

**SmartStart:
The 3 C's for Cyber Success**

Final Evaluation Report

Year 3

June 24, 2024

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Introduction

This report presents both qualitative and quantitative findings related to the implementation of the third, one-year cycle for the five-year Broome-Tioga BOCES SmartStart initiative. The performance period for this cycle was April 1, 2023 – March 31, 2024. Evaluative data for this initiative is not aggregated year to year nor are annual comparisons made for data other than enrollment and completion. This approach is necessary as the program format, professional development content and other elements of the experience have changed year-to-year based on a combination of factors including participant feedback, observations made by presenters and guests and developments in the region, the field and/or content areas. The goals and objectives for the initiative, however, have remained consistent over the three-year period encompassed to date. Highlights of programmatic adjustments are as follows:

- The three-day institute used to kick-off the learning experience was only offered in the summer in year 1. In years 2 and 3 both summer (August) and winter (January) institutes were conducted. The winter version of the institute for year 3 was truncated to two days due to a regional snow date and related school closures.
- Both the summer and winter cohorts were scheduled to complete in a shorter timeframe which administratively allowed the annual experience to start and finish within in an April-March timeframe that synchronized with the performance period.
- “Community of Practice” sessions and culminating activities were conducted in a strictly online environment.
- Pre-institute, post institute and final evaluation survey questions and the format for participant reflections were changed slightly between years 2 and 3 in an effort to continuously align survey questions and reflective prompts with the content of training experiences and resources made available to participants.
- The format for lesson/artifact development and sharing was essentially unchanged from year 2 to year 3.

Historical Context

On November 20, 2019 Broome – Tioga BOCES (BT BOCES), in collaboration with 14 public school districts in, or contiguous to, the BT BOCES region submitted a five-year request for funding to the New York State Education Department (NYSED) in response to the SmartStart competitive Request for Proposals. On February 12, 2021, BT BOCES received word that the aforementioned proposal had been selected for funding in the amount of \$402,432.00 annually beginning April 1, 2021. Following is a current list of 18 public school districts (SD), representing a total K-12 enrollment of approximately 33,000 students, that participated in the year 3 cycle including two districts previously unrepresented:

Binghamton City SD	Maine-Endwell Central SD	Union-Endicott Central SD
Chenango Valley Central SD	Norwich City SD	Vestal Central SD
Deposit Central SD	Sidney Central SD	Whitney Point Central SD

Harpursville Central SD	Susquehanna Valley Central SD	Windsor Central SD
Johnson City SD	Tioga Central SD	Chenango Forks Central SD
Greene Central SD	(new) Sherburne Earlville Central SD	(new) Oxford Central SD

The stated purpose of this initiative is to develop, implement and share innovative programs that provide professional development and support to increase expertise in computer science and/or educational technology among teachers in grades K-8. In the Broome-Tioga BOCES region, pursuit of this purpose is facilitated through a regional professional development model wherein the Professional Learning and Innovation Center (PLIC) at BT BOCES provides elements of coordination, oversight, resource management, communication and evaluation for this project, while CYBER.org, acting under contract with BT BOCES, provides the hands-on professional development and continuing support for this initiative via online synchronous and asynchronous interaction with participating teachers and related school staff. Our professional development vendor, CYBER.org, is the current recipient of the Department of Homeland Security’s Cybersecurity Education and Training Assistance Program grant and has been designated the DHS national model for STEM, cyber, and computer science curriculum development.

Specific goals for this initiative are as follows:

Goal #1: Develop regional integrated curricula for Grades K-8 that will target the knowledge and skills included in the NYS Computer Science and Digital Fluency Standards to ensure students are future-ready and well-equipped for college and career opportunities.

Goal #2: Increase teachers’ knowledge and skills, and ultimately their confidence and comfort to teach computer science concepts (coding, computational thinking, and cybersecurity awareness)

Goal #3: Integrate Computer Science and Digital Fluency Standards into content areas to increase engagement and learning, resulting in increased 3-8 ELA and Math state assessment scores to close the gap of regional scores to the state.

Goal #4: Create a foundation for a school-to-career cyber workforce pipeline.

Project Scope

This project has thus far been implemented by voluntarily engaging unique cohorts of teachers and other school professional educators in on-going learning experiences designed to ultimately achieve the goals stated above in a sustainable and systemic fashion. Based on feedback from prior participants and the PD provider, the engagement cycle for each cohort was reduced from a full academic year in year 1 and a 5 month period in year 2, to a period of approximately 3 months in year 3 in an effort (successful) to boost completion rates and synchronize the experience with the NYSED annual performance period. While there were, in fact, three groups of K-8 educators involved in the 2023/24 cycle, groups 1 and 2 (both launched in August of 2023) are considered as a single “cohort”. This decision is supported by statistical analysis of their respective survey response which yielded nominal statistically significant differences between the two groups. This lack of distinguishing differences was also observed in years 1 and

2. The author of this report elected not to perform statistical analyses on the survey or reflection data from the winter “cohort” from this evaluation report because the “n” of 9 completing participants was considered too small to make a statistically valid comparison between the summer and winter cohorts. Additionally, the responses from those nine individuals were not included with the summer group because the format for the two sessions was changed from three days to two and the PD content adjusted accordingly. **Attachment 1** presents the total number of teachers from across all 17 participating districts during years 1,2 and 3. Participants were each compensated financially for participating per their individual district’s employment contract. Compensation was parsed out in such a way that participants had to meet certain engagement targets for each phase of the learning experience in order to access 100% of their compensation package.

The professional development cycle for this project includes four core components: * **A Three-day, in person Institute (Attachment 2)**; * **A Community of Practice**: ongoing, scheduled and un-scheduled virtual opportunities for participants to engage with each other and the PD provider periodically over the course of the experience; * **Collaborative Curriculum Development**: As teachers progress through the cycle, developing concrete pedagogical skills and an increasing sense of self-efficacy, they work collaboratively to develop and submit at least one, standards-aligned, integrated instructional module, and a * **Final Reflection**: Each participant engaged in an end-of-the-cycle reflection on their personal and collaborative learning, and attended an asynchronous end-of-cycle, cumulative, sharing experience.

In general terms, the three-day institute provided the “launch point” for the project. The Community of Practice was enabled via Microsoft Teams. Participating school staff were assigned a number of “tasks” to complete and a timeline for their completion. These tasks consisted of both output and outcome deliverables such as the creation and sharing of student lessons and the exchange of knowledge, experience and inquiry between and among other participants. Ultimately each participant was required to submit a standards-aligned instructional module using a standardized format (**Attachment 3**) within the three-month cycle for their cohort as a requirement for completion of the experience.

A locally hosted website for the project has also been created and is available at <https://www.btbooces.org/SmartStartProject.aspx>. Evaluation reports are archived at this site periodically during the entire period of project operation. In keeping with NYSED requirements, artifacts from the experience are also provided to NYSED for archiving on the state-wide webpage for the SmartStart initiative.

Evaluation Parameters

Efforts to measure and document the relative success of the “3 C’s for Cyber Success” project are carried out in parallel with the implementation of the project in a manner consistent with the “continuous Improvement” approach utilized in project implementation. The evaluator, a retired BOCES administrator, works closely with the PD provider and the project director to gather and provide feedback at regular intervals during the annual implementation cycle.

Year three of the project was launched in the summer of 2023, with planning and recruitment activities having taken place in May, June/July of that year. (**Attachment 4**) As noted earlier, the first major engagement activity was a three-day institute provided by CYBER.org staff with BT BOCES handling teacher recruitment and coordination activities. During the year 3 cycle a total

of 82 participants engaged in the SmartStart experience by attending the three-day institute on either August of 2023 or January of 2024. While a total of 80 unique individuals participated in one of the three institutes, statistical analysis of survey data is limited to that which was collected from the 71 individuals that together represented the participants from the two summer groups. Data from the winter participants is included in this report anecdotally.

Data was gathered from participants utilizing an online, multi-question pre/post survey activity via SurveyMonkey – an industry standard and highly customizable data collection tool. Pre-institute, post-institute and “grand finale” survey instruments were designed to engage participants in self-reflection regarding their relative level of comfort with, and perceived level of knowledge/mastery of, the curricular elements targeted in the proposed goals for the project. The pre-institute survey was implemented for each cohort by providing them with a link during the first hour of their summer institute experience. Likewise, the post-institute survey was administered in similar fashion during the final hour of the 3-day experience. The Grand Finale survey was conducted by making a hyperlink available to participants during a one-week window of time at the end of the three-month cycle for each cohort. Initially, responses from the two summer groups were analysed separately and their responses then tested for any statistically significant differences. None were found. This finding was the same for the year 2 groups. Consequently, the author has elected to aggregate the data from the two summer groups for this report.

The survey instruments were designed in such a way that all questions required an answer prior to final submission. (**Attachment 5**) All surveys were administered anonymously, however, a unique ID was developed for each respondent in order to facilitate pre/post survey pair matching. The pre and post instruments were NOT identical in all instances, but rather the pre-institute survey contained questions designed to gather demographic and baseline experiential and perceptual information and the post-institute survey feedback about the summer experience with respect to the PD providers performance, responsiveness, delivery, etc. along with questions designed to measure change in self perceptions among the participants themselves. Change was measured by statistical analysis of responses to six “essential questions” linked directly to the goals of the SmartStart initiative. A third survey (the Grand Finale survey) containing the same six essential questions as the pre and post institute survey was administered at the end of each group’s cycle to explore for potential indications of retention of knowledge and perceptions from the post institute date through the ongoing, Community of Practice and content development phases of each cohort cycle.

The intent of the evaluation was:

1. To detect changes in participant’s levels of self-confidence regarding the participant’s ability to provide standards-aligned instruction focused on key elements of the Computer Science and Digital Fluency Standards.
2. To detect changes in participant’s perceived level of mastery in the Computer Science and Digital Fluency Standards
3. To gain insights into the strengths, weaknesses and perceived value of the PD experience

Changes in items 1 and 2 (both positive and negative) were measured via “unpaired t testing” (<https://www.graphpad.com/quickcalcs/ttest1.cfm>) of survey responses to six “essential questions” and results were categorized as:

- Extremely statistically significant
- Very statistically significant
- Somewhat statistically significant
- Not quite statistically significant
- Not statistically significant

Evaluation Findings

Instructional role

Grade K-2 teacher	24
Grade 3-5 teacher	25
Grade 6-8 teacher	21
Other	5

Gender Identity

Male	8
Female	63
Prefer not to say	0
Another Identity	0

Ethnicity

Hispanic	1
White/Caucasian	69
Prefer not to say	1

Overall, the data suggests that the three-day institute had a profoundly positive impact on educator confidence and self-perceived efficacy/mastery of content for participants, and that this positive change was maintained on all measures throughout the life of the experience. Although the population overall was relatively small, the ratio of population/number sampled was high, thus yielding relatively small margins of error even at the 95% confidence interval.

The Six Essential Questions: Likert scaled, where 1= very low and 5=very high

Question 1	How would you rate your current level of content knowledge related to the computer science and digital fluency standards?		
	Pre-institute	Post-institute	Grand finale
Mean	2.18	3.83	3.87

Standard Deviation	1.01	0.62	0.61
Number of total population	73	73	72
Number of population sampled	71	66	69
Margin of error@ 95% confidence	2%	4%	2%
Level of significance of difference in means - pre/post institute	Extremely statistically significant		
Level of significance of difference in means - post institute vs. finale	Not statistically significant		

Question 2	How would you rate your current level of comfort in addressing “computational thinking” with your students?		
	Pre-institute	Post-institute	Grand finale
Mean	2.46	3.94	3.96
Standard Deviation	0.93	0.65	0.60
Number of total population	73	73	72
Number of population sampled	71	66	69
Margin of error@ 95% confidence	2%	4%	2%
Level of significance of difference in means; pre/post institute	Extremely statistically significant		
Level of significance of difference in means; post institute vs. finale	Not statistically significant		

Question 3	How would you rate your level of confidence in your ability to facilitate student learning involving basic computer coding?		
	Pre-institute	Post-institute	Grand finale
Mean	2.13	3.79	3.67
Standard Deviation	0.96	0.81	0.76
Total number of population	73	73	72
Number of population sampled	71	66	69
Margin of error@ 95% confidence	2%	4%	2%
Level of significance of difference in means; pre/post institute	Extremely Statistically Significant		
Level of significance of difference in means; post institute vs. finale	Not statistically significant		

Question 4	How would you rate your level of confidence in effectively integrating other disciplines with the Next Generation Science standards?		
	Pre-institute	Post-institute	Grand finale
Mean	2.63	3.73	3.96
Standard Deviation	1.04	0.81	0.67
Number of total population	73	73	72

Number of population sampled	71	66	69
Margin of error@ 95% confidence	2%	4%	2%
Level of significance of difference in means; pre/post institute	Extremely statistically significant		
Level of significance of difference in means; post institute vs. finale	Not statistically significant		

Question 5	How would you rate your level of confidence in addressing topics related to “cybersecurity” in your classroom?		
	Pre-institute	Post-institute	Grand finale
Mean	2.41	4.02	4.07
Standard Deviation	0.96	0.71	0.71
Number of total population	73	73	72
Number of population sampled	71	66	69
Margin of error @ 95% confidence	2%	4%	2%
Level of significance of difference in means; pre/post institute	Extremely statistically significant		
Level of significance of difference in means; post institute vs. finale	Not statistically significant		

Question 6	How would you rate your level of comfort with participating in an online “Community of Practice”?		
	Pre-institute	Post-institute	Grand finale
Mean	2.69	3.82	3.93
Standard Deviation	1.18	0.72	0.69
Number of total population	73	73	72
Number of population sampled	71	66	69
Margin of error@ 95% confidence	2%	4%	2%
Level of significance of difference in means: pre/post institute	Extremely statistically significant		
Level of significance of difference in means: post institute vs. finale	Not statistically significant		

Teachers were also asked a series of qualitative survey questions on the Grand Finale survey. These questions focused on perceived strengths and weaknesses of the PD experience. Findings from these questions were as follows:

1. In your opinion, what were the strengths of this six-month experience?
 - a. Opportunity to collaborate 45%
 - b. Opportunity to gain deeper understanding of the Computer Science and Digital fluency standards.66%
 - c. Access to Cyber.org resources 34%
 - d. Hands-on learning approach to curriculum development 30%

2. In your opinion, what elements of this long-term learning experience do you think need to be strengthened?
 - a. More time for collaboration after the institute 46%
 - b. None 26%
 - c. More resources for younger grade levels 54%
 - d. More modeling of lessons 20%

3. What are the "takeaways" from your SmartStart experience that you will use in your classroom over the next 12 months?
 - a. Lessons developed 40%
 - b. Importance of addressing Cybersecurity with my students 39%
 - c. Better understanding of the standards 33%
 - d. The value of using robotics with my students 44%

4. Is there anything else you would like us to know about your SmartStart experience so far?
 - a. Thank you 70%
 - b. Not at this time 80%
 - c. Fantastic/Valuable experience 78%

Quantifiable evaluation of the QUALITY of the Professional Learning Community and curriculum development activities has been, to date, more challenging. Formal Peer Review of lessons developed was abandoned based on the year 1 experience in favor of a simple sharing of products between participants during small group dialog sessions/exchanges conducted at the end of the experience. Participants were provided with a NYSED compliant template for submission/publication of their final products and all lessons were reviewed by the PD provider and editorial suggestions were provided to participants prior to final submission of the artifacts. Ultimately, the project coordinator reserved and exercised the right to edit final products for appropriate content, copywrite compliance and formatting prior to submission of the final report.

Participants were provided with opportunities and a forum for the exchange of questions, ideas and resources at any time during and after the experience. These encounters were both formal and informal in nature and occurred virtually via Microsoft Teams and the sharing of documents via a shared Google drive. Participants were also given a calendar of "assignments" intended to extend, deepen and institutionalize their learning. Rates of completion for participant assignments and rates of completion for the experience overall was 98% which is marginally higher than the year 2 cohort (95%) and a marked improvement over the year 1 cohort completion rate of (74%).

Throughout the SmartStart experience, particular emphasis was placed on gathering and analyzing data relative to program goal 2: *Increase teachers' knowledge and skills, and ultimately their confidence and comfort to teach computer science concepts (coding, computational thinking, and cybersecurity awareness)* through both the surveys and reflective activities. Evidence of achievement linked to program goals 1 and 3 which relate to standards-based curriculum development is manifested in the 76 modules of instruction presented elsewhere in the NYSED Final Report template for SmartStart year 2 which accompanies this submission. The evaluator notes that the year three total of 80 instructional modules is markedly higher than the 49 modules submitted in year one and represents a successful artifact submission for EVERY individual who completed the year 3 experience.

Final reflections were a requirement for completion of the experience. These reflections were "prompted" (guided) by the following set of questions:

1. How did you choose the CS/DF and content area standards for your Instructional Module?
2. In what ways does your Instructional Module fit into your curriculum?
3. What experiences from teaching the Cyber.org lesson helped you to create your Instructional Module?
4. What parts of the Institute were most helpful when you were writing your Instructional Module?
5. What was the most helpful from your zoom discussion with other participants?

Analysis of the reflections provided was handicapped by the participants lack of adherence to the format suggested and lack of focused responsiveness to the prompts provided.

Forty-five of 72 participants submitted reflections as part of their experience; from which a subset of 20 reflections were subjected to analysis using the AI ChatGPT 3.5. Based on the reflections provided, several common themes emerge:

1. **Hands-on Learning and Engagement:** Many reflections highlight the effectiveness of hands-on, interactive learning experiences. Whether it's using robots like Indy, Dash, beeBots, or micro-bits,, students are engaged and enthusiastic about coding and computational thinking activities.
2. **Integration of Technology:** There's a consistent theme of integrating technology (robots, micro-bits, coding platforms) into various subjects such as math, social studies, and science. This integration helps reinforce concepts and makes learning more tangible and enjoyable for students.
3. **Trial and Error and Problem-Solving:** Teachers often mention the importance of allowing students to learn through trial and error when coding or working with robots. This approach encourages problem-solving skills and resilience in students.
4. **Reflection and Iteration:** Several reflections mention the importance of reflecting on lessons learned and making improvements for future implementations. This iterative process helps refine teaching strategies and enhances learning outcomes.
5. **Preparation and Resources:** Challenges related to resource availability (like having enough robots for students) and lesson preparation (like ensuring students have foundational knowledge before complex tasks) are common. Teachers recognize the need for adequate preparation to facilitate smooth learning experiences.
6. **Student Collaboration and Leadership:** Many reflections highlight group work and assigning roles within teams (like materials manager, time monitor). This fosters collaboration and leadership skills among students.
7. **Adaptation and Flexibility:** Teachers adapt lessons based on student needs, such as providing additional instruction or changing the lesson structure to improve comprehension and engagement.
8. **Connecting Curriculum Standards:** There's a focus on aligning lessons with curriculum standards, such as computational thinking, digital fluency, and specific subject area standards (math, social studies).

Overall, these reflections indicate a commitment to innovative teaching methods that enhance student learning through active participation, technology integration, and thoughtful reflection on teaching practices.

In the vast majority of cases, teachers reported that in-field modification of the lesson was implemented based on student observation/feedback. Several participants also noted that instruction had to be modified from the proposed lesson template format because of time constraints. Of the topics/standards covered in the PD portion of the overall experience, Cybersecurity and Coding were the topics most often addressed in the lessons developed for classroom piloting. 66% of participants reported using Cyber.org resources in lesson development and/or delivery. Collaboration with other participants via zoom was not well represented in the participant reflections sampled.

The Winter Group

The data below are presented anecdotally because the small “n” for this group combined with the change in PD format for this group negates the value of any statistical analysis of their responses.

Question 1	How would you rate your current level of content knowledge related to the computer science and digital fluency standards?		
	Pre-institute	Post-institute	Grand finale
Mean	1.80	3.70	3.78
Total number sampled	10	10	9
Question 2	How would you rate your current level of comfort in addressing “computational thinking” with your students?		
	Pre-institute	Post-institute	Grand finale
Mean	1.80	3.70	3.78
Total number sampled	10	10	9
Question 3	How would you rate your level of confidence in your ability to facilitate student learning involving basic computer coding?		
	Pre-institute	Post-institute	Grand finale
Mean	1.50	3.40	4.11
Total number sampled	10	10	9

Question 4	How would you rate your level of confidence in effectively integrating other disciplines with the Next Generation Science standards?		
	Pre-institute	Post-institute	Grand finale
Mean	2.40	3.40	3.89
Total number sampled	10	10	9
Question 5	How would you rate your level of confidence in addressing topics related to “cybersecurity” in your classroom?		
	Pre-institute	Post-institute	Grand finale
Mean	2.00	3.70	4.22
Total number sampled	10	10	9
Question 6	How would you rate your level of comfort with participating in an online “Community of Practice”?		
	Pre-institute	Post-institute	Grand finale
Mean	2.10	3.70	3.78
Total number sampled		10	9

Closing Comments

The penultimate measure of success for this project is in the degree to which it met the stated goals and objectives. To that end, a goal-by-goal analysis of outcomes is as follows:

Goal #1: Develop regional integrated curricula for Grades K-8 that will target the knowledge and skills included in the NYS Computer Science and Digital Fluency Standards to ensure students are future-ready and well-equipped for college and career opportunities.

A total of 76 instructional modules linked to the Computer Science and Digital Fluency standards were forwarded to NYSED in May 2023. This goal was met.

Goal #2: Increase teachers' knowledge and skills, and ultimately their confidence and comfort to teach computer science concepts (coding, computational thinking, and cybersecurity awareness)

In the opinion of participants, this goal was well met given data from the Summer Institute and final surveys and reflections. This goal was definitively met.

Goal #3: Integrate Computer Science and Digital Fluency Standards into content areas to increase engagement and learning, resulting in increased 3-8 ELA and Math state assessment scores to close the gap of regional scores to the state.

Quantitative progress in achieving this goal cannot be assessed at this time.

Goal #4: Create a foundation for a school-to-career cyber workforce pipeline.

Much curricular effort was placed on engaging students in awareness activities focused on cyber security careers during this project. While it will take the five-year duration of the project and beyond to obtain quantitative data linked to this goal, the effort to engage students in related dialog is well documented within the lesson plans submitted, educator assignments and posts shared in the Schoology LMS. This goal is presumptively met.

The year 3 model appears to have been successful with respect to participation, quality and appropriateness of the PD provided and quantity and quality of content developed. Participant feedback suggests that efforts to provide educators with opportunities to participate in the Community of Practice should be enhanced.

Attachment 1:
SMARTSTART
Annual Enrollment Comparison
by District

District	Year 1 April 2021 – March 2022	Year 2 April 2022 – March 2023	Year 3 April 2023 – March 2024
Binghamton	6	13	6
BOCES	1	4	0
Chenango Forks	6	6	1
Chenango Valley	5	11	8
Greene	0	5	1
Harpursville	3	3	2
Johnson City	2	1	3
Maine Endwell	8	15	14
Newark Valley	0	0	14
Norwich	2	0	6
Oxford	0	0	1
Sherburne-Earlville	0	0	2
Sidney	5	4	1
Susquehanna Valley	6	4	12
Union Endicott	3	1	7
Vestal	12	5	0
Whitney Point	1	3	2
Windsor	8	2	2
Total Enrolled	68	80	82
Total completed	50	76	80
Percent completed	74%	95%	98%

Smart Start Institute Agenda
August 2023

Day 1

- Welcome/Presurvey/Canvas requests/Google folder access
- Smart Start Intro and Expectations
- CYBER.ORG Intro
- Computational Thinking activities (paper airplane, typical shoe)
- Computational Thinking Standards Connections

Lunch

- Former cohort success stories
- Cybersecurity Lesson (user agreements)
- Lesson plan expectations/template

Day 2

- Cybersecurity Lessons (K-2, 3-5, and 6-8 examples)
- Cybersecurity Standards Connections
- Meet the micro:bit; Indi introduction and tutorials

Lunch

- Cybersecurity and Coding Fundamentals (Cryptography)
- Cybersecurity Lesson
- Lesson plan template

Day 3

- Finish Cryptography
- Standards alignment and Q & A
- Explore curricula options on CYBER.ORG dashboard
- Career profile cards

Lunch

- 3 Lessons and discussions in grade level groups
- Survey

Lesson Title:
Grade Levels:
Author:
Standards Additional Standards Covered:
Cross Curricular Area (e.g. Math, English, Science, Social Studies, Music)
Lesson Outcomes:
Lesson Structure:

Assessment:

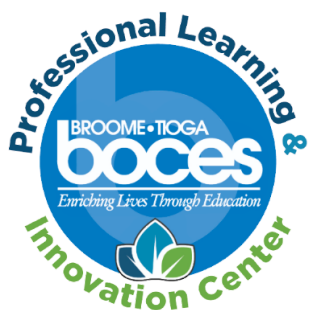
Materials

Videos:

Resources:

Lesson Description:

Teacher Notes:



SmartStart 2023-2024: Coding, Computational Thinking and Cybersecurity for the Next Generation Grades K-8

With the rollout of the new Computer Science and Digital Fluency standards, a new emphasis has been placed on addressing key concepts around **Coding**, **Computational Thinking**, and **Cyber Security** (the 3 C's) along with an added push to begin preparing even our youngest students for employment in the burgeoning field of Cyber Security. These components of the Next Generation Science Standards are to be integrated across the entire K-12 continuum.

In partnership with [CYBER.org](https://www.cyber.org), a nationally recognized expert in the field of Computer Science and Cyber Security education funded by the US Department of Homeland Security, the Broome-Tioga BOCES Professional Learning and Innovation Center (PLIC) is offering **K-8 educators** with a unique, paid opportunity to ramp up their skills and knowledge in these areas by engaging in an on-going collaborative professional development initiative called "**SmartStart**". This experience is grant-funded and consists of three parts:

1. A three-day hands-on Institute in August, 2023 facilitated by staff from Cyber.org

Teachers start by attending a three-day in-person Institute where you'll be given FREE hands-on activities you can use with your students developed by CYBER.org, the national leader in computer science teaching. Participants will also be immersed in new computer science / digital fluency standards and will form collaborative teams of teachers. You will receive FREE programmable devices such as the Sphero Indi and Micro:bit as well as training on how to use them with your students to explore computer concepts. Classroom sets of these devices will be available to teachers after the institute so you can engage all of your students in these fun and engaging activities.

2. Piloting High-Quality Lesson Materials from CYBER.org

At the end of the institute, you will work with a small team of teachers to select one of the free CYBER.org activities or lesson plans which you will pilot in your own classroom. The choice of activity and your reflection on your experience trying it in the classroom will be shared with other participants through the online learning platform Schoology.

3. Creating a Unique Instructional Module

The last part of the Smart Start program is where you create a new Instructional Module of approximately 30-40 minutes in length and pilot that model in your classrooms. You'll have help from Cyber.org's expert trainers and other participants through Schoology as you develop your own individual module. We will also have a 1 hour online meeting near the end of the session for everyone to bring forward ideas and get suggestions from peers in real time. Those modules and a reflection on your experience is shared through Schoology for all the other Smart Start participants to see and use. All Instructional Modules will eventually be cataloged and posted on our BT BOCES curriculum resources website for the entire state to share and utilize!

The Schedule for the August Cohort is:

In Person: August 8, 9 and 10, 2023 from 9:00 until 3:00 - OR - August 15, 16, and 17, 2023 from 9:00 until 3:00 at the Johnson City Learning Center

[Max. CTLE = 18]

Asynchronous via Schoology: All Frontline registrants will receive access information

[Max. CTLE = 8]

- Reflect in writing on the CYBER lesson or activity you piloted in your classroom
[Submit by November 7]
- Write an original Integrated Instructional Model of 30-40 minutes total classroom time
[Submit by December 18]
- Reflect in writing on the original Instructional Model you piloted in your classroom
[Submit by December 18]

1-hour Virtual Session [Max CTLE = 1]

An invitation to join one of these sessions will follow.

1. November 7 from 3 – 4 pm
2. November 8 from 3:30 – 4:30 pm
3. November 9 from 4 – 5 pm

PLEASE NOTE: This is a grant-funded opportunity with associated substitute and/or stipend costs reimbursed to participating districts* and therefore not processed through the SCI Sub/Stipend Reimbursement CoSer.

*BT BOCES to initiate claim processing.

**Participants will be provided with up to
27 CTLE credits and a \$1,000 stipend
upon successful completion of Smart Start 2023-24!**

**Seating is Limited
Register HERE by August 1st**



*Frontline Catalog Search = Keywords: Smart Start;
Date Range: 07.01.2023 - 12.30.2023*

Questions? Email David Hamilton at DHamilton@btboces.org



Copy of SmartStart: The 3 C's for Cyber Success - Year 3

We'd like to know . . .

The New York State Education Department requires that we conduct an evaluation of the SmartStart grant initiative. In order to meet that requirement, we will ask you to answer survey questions periodically throughout the coming year. Your responses to the following questions will help us establish a baseline of information regarding your engagement with certain elements of the Next Generation Science Standards and related pedagogy. All responses will remain anonymous.

BOCES and Cyber.org will also use a few pieces of information to create a “unique project ID” for you so we can track your responses over time WITHOUT tagging you by name. The first question below is for that purpose.

Please click "ok" to advance through each section of the survey. Thank you for participating in this effort!

* 1. Please create a unique **SEVEN DIGIT** ID using the following format. Enter the **FIRST** letter of your **LAST** name, followed by the month, day and **LAST TWO DIGITS** of the year of your birth. Please do **NOT** include spaces, slashes or dashes (for example “ Pat Doe, February 10 1974” would be D021074):

* 2. Please tell us the grade level you typically teach (please check all that apply)

- K-2
- 3-5
- 6-8
- other (Library Media Professional, Administrator, Coach, etc.)
- I am a BOCES PLIC Team Member

* 3. What subject(s) do you teach?

* 4. Which of the following best describes your school setting?

- rural
- town
- suburban
- urban

* 5. Is your school a Title 1 school?

- yes
- no
- not sure

Please answer the next 6 questions using a 1-5 scale, where 1 = very low/minimal and 5 = very high/extensive

* 6. How would you rate your current level of content knowledge related to the Computer Science and Digital Fluency standards?

1 = very low/minimal	2	3	4	5 = very high/extensive
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 7. How would you rate your current level of comfort in addressing "computational thinking" with your students?

1 = very low/minimal	2	3	4	5 = very high/extensive
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 8. How would you rate your level of confidence in your ability to facilitate student learning involving basic computer coding?

1 = very low/minimal	2	3	4	5 = very high/extensive
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 9. How would you rate your level of confidence in effectively integrating other disciplines with the Next Generation Science standards?

1 = very low/minimal	2	3	4	5 = very high/extensive
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 10. How would you rate your level of confidence in addressing topics related to "cybersecurity" in your classroom?

1 = very low/minimal	2	3	4	5 = very high/extensive
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 11. How would you rate your level of comfort with participating in an online "Community of Practice"?

1 = very low/minimal	2	3	4	5 = very high/extensive
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 12. How often do you use robotics in your classroom?

- Daily
- Weekly
- Monthly
- 3 or 4 times per year
- less than three times per year

* 13. How often do you talk to your students about digital safety and basic cybersecurity?

- Daily
- Weekly
- Monthly
- 3 or 4 times per year
- less than 3 times per year

* 14. How often do you talk to your students about cyber career opportunities?

- Daily
- Weekly
- Monthly
- 3 or 4 times per year
- less than 3 times per year

* 15. Before attending this workshop, how familiar were you with CYBER.ORG?

- Extremely familiar
- Very familiar
- Somewhat familiar
- Not so familiar
- Not at all familiar

* 16. Which of the following best describes your gender identity?

- Male
- Female
- Prefer not to say
- Another Identity

* 17. Which of the following best describes your racial/ethnic identity?

- American Indian or Alaskan Native
- Asian or Asian American
- Black or African American
- Hispanic or Latino/a/x
- Multiracial or Biracial
- Native Hawaiian or other Pacific Islander
- White or Caucasian
- Prefer not to say
- Another race/ethnicity not listed above



Copy of SmartStart: Year 3 - Wrapping Up the Institute

We'd like to know . . .

Now that your SmartStart journey is underway, we'd like to ask you a few questions about your experiences and perceptions to date. Some of these questions will look familiar and we will ask them a couple more times during the next several months. However, some questions will be new/different each time you take the survey so please read each question carefully before responding.

Unfortunately, we need to ask you to answer the "unique ID" question below again in order to anonymously track your data over time. The first question below is for that purpose.

Please click "ok" to advance through each section of the survey.
Thanks again for being a part of this project!

* 1. Please create a unique **SEVEN DIGIT** ID using the following format. Enter the **FIRST** letter of your **LAST** name, followed by the month, day and **LAST TWO DIGITS** of the year of your birth. Please do **NOT** include spaces, slashes or dashes (for example " Pat Doe, February 10 1974" would be D021074):

Please answer the next 6 questions using a 1-5 scale, where 1 = very low/minimal and 5 = very high/extensive

* 2. How would you rate your current level of content knowledge related to the Computer Science and Digital Fluency standards?

1 = very low/minimal	2	3	4	5 = very high/extensive
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 3. How would you rate your current level of comfort in addressing "computational thinking" with your students?

1 = very low/minimal	2	3	4	5 = very high/extensive
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 4. How would you rate your level of confidence in your ability to facilitate student learning involving basic computer coding?

1 = very low/minimal 2 3 4 5 = very high/extensive

* 5. How would you rate your level of confidence in effectively integrating other disciplines with the Next Generation Science standards?

1 = very low/minimal 2 3 4 5 = very high/extensive

* 6. How would you rate your level of confidence in addressing topics related to "cybersecurity" in your classroom?

1 = very low/minimal 2 3 4 5 = very high/extensive

* 7. How would you rate your level of comfort with participating in an online "Community of Practice"?

1 = very low/minimal 2 3 4 5 = very high/extensive

8. In your opinion, what were the strengths of this workshop?

9. In your opinion, what elements of this workshop do you think need to be strengthened?

10. What are the "takeaways" from this workshop that you will use in your classroom this fall?

11. Is there anything else you would like to know about your SmartStart experience so far?



Copy of SmartStart: - your grand finale!

May your SmartStart journey never end - - but now its time for US to just move on!
As you wrap up the the final phase of your SmartStart experience for this year, we'd like to ask you a few questions about your perceptions to date. Most of these questions will look familiar because we have asked them more than once over the past six months. Some of these questions are designed to measure change over time. Please read every question carefully before you respond.

Unfortunately, we also need to ask you to answer a "unique ID" question as we did back when you started your SmartStart adventure. This is so we can anonymously track your unique set of responses over time. The first question below is for that purpose.

Please click "ok" to advance through each section of the survey. Thanks again for being a part of this project!

* 1. Please create a unique **SEVEN DIGIT** ID using the following format. Enter the **FIRST** letter of your **LAST** name, followed by the month, day and **LAST TWO DIGITS** of the year of your birth. Please do **NOT** include spaces, slashes or dashes (for example " Pat Doe, February 10 1974" would be D021074):

Please answer the next six questions using a 1-5 scale, where 1 = very low/minimal and 5 = very high/extensive

* 2. How would you rate your current level of content knowledge related to the Computer Science and Digital Fluency standards?

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* 3. How would you rate your current level of comfort in addressing "computational thinking" with your students?

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* 4. How would you rate your level of confidence in your ability to facilitate student learning involving basic computer coding?

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<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 5. How would you rate your level of confidence in effectively integrating other disciplines with the Next Generation Science standards?

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<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 6. How would you rate your level of confidence in addressing topics related to "cybersecurity" in your classroom?

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<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 7. How would you rate your level of comfort with participating in an online "Community of Practice"?

1 = very low/minimal	2	3	4	5 = very high/extensive
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. Were you able to integrate the technology you received during the SmartStart institute in your classroom practice?

- Yes
- No

9. Which technology did you take away with you from the initial training sessions?

- Sphero Indi Robot
- Micro:Bit

10. In your opinion, what were the strengths of this professional learning experience?

11. In your opinion, what elements of this long-term learning experience do you think need to be strengthened?

12. What are the "takeaways" from your SmartStart experience that you will use in your classroom over the next 12 months?

13. Is there anything else you would like us to know about your SmartStart experience?