

Contract # ED-CFO-10-A-0110-0001

21st Century Community Learning Centers: Lessons Learned Guides

Deliverable 5.3: Final STEM Interview Protocols

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Prepared for



Prepared by



Interview Protocol for Science, Technology, Engineering, and Math

Project Director

Thank you for taking the time to speak with us today. As you are aware, the purpose of this visit is to learn more about the 21st CCLC program's efforts to implement Science, Technology, Engineering, and Math (STEM) activities. We are interested in programs with a STEM focus that aim to give students the knowledge, skills, and experiences to consider and be prepared to go into a STEM field. This may involve practices including inquiry-based learning, partnerships (e.g., with community-based organizations, businesses, or institutes of higher education), and professional development for staff to understand inquiry-based learning and know where to find information. Regardless of approach, however, research and practice alike indicate some core practices that cut across various efforts to provide STEM activities after school.

We are going to begin with some general questions about the 21st CCLC program and then get more specific about issues that relate to your STEM programming. We understand that you may not be familiar enough with all aspects of the 21st CCLC program to be able to answer all our questions, so let us know if that occurs. This interview is in no way linked to your funding, and your responses will not be reported individually. We will take every measure possible to protect the privacy of interviewees as well as to ensure the confidentiality of the data collected, to the extent possible. We would like to record this interview for note-taking purposes only. We won't name you by name in the report, although your program will be featured in it. Is that OK?

SECTION 1 GENERAL PROGRAM DESCRIPTION

I. Project Director Background

Let's start by talking about the 21st CCLC program and your role in it.

1. Please tell me about your role and experience with the 21st CCLC program. *(If not mentioned, probe for details in the following areas.)*
 - Responsibilities
 - Programs and activities supervised or led
 - Duration of tenure with 21st CCLC
 - Other positions held
 - How many sites supervised
2. What is your professional background? *(If not mentioned, probe for details in the following areas.)*
 - Previous teaching or youth work experience, including prior experience with 21st CCLC programming
 - Educational background
 - Teaching credential or credential related to youth development or child and youth care

- Training specific to one or more STEM areas

II. Program Overview

Now let's talk about the 21st CCLC program in general at this site. (Note: if this is a multi-site program, then be specific that you want the project director to talk about the site selected for this study, unless specifically asked otherwise.)

3. What are the most important objectives of this site? How were those objectives developed? How do academics and academic goals fit within these overall objectives?
4. How do you see your role in a 21st CCLC program as contributing to student learning? How does that fit with the school's or parents' roles?
5. If this is a multi-site program, how is this site different from other sites that you oversee? (If not mentioned, probe for details in the following areas.)
 - Location
 - Staffing
 - Time frame
 - Duration
 - Student population

SECTION 2 PRACTICES SPECIFIC TO STEM

We have been talking about your program in general at this site, but now I want to turn to your STEM activities in particular.

III. Staffing and Professional Development

We are interested in learning about the kinds of staff you have at your program and how they are trained to support the STEM program.

6. Please describe the staffing arrangements and staff backgrounds. (If not mentioned, probe for details in the following areas.)
 - Roles for paid staff
 - Roles for volunteers
 - Educational and professional backgrounds of your paid staff
 - Educational and professional backgrounds of your volunteers
 - Educational and professional backgrounds of your community partners
7. What kind of requirements do you have specifically for STEM teachers? (If not mentioned, probe for the following areas.)
 - Type of certification
 - Degree
8. What kind of support do you provide your staff so that they are able to implement the programs properly? (Probe for specifics on science, technology, engineering, and/or math.)

9. Do you have staff who cross over between the program and the school day? If so, can you please describe their roles in both settings?
10. If you have a blended staffing model, how does it support the STEM program?
11. Do you have professional development sessions geared toward the STEM staff in the program? If so, can you describe them?
12. What challenges have you encountered in trying to offer STEM-related professional development to your staff?

IV. Alignment With the School Day

Let's talk about alignment with the school day.

13. How does the site coordinate and communicate with students' teachers? (If not mentioned, probe for details in the following areas.)
 - Logistics/space negotiations
 - Sharing information about STEM students
 - Sharing about the progress of STEM students
 - Sharing curriculum and other resources
14. Does your program align your curricula with any content standards? If so, how? (If not mentioned, probe for details in the following areas.)
 - National standards, such as the National Research Council's *National Science Education Standards* or National Council of Teachers of Mathematics' *Principles and Standards for School Mathematics*
 - Common Core State Standards for mathematics
 - State or local standards
15. What kind of collaborative planning takes place between the program and the school day?
16. What challenges have you encountered in your efforts to align with the school day?

V. Program Monitoring and Assessment

Now let's talk about how your program uses data to monitor student progress and ensure that the activities your program is providing best support their learning needs.

17. How do you assess students' learning needs with regard to STEM? What kind of data/information do you collect on student progress?
18. How do you and your staff communicate with school day teachers about data/information on student progress?
19. What structures are in place to enable you and your staff to examine and discuss student data? (If not mentioned, probe for details in the following areas.)
 - Weekly team meetings
 - Written summaries of student progress

VI. Community Partnerships

20. What community partners do you work with and how do they contribute to the STEM program?

21. How do you select community partners that will support your STEM program? How do you work with scientists, engineers, or other STEM professionals to provide activities and expose students to careers?
22. If you run a multi-site program, please reflect on how, if at all, partners at this site differ from those at other sites.
23. What challenges have you encountered in developing community partnerships?

VII. Family Relationships

24. What role, if any, does the program play in helping families support students in their STEM activities? (If not mentioned, probe for details in the following areas.)
 - Including families on field trips
 - Providing information about current STEM activities

VIII. Relationship Between the School Year and Summer Program (if applicable)¹

Let's talk about the relationship between your school year program and your summer program with regard to your STEM activities.

25. How do the summer program activities differ from school year activities for the STEM program?
26. How do you ensure continuity for students who participate in both the school year and summer programs?

IX. Funding

27. How, if at all, is your STEM program affected by your funding?
28. Are there STEM-specific sources of non-21st CCLC funds that you use?
29. If you run a multi-site program, is there a difference in the funding of this site as opposed to other sites? If so, please elaborate.

X. Challenges

30. In addition to the challenges already identified, what barriers or challenges have you encountered in trying to implement the STEM program and how have you overcome them?

XI. Advice for Others

31. What suggestions do you have for other 21st CCLC grantees or potential applicants to the 21st CCLC program interested in implementing a STEM program?

XII. Final Thoughts

32. Is there anything else you would like to tell us about this site's STEM program?

¹ Please note: This section will be included for all summer programs that are visited that also operate school year programs and for all school year programs that are visited that also operate summer programs.

Interview Protocol for Science, Technology, Engineering, and Math

Site Director

Thank you for taking the time to speak with us today. As you are aware, the purpose of this visit is to learn more about the 21st CCLC program's efforts to implement Science, Technology, Engineering, and Math (STEM) activities. We are interested in programs with a STEM focus that aim to give students the knowledge, skills, and experiences to consider and be prepared to go into a STEM field. This may involve practices including inquiry-based learning, partnerships (e.g., with community-based organizations, businesses, or institutes of higher education), and professional development for staff to understand inquiry-based learning and know where to find information. Regardless of approach, however, research and practice alike indicate some core practices that cut across various efforts to provide STEM activities after school.

We are going to begin with some general questions about the 21st CCLC program and then get more specific about issues that relate to your STEM programming. We understand that you may not be familiar enough with all aspects of the 21st CCLC program to be able to answer all our questions, so let us know if that occurs. This interview is in no way linked to your funding, and your responses will not be reported individually. We will take every measure possible to protect the privacy of interviewees as well as to ensure the confidentiality of the data collected, to the extent possible. We would like to record this interview for note-taking purposes only. We won't name you by name in the report, although your program will be featured in it. Is that OK?

SECTION 1 GENERAL PROGRAM DESCRIPTION

I. Site Director Background

Let's start by talking about your role in this 21st CCLC program.

1. Please tell me about your role and experience at this program. *(If not mentioned, probe for details in the following areas.)*
 - Responsibilities
 - Programs and activities supervised or led
 - Hours per week worked here
 - Duration of tenure at the site and in the organization
 - Other positions held here
2. What is your professional background? *(If not mentioned, probe for details in the following areas.)*
 - Previous teaching or youth work experience, including prior experience with 21st CCLC programming
 - Educational background
 - Teaching credential or credential related to youth development or child and youth care

II. Program Overview

Now let's talk about the program.

3. What are the most important objectives of your program? How were those objectives developed? How do academics and academic goals fit within these overall objectives?
4. How do you see your role in a 21st CCLC program as contributing to student learning? How does that fit with the school's or parents' roles?
5. Let's look over a typical weekly schedule. Tell me about these programs. How did/do you decide on which programs and activities to offer? How often, if at all, do you change the schedule or activities (e.g., seasonal changes, session changes)?

III. Student Attendance

Now let's talk a little bit about the students who attend the program. How do you encourage participation to ensure that students attend a sufficient amount of time to maximize the benefit of participating in your program?

6. What are your student recruitment and enrollment processes? (If not mentioned, probe for the following.)
 - Written attendance policies
7. Do you specifically target populations that are historically underrepresented in STEM fields (e.g., African-American, Hispanic, female, and low-income students)?
8. How do you monitor attendance? (If not mentioned, probe for details in the following areas.)
 - STEM activity
 - Daily
 - Weekly

SECTION 2 PRACTICES SPECIFIC TO STEM

We have been talking about your program in general at this site, but now I want to turn to your STEM activities in particular.

IV. Instructional Practices

We are interested in learning about the instructional practices aimed at promoting STEM.

9. How do you decide what activities you use in the STEM program (e.g., a curriculum, lesson plans from classroom teachers, instructors' lesson plans)?
10. How do you link students' learning to real-world experiences?
11. What curriculum are you using for STEM instruction?
12. What kinds of instructional arrangements do you use and how do you decide to use them? (If not mentioned, probe for details in the following areas.)
 - One-on-one
 - Small group

- Large group
 - Peer-to-peer
13. In what STEM fields are your students receiving education or training? Please describe the kinds of instructional strategies and approaches you use that are specific to these areas:
- SCIENCE
 - TECHNOLOGY
 - ENGINEERING
 - MATH
14. Are older students exposed to goal setting or plans for postsecondary education or training? If so, how?
15. What types of academic enrichment activities do you offer that build on STEM concepts (e.g., media, computer-based learning, applied tech activities, field trips)?
16. Are you familiar with the term “project-based learning”? Is this a teaching strategy you use? Can you please give an example from the past ten days of an activity that utilized this approach?
17. How do you differentiate STEM instruction for different populations of students? (If not mentioned, probe for details in the following areas.)
- English learners
 - Students with physical disabilities
 - Students with learning disabilities
 - Students performing at or below grade level

V. Student Engagement

Please describe the ways you ensure that your students are actively engaged and interested in your program's STEM activities.

18. What opportunities exist for students to work with one another?
19. What efforts exist to build youth-adult relationships among program participants and staff?
20. What, if any, opportunities exist for students to take responsibility for their own learning?
21. How, if at all, is student choice built into programming options?
22. What do you do to engage cultural and racial/ethnic minorities who are traditionally underrepresented in STEM careers?

VI. Staffing and Professional Development

We are interested in learning about the kinds of staff you have at your program and how they are trained to support the STEM program.

23. Please describe your staffing arrangements and staff backgrounds. (If not mentioned, probe for details in the following areas.)
- Roles for paid staff
 - Roles for volunteers
 - Educational and professional backgrounds of your paid staff
 - Educational and professional backgrounds of your volunteers
 - Educational and professional backgrounds of your community partners
24. What kind of requirements do you have specifically for STEM teachers? (If not mentioned, probe for details in the following areas)
- Type of certification
 - Degree

25. Do you have staff who cross over between your program and the school day? If so, can you please describe their roles in both settings?
26. If you have a blended staffing model, how does it support the STEM program?
27. Do you have professional development sessions geared toward the STEM staff in the program? If so, can you describe them?
28. What challenges have you encountered in trying to offer STEM-related professional development to your staff?

VII. Alignment With the School Day

Let's talk about alignment with the school day.

29. How regularly do you or your staff communicate with teachers at the school (daily, weekly, or monthly) and what is the nature of those communications? (If not mentioned, probe for details in the following areas.)
 - Logistics/space negotiations
 - Sharing information about students
 - Sharing about the progress of students
 - Sharing STEM curricula and other resources
30. Do you coordinate targeted instruction with school day teachers to reinforce concepts that individual students may be struggling with? If so, how?
31. Do you use input from the school day teachers to modify your instructional approaches? If so, how?
32. Does your program align your curricula with any content standards? If so, how? (If not mentioned, probe for details in the following areas.)
 - National standards such as National Science Teachers Association or National Council of Teachers of Mathematics
 - State standards
 - Local standards
33. How, if at all, does your program support grade-level transitions from one year to the next?
34. What challenges have you encountered in your efforts to align with the school day?

VIII. Program Monitoring and Assessment

Now let's talk about how your program uses data to monitor student progress and ensure that the activities your program is providing best support their learning needs.

35. How do you assess students' learning needs with regard to STEM? What kind of data/information do you collect on student progress?
36. What structures are in place to enable staff to examine and discuss student data? (If not mentioned, probe for details in the following areas.)
 - Weekly team meetings
 - Written summaries of student progress

IX. Community Partnerships

37. What community partners do you work with and how do they contribute to the STEM program?

38. How do you select community partners that will support your STEM program? How do you work with STEM professionals to provide activities and expose students to careers?
39. What summer internships, jobs, or apprenticeships do the community partners provide?
40. What challenges have you encountered in developing community partnerships?

X. Family Relationships

41. What role, if any, does the program play in helping families support students in their STEM activities? *(If not mentioned, probe for details in the following areas.)*

- Including families on field trips
- Providing information about current STEM activities

XI. Relationship Between the School Year and Summer Program (if applicable)²

Let's talk about the relationship between your school year program and your summer program with regard to your STEM program.

42. How do the summer program activities differ from school year activities for the STEM program?
43. How do you ensure continuity for students who participate in both the school year and summer program?
44. What summer internships, jobs, or apprenticeships are provided?

XII. Funding

45. How, if at all, is your STEM program affected by your funding?
46. Are there STEM-specific sources of non-21st CCLC funds that you use?

XIII. Challenges

47. In addition to the challenges already identified, what barriers or challenges have you encountered in trying to implement your STEM program and how have you overcome them?
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XIV. Advice for Others

48. What suggestions do you have for other 21st CCLC grantees or potential applicants to the 21st CCLC program interested in implementing a STEM program?

XV. Final Thoughts

49. Is there anything else you would like to tell us about the program's STEM activities?

² Please note: This section will be included for all summer programs that are visited that also operate school year programs and for all school year programs that are visited that also operate summer programs.

Interview Protocol for Science, Technology, Engineering, and Math

Afterschool Staff

Thank you for taking the time to speak with us today. As you are aware, the purpose of this visit is to learn more about the 21st CCLC program's efforts to implement Science, Technology, Engineering, and Math (STEM) activities. We are interested in programs with a STEM focus that aim to give students the knowledge, skills, and experiences to consider and be prepared to go into a STEM field. This may involve practices including inquiry-based learning, partnerships (e.g., with community-based organizations, businesses, or institutes of higher education), and professional development for staff to understand inquiry-based learning and know where to find information. Regardless of approach, however, research and practice alike indicate some core practices that cut across various efforts to provide STEM activities afterschool.

We are going to begin with some general questions about the 21st CCLC program and then get more specific about issues that relate to your STEM programming. We understand that you may not be familiar enough with all aspects of the 21st CCLC program to be able to answer all our questions, so let us know if that occurs. This interview is in no way linked to your funding, and your responses will not be reported individually. We will take every measure possible to protect the privacy of interviewees as well as to ensure the confidentiality of the data collected, to the extent possible. We would like to record this interview for note-taking purposes only. We won't name you by name in the report, although your program will be featured in it. Is that OK?

SECTION 1 GENERAL PROGRAM DESCRIPTION

I. Afterschool Staff Background

Let's start by talking about your role in the 21st CCLC program.

1. Please tell me about your role and experience at this program. (If not mentioned, probe for details in the following areas.)
 - Responsibilities
 - Programs and activities supervised or led
 - Hours per week worked here
 - Duration of tenure at the site and in the organization
 - Other positions held here
2. What is your professional background? (If not mentioned, probe for details in the following areas.)
 - Previous teaching or youth work experience, including prior experience with 21st CCLC programming
 - Educational background
 - Teaching credential or credential related to youth development or child and youth care

- Training specific to one or more STEM areas

II. Program Overview

Now let's talk about the 21st CCLC program in general.

3. Let's look over a typical weekly schedule. Tell me about these programs. How did/do you decide on which programs and activities to offer? How often, if at all, do you change the schedule or activities (e.g., seasonal changes, session changes)?

III. Student Attendance

Now let's talk a little bit about the students who attend the program. How do you encourage participation to ensure that students attend a sufficient amount of time to maximize the benefit of participating in your program?

4. What do you do if you notice that students who are enrolled in the program are chronically absent from it?
5. How, if at all, do you communicate with parents about the importance of attendance?

SECTION 2 PRACTICES SPECIFIC TO STEM

We have been talking about your program in general at this site, but now I want to turn to your STEM activities in particular.

IV. Instructional Practices

We are interested in learning about the instructional practices aimed at promoting STEM.

How do you decide what activities you use in the STEM program (e.g., a curriculum, lesson plans from classroom teachers, instructors' lesson plans)?

6. How do you link students' learning to real-world experiences?
7. What curriculum are you using for STEM instruction?
8. What kind of instructional arrangements do you use and how do you decide to use them? (If not mentioned, probe for details in the following areas.)
 - One-on-one
 - Small group
 - Large group
 - Peer-to-peer
9. In what STEM fields are your students receiving education or training? Please describe the kinds of instructional strategies and approaches you use that are specific to these areas. (Use the following probes for each area that they list.)
 - SCIENCE:
 - o Engage students in scientific discourse
 - o Model and reinforce scientific inquiry skills
 - o Support and encourage diverse opinions and beliefs about scientific ideas, theories, and principles
 - o Encourage students to think deeply and challenge their beliefs about science
 - TECHNOLOGY: How do you use technology to support

- o Your own teaching (e.g., run virtual experiments/simulations/demonstrations that are too costly or dangerous to run in real life)
- o Students' use of technology as a tool to research, organize, evaluate, and communicate information
- o Students' use of digital technologies (e.g., computers, PDAs, media players, GPS), communication/networking tools, and social networks appropriately to access, manage, integrate, evaluate, and create information to successfully function in a knowledge economy
- o Students' ability to understand and apply the ethical/legal issues surrounding the access and use of information technologies
- ENGINEERING
 - o Introduce students to types of engineering disciplines, including aerospace, chemical, civil, mechanical, and electrical
 - o Encourage application of basic engineering principles:
 - Identify the need or problem
 - Research the need or problem
 - Develop possible solution(s)
 - Select the best possible solution(s)
 - Construct a prototype
 - Test and evaluate the solution(s)
 - Communicate the solution(s)
 - Redesign: Overhaul the solution(s) based on information gathered during the tests and presentation
- MATH
 - o Encourage students to make sense of problems through a range of strategies and approaches, including nontraditional approaches such as art and music
 - o Encourage students to persevere in solving math problems
 - o Encourage students to use concrete objects or visuals to help conceptualize and solve a mathematics problem
 - o Encourage students to construct viable arguments and critique the logical reasoning of others
 - o Provide students the opportunity to use appropriate tools to understand and solve mathematics problems
- 10. What kinds of instructional settings do you have access to for STEM activities (classrooms, labs, computer labs)? And how are you using these settings?
- 11. How much time do you devote to hands-on STEM investigations? Can you describe one?
- 12. Are older students exposed to goal setting or plans for postsecondary education or training? If so, how?
- 13. What type of academic enrichment activities do you offer that build on STEM concepts (media, computer-based learning, applied tech activities, field trips)?
- 14. Are you familiar with the term "project-based learning"? Is this a teaching strategy you use? Can you please give an example from the past ten days of an activity that utilized this approach?

15. How do you differentiate STEM instruction for different populations of students? (If not mentioned, probe for details in the following areas.)

- English learners
- Students with physical disabilities
- Students with learning disabilities
- Students performing at or below grade level

V. Student Engagement

Please describe the ways you ensure that your students are actively engaged and interested in your program's STEM activities.

16. What opportunities exist for students to work with one another?
17. What efforts exist to build youth-adult relationships between program participants and yourself?
18. What, if any, opportunities exist for students to take responsibility for their own learning?
19. How, if at all, is student choice built into programming options?
20. What do you do to engage cultural and racial/ethnic minorities who are traditionally underrepresented in STEM careers?

VI. Staffing and Professional Development

We are interested in learning about the kinds of staff who work at the program and how they are trained to support the STEM program.

21. Are you also in the school during the school day? If so, what do you do there?
22. What kind of support do you receive so that you are able to effectively implement the STEM program?
23. Do you receive professional development specific to your role in the STEM program? If so, please describe.
24. If you are also a teacher during the school day, how is your teaching the same or different between the classroom and program settings?
25. If you are a teacher during the school day, what do you think are the benefits of working in both settings?

VII. Alignment With the School Day

Let's talk about alignment with the school day.

26. How regularly do you communicate with teachers at the school (daily, weekly, or monthly) and what is the nature of those communications? (If not mentioned, probe for details in the following areas.)
 - Logistics/space negotiations
 - Sharing information about students
 - Sharing about the progress of students
 - Sharing STEM curriculum and other resources
27. Do you use input from the school day teachers to modify your instructional approaches? If so, how?

28. What challenges have you encountered in your efforts to align with the school day?

VIII. Program Monitoring and Assessment

Now let's talk about how your program uses data to monitor student progress and ensure that the activities your program is providing best support their learning needs.

29. How do you assess students' learning needs? What kind of data/information do you collect on student progress?

30. What structures are in place to enable you and your colleagues to examine and discuss student data? (If not mentioned, probe for details in the following areas.)

- Weekly team meetings
- Written summaries of student progress

IX. Family Relationships

31. What is the nature of your interactions with family members? *(If not mentioned, probe for details in the following areas.)*

- Frequency of interaction
- Content of interaction (e.g., behavior, learning objectives, helping them navigate the school day)
- Family nights

X. Relationship Between the School Year and Summer Program (if applicable)³

Let's talk about the relationship between your school year program and your summer program with regard to your STEM activities.

32. Do you work in the summer program? If so, how do the summer program activities that you provide differ from school year activities in terms of providing structures to support the STEM program?

33. How do you ensure continuity for students who participate in both the school year and summer program?

34. What summer internships, jobs, or apprenticeships do the community partners provide?

XI. Challenges

35. In addition to challenges already identified, what barriers or challenges have you encountered in trying to create structures to implement the STEM program and how have you overcome them?

XII. Advice for Others

36. What suggestions do you have for other 21st CCLC program staff who are interested in implementing a STEM program?

³ Please note: This section will be included for all summer programs that are visited that also operate school year programs and for all school year programs that are visited that also operate summer programs.

XIII. Final Thoughts

37. Is there anything else you would like to tell us about the program's STEM activities?

Interview Protocol for Science, Technology, Engineering, and Math Principal

Thank you for taking the time to speak with us today. As you are aware, the purpose of this visit is to learn more about the 21st CCLC program's efforts to implement Science, Technology, Engineering, and Math (STEM) activities. We are interested in programs with a STEM focus that aim to give students the knowledge, skills, and experiences to consider and be prepared to go into a STEM field. This may involve practices including inquiry-based learning, partnerships (e.g., with community-based organizations, businesses, or institutes of higher education), and professional development for staff to understand inquiry-based learning and know where to find information. Regardless of approach, however, research and practice alike indicate some core practices that cut across various efforts to provide STEM activities after school.

We are going to begin with some general questions about the 21st CCLC program and then get more specific about issues that relate to your STEM programming. We understand that you may not be familiar enough with all aspects of the 21st CCLC program to be able to answer all our questions, so let us know if that occurs. This interview is in no way linked to your funding, and your responses will not be reported individually. We will take every measure possible to protect the privacy of interviewees as well as to ensure the confidentiality of the data collected, to the extent possible. We would like to record this interview for note-taking purposes only. We won't name you by name in the report, although your program will be featured in it. Is that OK?

SECTION 1 GENERAL PROGRAM DESCRIPTION

I. Program Overview

Let's start by talking about the 21st CCLC program in general.

1. How long have you had a 21st CCLC program at your school?
2. What are the advantages you see to having a 21st CCLC program that focuses on STEM at your school?

SECTION 2 PRACTICES SPECIFIC TO STEM

We have been talking about the program in general at this site, but now I want to turn to the STEM activities in particular.

II. Alignment With the School Day

Let's start by talking about alignment with the school day. What mechanisms are in place to align afterschool programming with what happens during the school day?

3. What kind of collaborative planning takes place between the program and the school day?
4. Do you and the program have a shared vision for student success? If so, what is it and how did you develop that?
5. Do school day teachers coordinate targeted instruction with program staff to reinforce concepts that individual students may be struggling with? If so, how?
6. How would you characterize your relationship with the site director and afterschool staff?
7. Is there someone at the school whose job it is to ensure effective alignment between your program and the school day? If so, please describe that role and who performs it.
8. How regularly do you or your staff communicate with program staff (daily, weekly, or monthly) and what is the nature of those communications? (If not mentioned, probe for details in the following areas.)
 - Logistics/space negotiations
 - Sharing information about students
 - Sharing about the progress of students
 - Sharing STEM curriculum and other resources

III. Instructional Practices

We are interested in learning how the instructional practices at the program support the 21st CCLC STEM program.

9. Do you play a role in deciding what activities the STEM program offers? If so, what specifically do you do?
10. What kinds of instructional settings does the program have access to for STEM (e.g., classrooms, labs, computer labs)?

IV. Staffing and Professional Development

We are interested in learning about the kinds of program staff and how they are trained to support the 21st CCLC STEM program.

11. Do you have teachers who work in the program after school? If so, how do you see their teaching as being the same or different between the classroom and program settings?
12. If there is crossover, what do you think are the benefits of a blended staffing model? (If not mentioned, probe for details in the following areas.)
 - Better relationships between students and teachers
 - Improved classroom practice
 - Better school culture
 - Better integration and alignment of curriculum on STEM topics
13. Are 21st CCLC program staff invited to attend school day professional development sessions related to teaching STEM? If so, can you describe the content?

V. Program Monitoring and Assessment

Now let's talk about how the program uses data to monitor student progress and ensure that the activities that the program is providing best support their learning needs.

14. How do school day teachers communicate with the afterschool staff about student progress?
What data/information do they share?
15. What structures are in place to enable teachers and program staff to examine and discuss student data? (If not mentioned, probe for details in the following areas.)
 - Weekly team meetings
 - Written summaries of student progress

VI. Family Relationships

16. What role, if any, does the program play in helping families support students in their STEM activities? (If not mentioned, probe for details in the following areas.)
 - Including families on field trips
 - Providing information about current STEM activities

VII. Relationship Between the School Year and Summer Program (if applicable)⁴

Let's talk about the relationship between the school year program and the summer program with regard to your STEM activities.

17. What is the relationship between your school and the summer 21st CCLC program?
18. Are there differences in how you work with the program in the summer, as compared to during the school year, to support the STEM programming? If so, what are they?

VIII. Challenges

19. What barriers or challenges have you encountered in working with the 21st CCLC program in the development and implementation of the STEM program and how have you overcome them?

IX. Advice for Others

20. What suggestions do you have for other principals who want to work with 21st CCLC programs to implement an afterschool STEM program at their school?

X. Final Thoughts

21. Is there anything else you would like to tell us about the program's efforts to implement a STEM program?

⁴ Please note: This section will be included for all summer programs that are visited that also operate school year programs and for all school year programs that are visited that also operate summer programs.

Interview Protocol for Science, Technology, Engineering, and Math Teacher (NOT working in the program)

Thank you for taking the time to speak with us today. As you are aware, the purpose of this visit is to learn more about the 21st CCLC program's efforts to implement Science, Technology, Engineering, and Math (STEM) activities. We are interested in programs with a STEM focus that aim to give students the knowledge, skills, and experiences to consider and be prepared to go into a STEM field. This may involve practices including inquiry-based learning, partnerships (e.g., with community-based organizations, businesses, or institutes of higher education), and professional development for staff to understand inquiry-based learning and know where to find information. Regardless of approach, however, research and practice alike indicate some core practices that cut across various efforts to provide STEM activities after school.

We are going to begin with some general questions about the 21st CCLC program and then get more specific about issues that relate to your STEM programming. We understand that you may not be familiar enough with all aspects of the 21st CCLC program to be able to answer all our questions, so let us know if that occurs. This interview is in no way linked to your funding, and your responses will not be reported individually. We will take every measure possible to protect the privacy of interviewees as well as to ensure the confidentiality of the data collected, to the extent possible. We would like to record this interview for note-taking purposes only. We won't name you by name in the report, although your program will be featured in it. Is that OK?

SECTION 1 GENERAL PROGRAM DESCRIPTION

I. Program Overview

Let's start by talking about the 21st CCLC program in general.

1. How, if at all, do you interact with the 21st CCLC program at your school?
2. What are the advantages you see to having a 21st CCLC program that focuses on STEM at your school?

II. Student Attendance

Now let's talk a little bit about the students who attend the program.

3. How, if at all, do you help the program with recruitment and enrollment? (If not mentioned, probe for details in the following areas.)
 - Refer/recommend students to program
 - Post brochures/flyers in my classroom
 - Include information about the program at my back-to-school night for families

SECTION 2 PRACTICES SPECIFIC TO STEM

We have been talking about the program in general at this site, but now I want to turn to the STEM activities in particular.

III. Alignment With the School Day

Let's start by talking about alignment with the school day. What mechanisms are in place to align afterschool programming with what happens during the school day?

4. What kind of collaborative planning takes place between you and the afterschool staff?
5. How regularly do you communicate with the afterschool staff (daily, weekly, or monthly) and what is the nature of those communications? (If not mentioned, probe for details in the following areas.)
 - Logistics/space negotiations
 - Sharing information about students
 - Sharing about the progress of students
 - Sharing curriculum and other resources
6. How do you relay information regarding students' progress on STEM topics?
7. Do you coordinate targeted instruction with program staff to reinforce concepts that individual students may be struggling with? If so, how?

IV. Instructional Practices

We are interested in learning how the instructional practices at the program support the 21st CCLC STEM program.

8. Do you play a role in deciding what STEM activities the program offers? If so, what specifically do you do?

V. Program Monitoring and Assessment

Now let's talk about how the program uses data to monitor student progress and ensure that the activities provided after school best support their learning needs.

9. How do you communicate with afterschool staff about student progress?
10. Do you share data/information with the afterschool program? If so, what data/information do you share? (If not mentioned, probe for details in the following areas.)
 - Grades and report cards
 - Testing data
 - Informal observations of students
11. What structures are in place to enable you to examine and discuss student data with the afterschool staff? (If not mentioned, probe for details in the following areas.)
 - Weekly team meetings
 - Written summaries of student progress

VI. Challenges

12. What barriers or challenges have you encountered in working with the afterschool program to developing and/or implementing the 21st CCLC STEM program and how have you overcome them?

VII. Advice for Others

13. What suggestions do you have for other classroom teachers who might want to work with a 21st CCLC program to support the development and/or implementation of an afterschool STEM program?

VIII. Final Thoughts

14. Is there anything else you would like to tell us about the program's efforts to implement a STEM program?

Interview Protocol for Science, Technology, Engineering, and Math

Community Partner

Thank you for taking the time to speak with us today. As you are aware, the purpose of this visit is to learn more about the 21st CCLC program's efforts to implement Science, Technology, Engineering, and Math (STEM) activities. We are interested in programs with a STEM focus that aim to give students the knowledge, skills, and experiences to consider and be prepared to go into a STEM field. This may involve practices including inquiry-based learning, partnerships (e.g., with community-based organizations, businesses, or institutes of higher education), and professional development for staff to understand inquiry-based learning and know where to find information. Regardless of approach, however, research and practice alike indicate some core practices that cut across various efforts to provide STEM activities after school.

We are going to begin with some general questions about the 21st CCLC program and then get more specific about issues that relate to the site's STEM programming. We understand that you may not be familiar enough with all aspects of the 21st CCLC program to be able to answer all our questions, so let us know if that occurs. This interview is in no way linked to the program's funding, and your responses will not be reported individually. We will take every measure possible to protect the privacy of interviewees as well as to ensure the confidentiality of the data collected, to the extent possible. We would like to record this interview for note-taking purposes only. We won't name you by name in the report, although the program will be featured in it. Is that OK?

SECTION 1 GENERAL PROGRAM DESCRIPTION

I. Community Partner Background

Let's start by talking about the 21st CCLC program and your role in it.

1. Please tell me about your role and experience with this program. *(If not mentioned, probe for details in the following areas.)*
 - Responsibilities
 - Programs and activities supervised or led
 - Hours per week worked here
 - Duration of tenure at the site and in the organization
 - Other positions held here
2. What is your professional background? *(If not mentioned, probe for details in the following areas.)*
 - Previous teaching or youth work experience, including prior experience with 21st CCLC programming
 - Educational background
 - Teaching credential or credential related to youth development or child and youth care

- Training specific to one or more STEM areas
3. As a community partner, what specific expertise do you provide to the program?
 4. How do you think your presence at the program supports the STEM program?

Student Attendance

Now let's talk a little bit about the students who attend the program.

5. How, if at all, does your organization help the program with recruitment and enrollment? (If not mentioned, probe for details in the following areas.)
 - Refer/recommend students to program
 - Post brochures/flyers in the community

SECTION 2 PRACTICES SPECIFIC TO STEM

We have been talking about the program in general at this site, but now I want to turn to the STEM activities in particular.

II. Instructional Practices⁵

We are interested in learning how the instructional practices at the program support the 21st CCLC STEM program. Please describe the kinds of instructional settings at the program as you are familiar with them.

6. What kinds of instructional settings do you have access to for STEM activities (e.g., classrooms, labs, computer labs)? And how are you using these settings?
7. How much time do you devote to hands-on STEM investigations? Can you describe one?
8. Are older students exposed to goal setting or plans for postsecondary education or training? If so, how?
9. What type of academic enrichment activities do you offer that build on STEM concepts (media, computer-based learning, applied tech activities, field trips)?

III. Student Engagement

Please describe the ways you ensure that the students are actively engaged and interested in the program's STEM activities.

10. How do you link students' learning to real-world experiences?
11. Are you familiar with the term "project-based learning"? Is this a teaching strategy you use? Can you please give an example from the past ten days of an activity that utilized this approach?
12. What opportunities exist for students to work with one another?
13. What efforts exist to build youth-adult relationships between program participants and yourself?

⁵ Please note: This section is to be used only with community partners who are directly involved in STEM instruction.

14. What, if any, opportunities exist for students to take responsibility for their own learning?
15. How, if at all, is student choice built into programming options?
16. What do you do to engage cultural and racial/ethnic minorities who are traditionally underrepresented in STEM careers?

IV. Alignment With the School Day

17. Are you or your organization engaged with what happens during the school day? If so, do you assist the program in its efforts to align with the school day? How so?
18. How would you characterize your relationship with classroom teachers?
19. How regularly do you communicate with classroom teachers (daily, weekly, or monthly) and what is the nature of those communications? (If not mentioned, probe for details in the following areas.)
 - Logistics/space negotiations
 - Sharing information about students
 - Sharing curriculum and other resources

V. Challenges

20. What barriers or challenges have you encountered in trying to work with the afterschool STEM program and how have you overcome them?

VI. Advice for Others

21. What suggestions do you have for other community partners who want to work with a 21st CCLC program that is focused on STEM activities?

VII. Final Thoughts

22. Is there anything else you would like to tell us about the program's efforts to implement the STEM program?