality of the STEAM Program's curriculum and professional development initiatives for Program staff. The established STEAM After School Program curriculum for each grade focuses on the following topical areas:

- 1st and 2nd Grades: Pre-STEAM basics: STEM disciplines and literacy
- 3rd Grade: Civil Engineering – e.g. building a city plan
- 4th Grade: Flight – e.g. calculation of distance, elementary physics, use of drones and the flight simulator
- 5th Grade: Coding, including online coding

In addition, computers are used in all grades

As a virtual program starting in March 2020, the STEAM After School Program curriculum and lesson plans have been appropriately modified to be provided through an online platform. The current STEAM Program curriculum incorporates literacy and math into all topics, and continues to provide students with experiences in science and engineering. One of the limitations to the STEAM Program resulting from the COVID pandemic is that the Program curriculum cannot use the technological manipulatives that were a central component of the in-person Program.

The materials and basic supplies that students need to participate in the Program activities are provided to them in weekly packets that include the students' workbooks which were developed in conjunction with the lesson plans. These packets are sent to the families of participating students or families can pick up the packets at the White Plains Youth Bureau. STEAM staff are available to support students and families for participation in the Program.

To provide the virtual STEAM Program, the instructors log in onto Zoom to start the Program at 3 p.m. Children log on when available; for example, some students who have been at in-person school join later. During the Program the students use the workbooks that are sent to them. The

goal of the Program continues to emphasize the engagement of students and to provide instruction in the context of socialization and fun. The students enjoy the opportunity to interact with each other, although virtually.

A major goal of the STEAM Program is to be emotionally supportive of the students. The students may experience difficult home situations, including hunger and abuse. To address some of the students social/emotional issues, a social work intern is contributing to the STEAM Program, implementing mindfulness exercises with the students, and introducing a range of social issues to discuss with them. The intern reaches out to individual students to find out what will be helpful to them and to support their social/emotional development.

The Program also aims at meeting the students at their individual levels of learning and to helping increase their capacity to learn. The Program Director is working to acquire new resources that respond better to the current needs of virtual programming. For example, she is building a library of books that will be interesting and also support learning. Her initial effort is to obtain the “Kids Books About” series.

A Middle and High School Program was added to the STEAM After School Program on a temporary basis during the pandemic. The Program for Middle and High School students introduces different program components than the elementary level Program that are designed to engage the students at their age-level. These activities include dance class, music, tutoring, chess, and coding. The STEAM Middle and High School Program is provided in conjunction with Youth Bureau’s Saturday Academy.

Family Programs.

During the 2020-2021 program year the STEAM Program has implemented several initiatives to provide families with information and tools for supporting their children’s education. These include providing STEAM families with the Family Engagement Book and offering a series of Virtual Family Involvement Workshops. Two STEAM staff members provide the Virtual Family Involvement Workshops, one of whom is bilingual and can support the families who are primarily Spanish speaking. All Workshop discussions of the how families can help their children learn are held in English and Spanish and all materials provided to families are in both English and Spanish.

Between November 2020 and March 2021, the following Virtual STEAM Family Involvement Workshops were available for families of the children participating in the STEAM After School Program:

- **November 18, 2020: Creating a Reading Habit at Home.** The focus of this workshop was to provide families with ideas for encouraging their children’s interest in reading and to build their children’s reading skills at home.
- **December 2, 2020: How to Make Your Home a Learning Environment.** Families were provided ways to turn their home into a “learning center.”
- **December 16, 2020: Learning Activities for Rainy Days and School Vacations.** This workshop provided ideas to support and promote learning during school vacations and support for families to build their children’s self-esteem.
- **January 13, 2021: Teach Your Child How to Set Goals Part I.** The focus of this workshop was to provide families with a step-by-step approach that they can use at home to teach their children to set and achieve their goals.
- **January 27, 2021: How to Set and Achieve Goals Part II.** The focus of this workshop was on simple step-by-step approaches to teaching children how to set and reach goals in doing schoolwork, homework, chores at home, and other areas in which their children want to achieve.
- **March 9, 2021: “Eating Healthy on a Budget.”** (webinar facilitated by Helena Marescot).
- **March 17, 2021: Tips on Reading Aloud to Your Children.** Practical advice for ensuring that reading aloud to children is a special shared experience and builds on other approaches to fostering child’s love of reading.

Additionally, families of children participating in the STEAM Academy are provided with information about and encouraged to attend the range of trainings provided through the White Plains Education and Training Center. These include financial literacy, career development, and computer literacy among other topics.

Analysis of the STEAM Academy’s Programs for Families

The goal of the Family Involvement Workshops in providing families with specific practices and encouragement for helping their children do well in school parallels the goals of the STEAM Program to enhance participating students’ learning and academic achievement. Conducting the workshops in both Spanish and English and providing both Spanish and English versions of the materials demonstrate the Program administrators’ commitment to reaching all STEAM families.

As with the Virtual After School Program, the need to provide the Family Involvement Workshops virtually has reduced the ability of families to participate at the pre-pandemic level.

The STEAM Program’s commitment to providing families with information about the importance of supporting their children’s learning at home and offering them specific tools for achieving this is to be commended.

The STEAM Advisory Board

During the 2020-2021 year, the STEAM Program scheduled three meetings of the STEAM Advisory Board, the first two of which were held virtually on December 14, 2020, and February 22, 2021. A third Advisory Board meeting is scheduled for May 24, 2021. To provide the most effective input into planning for and improving the STEAM Program, the Advisory Board is comprised of Site Coordinators and Directors, STEAM and Youth Bureau staff, a school principal, a student, community members, parents, and the STEAM Program Director, Assistant Director, and Information Manager. The Program Evaluator also attended the February meeting and will attend the May meeting. The make-up of the Advisory Board is appropriate for serving its function of providing feedback on the STEAM Program’s effectiveness, identifying areas for improvement, and making recommendations for Program adjustments to better achieve its goals.

During the Advisory Board meetings, the Program Director provides an update on the status of the Program including student enrollment and participation levels, the Family Involvement Program, staff issues, and the Program budget.

Areas discussed during the Advisory Board Meetings for addressing some of the Program’s challenges include:

- Student and family recruitment
- Continuing to engage families, including in the Family Involvement Workshops
- Expanding and improving techniques for addressing students’ academic and social/emotional needs
- Lesson planning
- Identifying professional development needs

The Advisory Board has served as an effective mechanism for providing the Program Director and staff with input on the Program’s effectiveness at achieving its goals and for suggesting Program adjustments.

Partnerships with Schools and School Leaders

School leadership support of the STEAM After School Program is important for aligning the after school program with the school day curriculum and learning objectives to maintain a continuity of learning for the students. Until March 2020, the STEAM Program was primarily held at the five White Plains elementary schools which to some extent facilitated connections with the school's leadership and teachers. Building effective relationships with the school principals, however, varied by school site. Between September 2019 and March 2020, the Program Director implemented a number of measures to improve relationships with the elementary school principals and teachers.

After the STEAM Program became virtual in March 2020 and continuing into the 2020-2021 program year, it has been relatively difficult to maintain and build partnerships with the schools and school leaders. The Program Director does work with the White Plains Assistant Superintendent and with Department Chairs to align after school learning activities with school day curricula. The Department Chairs, for example, provide curriculum maps of school day learning.

Evaluation of the Impact of the STEAM Program on Student Learning and Development

Supporting students' academic achievement in the STEM disciplines and in literacy, as well as their social and emotional development are the primary goals and objectives of the STEAM Program. To achieve these broad objectives, the STEAM Program provides students with a range of structured learning experiences. As an Out of School Time program, the STEAM Program's activities are designed to be fun while students are learning at the same time.

Assessment of students' learning outcomes during the 2020-2021 STEAM Virtual After School Program will be conducted through the use of a Post-Program Evaluation Survey instrument administered at the end of the After School Program year. As indicated, the 2020-2021 STEAM Program year began in July 2020 with the STEAM Summer Math Bridge Program Evaluation Survey.

Students' Assessments of the STEAM Summer Math Bridge Program

As the targeted beneficiaries of the STEAM Program, the students' experiences with the Program are critical for assessing the Program's effectiveness at achieving its learning goals and objectives. The students' assessments also provide data for making Program adjustments and improvements. Post-Program Evaluation Surveys administered to students represent one of the primary methodologies for assessing the impact of the STEAM Program on student learning and development

Student outcomes data from their Evaluation Survey responses for the STEAM Summer Math Program are summarized in Appendix A. Summer 2020 was the third year that the STEAM Summer Math Bridge Program was offered to rising 6th graders. The Program was held in-person at the Eastview Middle School, the White Plains School that all 6th graders attend. Holding the Summer Program at the Eastview School is designed, in part, to help the students participating in the Program become familiar with the school they will be attending in the Fall. Because the STEAM Summer Math Program was an in-person program held during the COVID pandemic, the Program maintained a number of recommended safety measures to prevent the possible spread of COVID. These included limiting attendance to cohorts of nine students and requiring students to wear masks throughout their time in the Program. As a result, the Summer Math Program consisted of two three-week sessions during each of which two cohorts of nine

students attended. During each session one student cohort attended from 9 a.m. to noon and a second cohort attended from 1 p.m. to 4 p.m. The first session of two cohorts was held Monday through Thursday from July 6 to July 23, 2020. The second session was held from July 27 to August 13, 2020. Most of the students in the first Program Session re-enrolled in the second Session. As previously indicated, a total of 21 students attended the Summer Math Bridge Program.

A Post-Program Evaluation was administered to students at the end of each session. Since the majority of students in the second session had already participated in the Program for three weeks, they were asked on a Post-Program Evaluation Survey for that session to indicate why they had chosen to continue in the Program. Students' responses to the Evaluation Surveys are summarized in Appendix A.

The questions on the Students' Evaluation Survey of the first session of the 2020 STEAM Summer Math Bridge Program were designed to measure:

- 1) Students' math learning,
- 2) Their engagement in the math learning activities,
- 3) The extent to which participation in the Program helped them feel more confident about their math abilities, and
- 4) The impact of the Program in preparing them for the sixth grade environment in Eastview School.

In addition, students were asked about whether they would have liked more or less time doing math during the Program.

Analysis of Students' Responses

Math Learning and Engagement in Learning

Across all measures of math learning and engagement in learning the majority of students gave the two highest ratings of either *a lot* or *a medium amount*. These combined ratings ranged from how much they liked the book "Everything You Need to Ace Math in One Big Fat Notebook" (95% of students gave the combined ratings) to whether the Math games were a better way to learn about math (72% of students gave these ratings).

Over 50% of students gave the highest rating to the three items that assessed their math learning in the Program:

- 56% of students rated the Program's help in doing better in Math as *a lot*; and the same percent gave this rating to how helpful the book used in the Program was at doing better in Math.
- 50% of students gave the highest rating to how much Math they learned in the STEAM Summer Math Bridge Program.
- Students gave a slightly lower rating to how much the STEAM Program built their confidence in doing Math: 44.4% of students indicated that the Program helped them *a lot* on this measure
- In contrast, only 39% of students gave the highest rating on whether the Math games were a better way to learn Math.

In terms of engagement in learning, the highest student rating on the survey was for how much they liked playing the Math games: 61.1% of students rated this measure *a lot*. Students' ratings on the two other measures of engagement in learning were relatively lower than their ratings of their math learning:

- 44.4% of students rated how much they liked learning about Math in the Program as *a lot*, and
- 39% rated how much they like the book used in the Program as *a lot*.

On the issue of the amount of time scheduled for doing math during the Summer Program, the students' ratings basically indicated that the allotment of time for doing math was fine.

Preparation for Middle School

As indicated, one goal of the STEAM Summer Math Bridge Program is to begin to prepare the participating students for the new school that they will be attending during the coming school year. This involves bringing together 6th graders from the five White Plains elementary schools and holding the Program in the 6th grade Middle School.

Students responses to the survey items for assessing the Program's effectiveness in this area, were generally very positive:

- A total of 84% of students gave the two highest rating to how much they liked meeting students from other schools, with 56% rating this item *a lot*.
- 78% of students gave the highest rating to how helpful it was to learning about the 6th grade school before starting there in the Fall.
- A much lower percent of students (39%) gave the highest rating to how helpful it was to be with other 6th graders in getting ready to go to the 6th grade school in the Fall.

Students' Reasons for Attending the Second Session

Most of the students attending the second three-week session of the STEAM Summer Math Bridge Program continued from the Program's first three-week session. For this reason, the Evaluation Survey of the second session focused on learning why they chose to continue in the Program. The students could indicate multiple reasons for their interest in continuing to attend the Summer Program.

- The highest student ratings were that the Program was fun and that they liked making new friends in the Program: 87.5% of the students stipulated each of these reasons for continuing in the Program.
- 75% of students indicated that they liked learning more math.
- 68% of the students responded that they liked the math games.
- Another 62.5% of students identified having more time for leaning math as a reason for continuing in the Program.

Other students' reasons for continuing in the Summer Math Bridge Program emphasized the value of helping them understand math better, or that they liked doing math and the math drills.

In summary, the students' assessments of the STEAM Summer Math Bridge Program strongly support the effectiveness of the Program for enhancing students' math learning and providing an engaging learning environment. The students' responses also demonstrate that the Summer Program achieved the STEAM Program's goal of supporting students' social/emotional development. The students' very positive ratings of the value of meeting students from other White Plains schools and learning about 6th grade verify the Program's goal of providing an environment in which students' can begin to become familiar with their new school and new school experiences when they start Middle School in the Fall.

Classroom Teachers' Assessment of the STEAM Program

As part of an effort to strengthen the STEAM Program's relationship with school-day teachers, as well as assess the impact of the STEAM After School Program, an evaluation survey was conducted with White Plains teachers who had one or more students in their classrooms who participated in the STEAM After School Program. The focus of the evaluation was to obtain feedback on the impact of the STEAM Program on student learning and social/emotional development.

Of the teachers responding to the Evaluation Survey, 85.7% were familiar with the STEAM Program. **Overall, these teachers had a positive assessment of the impact of the STEAM Program on most of the measures of student learning and development:**

- 91.7% of the teachers who were familiar with the STEAM indicated that it improved students' participation in school-day learning;
- 83.3% of teachers reported enhanced social-emotional interactions among these students;
- 41.7% of teachers observed improved attentiveness among STEAM students;
- 25% reported improved school classroom behavior; and
- 25% designated improved test scores.

Summary and Conclusions

Since March 2020 the STEAM After School Program has not been able to operate at its full capacity. The STEAM Program initiated its fourth grant year in July 2020 with its annual Summer Math Bridge Program for rising 6th graders. The STEAM After School Program began operations in late October 2020. As detailed in this Evaluation Report, in response to the Coronavirus pandemic, the STEAM Program continued its Summer Math Program and its After School Program in modified formats. While the Summer Math Program was held in its usual location, the Eastview Middle School, the number of students participating in the Program and the length of the Program sessions were reduced. The STEAM After School Program continued to be provided to students enrolled in the five White Plains elementary schools in the virtual format established in Spring 2020 after White Plains schools closed in response to the pandemic. In-person programming continued at the two Community Centers in which the STEAM Program is offered but for far fewer students. The After School Program expanded availability to more students by offering the Program to Middle and High School students through the White Plains Youth Bureau's Saturday Academy.

The evaluation findings included in this report are based on evaluation activities conducted between July 2020 and April 2021. The Formative Evaluation focused on assessing the program planning and management measures implemented during the fourth year of the 21st CCLC grant cycle. Summative evaluation measures designed to assess student learning outcomes as a result of their participation in the STEAM Program were conducted with students participating in the Summer Math Bridge Program. Classroom teachers with students who participated in the STEAM Program provided data on student outcomes for the After School Program.

Key Evaluation Findings:

Student Enrollment. During its first two and a half years of operation, the STEAM After School Program demonstrated a very strong student enrollment and retention rate. Between October 2019 and March 2020, for example, a total of 302 students were enrolled in the After School Program of whom 92.4% met the state's required minimum of 30 days participation in the Program. Approximately 60 students were enrolled in the 2019 STEAM Summer Math Camp. The 2019-2020 Interim Evaluation Report concluded that the strong enrollment levels in the STEAM After School and Summer Programs reflect the successful recruitment strategies

implemented by the Program Director. The Program Director also was commended for the effectiveness of her approaches to generating families' interest in the STEAM After School Program.

Since March 2020 when the STEAM Program started being offered primarily virtually, maintaining student enrollment levels has been a challenge. The Program Director has a very good understanding of the range of factors that detract from student enrollments in the After School Program. One of the main issues is that many students who are participating in the school day program virtually do not want to continue in a virtual after school program for an additional three hours. An additional barrier is that many parents are not inclined to subject their children to yet another session of "screen time". They have indicated that it also adds another layer of obligation to the already overwhelming situation of virtual school.

Another significant factor is that many families are not available to support their children's participation in the After School Program. The 21st CCLC funding that supports the STEAM Program is targeted for low-income families. These families often are not able to be home with their children because they need to work outside the home, and, in fact, they valued the in-person programming as providing a safe place for their children during the after school hours. For some families, internet access is a problem. Because it was an in-person program, student enrollments in the Summer Math Bridge Program were relatively stronger, although the program had enrollment caps for each session.

The STEAM Program Director in collaboration with staff conducted a number of measures to recruit and retain more students, particularly students for the Elementary Level After School Program. While these measures have gradually increased student enrollments, the level of enrollments in the After School Program remains fairly low.

It is anticipated that when the After School Program resumes in-person programming at the five White Plains elementary schools, very likely in Fall 2021, the levels of student enrollment will increase significantly to the pre-pandemic levels. The relatively higher student enrollment in the Summer Math Bridge Program attests to this likelihood.

Program Staff. Appointing and retaining qualified staff for the virtual After School Program has been a challenge for Program Director parallel to that of student enrollment. The Program Director has provided a number of supports for staff participation in the After School Program. Between September 1 and October 6, 2020, for example, a series of Professional Development sessions were provided to the STEAM Program staff to prepare them for providing the STEAM

After School Program to students virtually. Despite the Program Director's staff recruitment and retention measures, many of the previous staff members did not continue with the Program after it became virtual and some of those who started with the After School Program in the Fall have not continued with it.

The Program Director has demonstrated a very good understanding of the challenges involved with recruiting appropriately qualified staff for the STEAM Program. As with student enrollment, it is anticipated that once the After School Program is again offered in-person at the five elementary schools, most of the current staff recruitment and retention issues will be reduced.

After School Program Activities and Learning Experiences. The Program Director with staff support developed detailed curricula and lesson plans for teachers to use with students at each grade level (grades 1 through 5) during the Elementary Level After School Program. This includes, student workbooks that detail the lessons and activities for each week of the Program. As a virtual program starting in March 2020, the STEAM After School Program curriculum and lesson plans have been appropriately modified to be provided through an online platform. The current STEAM Program curriculum incorporates literacy and math into all topics, and continues to provide students experiences in science and engineering. One of the limitations to the STEAM Program resulting from the COVID pandemic is that the Program curriculum cannot use the technological manipulatives that were a central component of the in-person Program.

The Program continues to emphasize its goal of engaging students in learning by providing instruction in the context of socialization and fun. The students enjoy the opportunity to interact with each other, although virtually.

Family Programs. During the 2020-2021 program year the STEAM Program has implemented several initiatives to provide families with information and tools for supporting their children's education. These include providing STEAM families with the Family Engagement Book and offering a series of seven Virtual Family Involvement Workshops. The goal of the Family Involvement Workshops is to provide families with specific practices and encouragement for helping their children do well in school parallels the goals of the STEAM programs for students to enhance their leaning and academic achievement. Conducting the workshops in both Spanish and English and providing both Spanish and English versions of the materials demonstrate the Program administrators' commitment to reaching all STEAM families. As with the Virtual After School Program, the need to provide the Family Involvement Workshops virtually has reduced the ability of families to participate at the pre-pandemic level.

The STEAM Program's commitment to providing families with information about the importance of supporting their children's learning at home and offering them specific tools for achieving this is to be commended

The STEAM Advisory Board. During the 2020-2021 year, the STEAM Program scheduled three meetings of the STEAM Advisory Board. To provide the most effective input into planning for and improving the STEAM Program, the Advisory Board is comprised of Site Coordinators and Directors, STEAM and Youth Bureau staff, a school principal, a student, community members, parents, and the STEAM Program Director, Assistant Director, and Information Manager. The Program Evaluator also participated in meetings. The make-up of the Advisory Board is appropriate for serving its function of providing feedback on the STEAM Program's effectiveness, identifying areas for improvement, and making recommendations for Program adjustments to better achieve its goals. The Program Evaluator also participates in Advisory Board meetings.

The Advisory Board has served as an effective mechanism for providing the Program Director and staff with input on the Program's success at achieving its goals and for suggesting Program adjustments.

Partnerships with Schools and School Leaders. Between September 2019 and March 2020, the Program Director implemented a number of measures to improve relationships with the elementary school principals and teachers. After the STEAM Program became virtual in March 2020 and continuing into the 2020-2021 program year, it has been relatively difficult to maintain and build partnerships with the schools and school leaders. The Program Director does work with the White Plains Assistant Superintendent and with Department Chairs to align after school learning activities with school day curricula. The Department Chairs, for example, provide curriculum maps of school day learning.

Impact of the STEAM Program on Student Learning and Development. Supporting students' academic achievement in the STEM disciplines and literacy, as well as their social and emotional development are the primary goals and objectives of the STEAM Program. To achieve these broad objectives, the STEAM Program provides students with a range of structured learning experiences. As an Out of School Time program, the STEAM Program's activities are designed to be fun while students are learning at the same time.

As the targeted beneficiaries of the STEAM Program, the students' experiences with the Program are critical for assessing the Program's effectiveness at achieving its learning goals and objectives. The students' assessments also provide data for making Program adjustments and improvements. Post-Program Evaluation Surveys administered to students represent one of the primary methodologies for assessing the impact of the STEAM Program on student learning and Development. A Post-Program Evaluation was administered to the students who participated in the STEAM Summer Math Bridge Program. Across all measures of math learning and engagement in learning the majority of students gave the two highest ratings of either *a lot* or *a medium amount*. Over 50% of students gave the highest rating to the three items that assessed their math learning in the Program. In terms of engagement in learning, the highest student rating on the survey was for how much they liked playing the Math games: 61.1% of students rated this measure *a lot*.

Preparation for Middle School was another major objective of the STEAM Summer Program. Students responses to the survey items for assessing the Program's effectiveness in this area, were generally very positive:

In summary, the students' assessments of the STEAM Summer Math Bridge Program strongly support the effectiveness of the Program for enhancing students' math learning and providing an engaging learning environment. The students' responses also demonstrate that the Summer Program achieved the STEAM Program's goal of supporting students' social/emotional development. The students' very positive ratings of the value of meeting students from other White Plains schools and learning about 6th grade verify the Program's goal of providing an environment in which students' can begin to become familiar with their new school and new school experiences when they start Middle School in the Fall.

As part of an effort to strengthen the STEAM Program's relationship with school-day teachers, as well as assess the impact of the STEAM After School Program, an evaluation survey was conducted with White Plains teachers who had one or more students in their classrooms who participated in the STEAM After School Program. The focus of the evaluation was to obtain feedback on the impact of the STEAM Program on student learning and social/emotional development.

Of the teachers responding to the Evaluation Survey, 85.7% were familiar with the STEAM Program. Overall, these teachers had a positive assessment of the impact of the STEAM Program on most of the measures of student learning and development

An additional assessment of students' learning outcomes during the 2020-2021 STEAM Virtual After School Program will be conducted through the use of a Post-Program Evaluation Survey instrument administered at the end of the After School Program year.

Conclusions:

As detailed in this report, the STEAM Elementary Level After School Program provides a schedule of structured learning experiences that is well designed to enhance the participating students' knowledge and understanding of STEM disciplines, as well as providing literacy activities focused on improving their reading comprehension and writing. As an Out of School Time program, the STEAM activities are planned to be fun while students are learning at the same time, and not to be repetitious of their in-school curriculum. Evidence of the STEAM After School Program's success at having a positive impact on students' learning and social/emotional development is provided by the classroom teachers' assessment of the Program.

The Summer Math Bridge Program is similarly based on supporting students' learning and social/emotional development in a context that engages them in learning. The students' assessments of the STEAM Summer Math Bridge Program strongly support the effectiveness of the Program for enhancing students' math learning and providing an engaging learning environment. The students' responses to the Post-Program Evaluation Survey also demonstrate that the Summer Program achieved the STEAM Program's goal of supporting students' social/emotional development.

The programs and informational materials provided for families to assist them in supporting their children's learning also are well-designed. It is particularly commendable that all programs and materials for families are in Spanish and English to ensure that the Spanish-speaking families also benefit from these support systems.

In other areas of Program Planning and Management, the Program Director has a clear understanding of the barriers to achieving the student enrollment goals and staffing needs for the 2020-2021 After School Program. She has taken a number of appropriate measures to address these challenges. It is clear that the primary impediment to accomplishing the Program's objectives in these areas is the necessity of providing virtual after school programming during the Coronavirus pandemic. It is anticipated that assuming the After School Program resumes in-person programming in Fall 2021, the STEAM Program will again achieve the levels of student enrollment and staffing demonstrated in previous program years.

Recommendations:

It is recommended that the STEAM Program Director:

- Continue to provide the current After School Program activities as currently designed, as well as the Family Involvement Workshops.
- Maintain her initiatives to recruit students and qualified staff for the After School Program.
- Incorporate the ideas and recommendations of the Advisory Board into plans for continuous quality improvement.

Of particular importance, it is recommended that the Program Director initiate planning as soon as possible for resuming in-person After School programming in Fall 2021 and for expanding student participation in the Summer Math Bridge Program if circumstances warrant this. It is anticipated that once the STEAM After School is provided for students on-site at the five White Plains elementary schools, the STEAM Program will again demonstrate the levels of student and staff participation achieved during previous years of operation.

Appendix A

Students' Outcome Assessments of the STEAM Summer Math Bridge Program

Topics	A Lot	Medium Amount	Very Little	Not at all
How much did the STEAM Summer Math Program help you feel better about doing Math?	44.4%	50%	5.6%	0
How much Math did you learn in the STEAM Summer Program?	50%	39%	11.1%	0
How much did you like learning about Math in the STEAM Summer Program?	44.4%	50%	5.6%	0
How much do you think that the STEAM Math Program will help you do better in Math in school?	56%	33.3%	11.1%	0
Do you think you needed more time doing Math in the STEAM Summer Program?	11.1%	22.2%	33.3%	33.3%
Do you think that you would like less time doing Math in the STEAM Summer program?	22.2%	11.1%	22.2%	44.4%
How much did you like the book "Everything You Need to Ace Math in One Big Fat Notebook?"	39%	56%	5.6%	0
Was this book helpful for doing better in Math?	56%	33.3%	11.1%	0
How much did you like playing Math games during the STEAM Summer Program?	61.1%	28%	11.1%	0
Was playing Math games a better way to learn about Math?	39%	33.3%	28%	0
How much did you like meeting students from other schools during the STEAM Program?	56%	28%	17%	0
*How helpful was it to learn about the 6 th Grade School before you start school there in the Fall?	78%	0	17%	
*How much do you feel that being with other 6 th graders in the 6 th grade school helped you get ready for starting Middle School?	39%	39%	11.1%	5.6%