

**Draft OMB Clearance Request  
Promoting Student Success in Algebra I**

**Appendix C: Protocols for  
Professional Development for Algebra I**

**March 2014**

OMB Approval No.: 0000-0000

Expires: 00/00/0000

## **PROMOTING STUDENT SUCCESS IN ALGEBRA I**

Professional Development (PD) Topical Area

### **District Math Coordinator Interview**

|                        |                  |
|------------------------|------------------|
| <b>Name:</b>           | <b>Title:</b>    |
| <b>State:</b>          | <b>District:</b> |
| <b>Interviewed by:</b> | <b>Date:</b>     |

#### **INTRODUCTION AND BACKGROUND**

Good morning/afternoon. First of all, thank you so much for being here and for being willing to participate in this project for the U.S. Department of Education. Before we start, we would like to introduce ourselves, provide a little background on our work, and answer any questions you might have.

My name is [name], and this is [name of the other site visitor]. We are researchers from American Institutes for Research and Windwalker Corporation, organizations that conduct research and technical assistance in education. We are here today to interview you as part of a collaborative effort to provide program developers and administrators with information to promote student success in Algebra I. We are particularly interested in Algebra I because it's a gatekeeper course in that it's a prerequisite for subsequent high school mathematics and science courses considered essential for getting into college. So, it is an important stepping-stone for success in high school and college.

As part of this project for the U.S. Department of Education, we are speaking with district staff, school administrators, math department chairs/leaders, and teachers about the approach to professional development practices and how it may contribute to student success in Algebra I. We're particularly interested in your perspective on how [district name] has contributed to professional development for Algebra I education. The data we collect will be used to develop technical assistance tools to help program developers and administrators implement similar programs to support struggling students.

I'll talk more about the topics of this interview, but for now, are there any questions about the project or why we are here?

#### **DESCRIPTION OF INTERVIEW PROCEDURE AND CONFIDENTIALITY**

Next, I'd like to say a few things about the process for this discussion. Responses to this data collection will be used to summarize findings in an aggregate manner (within a school or district), or will be used to provide examples of implementation in a manner that does not associate responses with a specific site or individual. In the publications, pseudonyms will be used for each site. The project team

may refer to the generic title of an individual (e.g., "project director," or "eighth grade teacher") but neither the site name nor the individual name will be used. All efforts will be made to keep the description of the site general enough so that a reader would never be able to determine the true name or identity of the site or individuals at the site. The contractor will not provide information that associates responses or findings with a subject or district to anyone outside the study team, except as required by law.

I'd like to ask you to sign a consent form before we begin. It outlines some of the issues I've just mentioned with regard to confidentiality. Please take a minute to read it and let me know if you have any questions.

### **PRA Burden Statement**

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is 1810-xxxx. Public reporting burden for this collection of information is estimated to average 44 hours for professional development, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. The obligation to respond to this collection is voluntary. If you have comments or concerns regarding the status of your individual submission of this survey, please contact (Project Director, Kirk Walters, at the American Institutes for Research at 202-403-5838 or at [kwalters@air.org](mailto:kwalters@air.org)) directly. [Note: Please do not return the completed survey to this address.]

Are there any questions before we get started?

#### ***Notes to interviewer:***

*- Throughout the interview, possible probes are set aside following each general question. We would like to gather information relative to each of those probes. If, when the general question is asked, the respondent provides the information requested by the probes, you do not need to ask the probing questions. In addition to providing additional information, asking the probing questions may help move the interview pace or may prompt a less talkative respondent. Keep the tone conversational and comfortable.*

*- To the extent that this information can be retrieved from other data sources (e.g., school records) beforehand, document that information below prior to the interview. During the interview, prompt the District Math Coordinator to confirm its accuracy if his or her initial response does not do so.*

## BACKGROUND ON ROLE AND EXPERIENCE

Let's begin with some information about you.

1. **Can you tell me a bit about your background and how you came to serve as the mathematics coordinator for [district name]?**

*Listen for:*

- o How long have you worked for [district name]?*
- o How long have you served as the mathematics coordinator?*
- o What, if any, experience do you have having teaching mathematics?*

2. **Could you describe your current role in the district? What are your primary responsibilities?**

*Listen for:*

- o What is your role with regard to professional development for mathematics teachers?*
- o How much of your time is dedicated to professional development responsibilities?*
- o How much of your time is dedicated to Algebra I issues specifically?*
- o Do you share any of these responsibilities with anyone else in the district? If so, how is this work shared?*

### **Notes to interviewer:**

- Based on preliminary research and responses to questions on job responsibilities above, determine if the interviewee is able to speak about the PD program at the elementary and/or secondary school level. Also, try to focus the scope of the interview as closely as possible on PD for Algebra I. For example, ask the respondent to speak to the PD program for math education before asking the respondent to provide perspective on the PD program more generally (e.g., PD for math and science).

- If the respondent can speak to secondary math education, try to focus the scope of the interview as closely as possible to Algebra I education, by asking the respondent to speak to the PD program for Algebra I education before asking the respondent to provide perspective on the PD program for secondary math education more generally.

- If the scope has to be broadened or altered from Algebra I education, tailor the following questions accordingly, for example, by specifying elementary or secondary math education, instead of Algebra I education.

**OK, thank you for sharing some personal information about yourself. For the remainder of the interview, I'd like to get your perspective on professional development activities related to helping students succeed in Algebra I. This would include PD opportunities provided directly to Algebra I teachers, but it might also include PD opportunities for**

teachers in elementary or middle school, with an explicit focus on helping students eventually succeed in Algebra I [(see notes to interviewer below for instructions)]. I'd like you to focus on that subject area alone when you respond to these questions, okay?

## **IMPETUS FOR AND DEVELOPMENT OF PROFESSIONAL DEVELOPMENT PROGRAM**

I'd like to get a general idea of the professional development program and how it was developed.

### **3. What were the district's main reasons for developing the professional development program?**

*Listen for:*

- o To enhance teachers' mathematical content knowledge*
- o To improve teachers' ability to strengthen students' reasoning and conceptual understanding*
- o To improve communication and aligned expectations between middle school math teachers and high school Algebra I teachers*
- o To support the implementation of Algebra I or other mathematics initiatives*

### **4. Were you involved in the development of the professional development program? If so, do you feel like your contributions were valued and reflected in the current program?**

### **5. Can you describe in detail how the professional development program was developed?**

*Listen for:*

- o Who was involved in the developing it, and what were their roles?*
- o What specific roles did district representatives have compared to school leaders or teachers?*
- o How long did it take to develop the program?*
- o How long has the professional development program been in place?*

### **6. Could you explain any underlying principles that guided the development of the professional development program?**

*Listen for:*

- o Extent to which philosophy/principles were informed by data and/or research*
- o Including a focus on teachers' mathematical content knowledge*
- o Ensuring PD is tightly linked to classroom practice*
- o Creating sustained, intensive opportunities for teacher learning*
- o Providing structured opportunities for teachers to collaborate with one another and with other experts*

*o Incorporating technology*

- 7. We understand that your district provides tools (e.g., PD curriculum, lesson planning guide, personalized PD plan) to support the implementation of professional development for Algebra I. What was the process for developing these tools?**

*Listen for:*

- o Who was involved and what were their roles?*
- o Did school-level staff have the opportunity to provide input?*

- 8. How was the professional development program initially funded, and how is it being sustained?**

*Listen for:*

- o Federal or district support; grant funding*
- o Strategies for and steps taken to promote efficient use of resources*
- o Strategies for and steps taken to promote sustainability*

## **IMPLEMENTATION OF PROFESSIONAL DEVELOPMENT PROGRAM**

**Now that we have a better sense of how your professional development program was developed, I am interested in how it is implemented.**

### ***Implementation Features and Context***

- 9. Could you describe the key features of the professional development program? What is the rationale behind these features?**

*Listen for:*

- o What types of content does the professional development cover and how does the content unfold over time? How is the content determined?*
- o In what ways is the professional development connected to teacher practice?*
- o How often do professional development activities occur? For how long? Over what span of time?*
- o To what extent do professional development activities include structured opportunities for teachers to collaborate?*
- o To what extent does the professional development incorporate technology (e.g., online resources, videos, graphing calculators)?*

- 10. Who participates in the professional development activities? How does the district support or encourage these individuals to attend?**

*Listen for:*

- o Is it for volunteers, or are teachers required to attend?*
- o Are particular types of teachers targeted (e.g., new teachers, struggling teachers, teacher leaders, teachers from different grade levels) to participate?*
- o What, if any, tools or resources does the district provide to support teachers' participation (e.g., teacher professional development plans, release time, stipends, substitutes)?*

### ***Tools Supporting Implementation***

**Now, we would like to ask specific questions about tools or resources that the district provides to support teachers' [and schools'] implementation of the PD program (e.g., PD curriculum, lesson planning guide, personalized PD plan).**

**11. You provided us with a copy of the {insert PD planning tool}. In what ways are teachers expected to use this tool to support what they are learning through the PD program?**

*Listen for:*

- o What are its distinguishing features?*
- o Are the tools and resources available online?*
- o How are the tools linked to the district's algebra curriculum?*

**12. You provided us with a copy of the {insert PD reference tool}. In what ways are teachers expected to use this tool to support what they are learning through the PD program?**

*Listen for:*

- o What are its distinguishing features?*
- o Are the tools and resources available online?*
- o How are the tools linked to the district's algebra curriculum?*

**13. Can you describe any other tools (e.g., frameworks, software or other technology) that are used to support the design or delivery of professional development?**

*Listen for:*

- o Who is intended to use these tools and for what specific purposes?*
- o To what extent are these tools useful in identifying and addressing teacher professional learning needs?*
- o What limitations do they present?*

- o What additional resources, financial or otherwise, are needed to provide these resources to teachers?*
- o How, when, and by whom are these tools refined?*

**14. Are there additional tools or resources that would improve the success of the professional development program for teachers? What would be most useful?**

***Professional Development Providers and Support***

**15. Can you describe how the individuals who deliver or facilitate professional development activities are selected?**

*Listen for:*

- o What criteria are used to select professional development providers?*
- o Who selects them (e.g., district-level staff, school-level staff, teachers)?*
- o To what extent are providers selected from outside the district (e.g., consultants, external organizations) and to what extent are they district- or school-level staff?*

**16. What would you say are the key characteristics of a successful professional development provider/facilitator?**

**17. [if applicable] For professional development providers/facilitators who are not district employees (e.g., consultants, representatives from external organizations), what types of guidance or support do they receive from the district to implement the components of the professional development program?**

*Listen for:*

- o In what format is the guidance/support provided (e.g., meetings with district staff, materials to review)?*
- o Who provides the guidance/support, and who receives it?*
- o When and how often is it provided?*

**18. For professional development providers/facilitators who are district employees, what types of training and support do they receive to help them implement the components of the professional development program?**

**NOTE: These could include, but are not limited to, workshops, webinars, instructional coaching, and professional learning communities.**

*Listen for:*

- o *What is the format for this training (e.g., webinar, in-person, Web-based materials to review)?*
- o *Who provides the training, and who receives it?*
- o *When and how often does the training occur? Is training provided only once or repeated regularly (e.g., annually, biannually)?*
- o *What are the training objectives?*
- o *Is there anything that is not currently covered in the training that should be?*
- o *What resources, financial or otherwise, are needed to support this training?*

**19. In what ways do you, as the district mathematics coordinator, support the implementation of the professional development program?**

*Listen for:*

- o *How frequently do you meet with PD providers individually or collectively? For what purpose?*
- o *Do you conduct observations of professional development activities? If so, how often? Do you provide feedback to PD providers on their professional development activities?*
- o *Do you feel like you are adequately supported to do this work?*

***Implementation Challenges***

**20. What are the major challenges that schools and teachers face in implementing the professional development program? In what ways have you addressed these challenges?**

*Listen for:*

- o *What strategies did and did not work and why?*

**21. What are the major challenges that your district has faced in implementing the professional development program? In what ways have you addressed these challenges?**

*Listen for:*

- o *What strategies did and did not work and why?*

**22. What changes would you make to the professional development program to increase its success?**

**OUTCOMES OF THE PROFESSIONAL DEVELOPMENT PROGRAM**

**Next, I would like to talk about outcomes of the professional development program.**

**23. How is the success of the professional development program measured?**

*Listen for:*

- o Changes in observed teacher practices*
- o Student achievement measures*
- o Course grades or failure rates*
- o Graduation or drop-out rates*
- o Other metrics*

**24. Has the program been successful according to these measures? Why or why not?**

**25. Does the program appear to be more successful with certain types of teachers or students than others?**

*If yes:*

**Which teachers or students have benefitted the most? Why do you think that is?**

**Which teachers or students have benefitted the least? Why do you think that is?**

#### **FINAL THOUGHTS AND CONCLUSION**

**OK, please take a step back to provide some key take-away thoughts from this interview today.**

**26. What do you think are the key components—the active ingredients—of a successful professional development program?**

**27. Do you have anything else that you would like to add before we conclude this interview?**

**Those are all the questions I have. Thank you for your time and for participating in this project.**

**PROMOTING STUDENT SUCCESS IN ALGEBRA I**  
Professional Development (PD) Topical Area  
**Teacher Focus Group**

|                        |                  |
|------------------------|------------------|
| <b>Name:</b>           | <b>Title:</b>    |
| <b>State:</b>          | <b>District:</b> |
| <b>Interviewed by:</b> | <b>Date:</b>     |

### **INTRODUCTION AND BACKGROUND**

Good morning/afternoon. First of all, thank you so much for being here and for being willing to participate in this project for the U.S. Department of Education. Before we start, we would like to introduce ourselves, provide a little background on our work, and answer any questions you might have.

My name is [name], and this is [name of the other site visitor]. We are researchers from American Institutes for Research and Windwalker Corporation, organizations that conduct research and technical assistance in education. We are here today to interview you as part of a collaborative effort to provide program developers and administrators with information to promote student success in Algebra I. We are particularly interested in Algebra I because it's a gatekeeper course in that it's a prerequisite for subsequent high school mathematics and science courses considered essential for getting into college. So, it is an important stepping-stone for success in high school and college.

As part of this project for the U.S. Department of Education, we are speaking with district staff, school administrators, math department chairs/leaders, and teachers about the approach to professional development practices and how it may contribute to student success in Algebra I. We're particularly interested in your perspective on how your school has contributed to professional development for Algebra I education. The data we collect will be used to develop technical assistance tools to help program developers and administrators implement similar programs to support struggling students.

I'll talk more about the topics of this interview, but for now, are there any questions about the project or why we are here?

### **DESCRIPTION OF INTERVIEW PROCEDURE AND CONFIDENTIALITY**

Next, I'd like to say a few things about the process for this discussion. During our session today, I'll be asking you some questions, and [another site visitor] will be taking notes on what you are saying. [S/he] will not record your names. If you don't mind, I would also like to record our conversation simply for note-taking purposes. No one outside of our project team will hear the recording; it will just be for our own reference. If you would like us to turn off the recorder at

any point, just let me know. Would that be OK?

I want to assure you that we will treat the information you provide in a confidential manner. The recorded interview will be transcribed by a member of the project team, and only selected research staff will have access to the data, except as required by law. We will not use your name or attribute any quotes to you, instead, we will use pseudonyms in practice profiles. All efforts will be made to keep the description of the site general enough so that a reader would never be able to determine the true name or identity of the site or individuals at the site. Therefore, no one who reads the profiles of practice will know that the statements came from you.

I'd like to ask you to sign a consent form before we begin. It outlines some of the issues I've just mentioned with regard to anonymity and confidentiality. Please take a minute to read it and let me know if you have any questions.

Are there any questions before we get started?

**Notes to interviewer:**

*- Throughout the interview, possible probes are set aside following each general question. We would like to gather information relative to each of those probes. If, when the general question is asked, respondents provide the information requested by the probes, you do not need to ask the probing questions. In addition to providing additional information, asking the probing questions may help move the interview pace or may prompt a less talkative respondent. Keep the tone conversational and comfortable.*

*- To the extent that this information can be retrieved from other data sources (e.g., school records) beforehand, document that information below prior to the interview. During the interview, prompt the Teachers to confirm its accuracy if their initial response does not do so.*

## BACKGROUND ON ROLE AND EXPERIENCE

Let's begin with some information about you.

1. Could each of you tell me a little bit about your teaching experience, including how long you have worked for this district and your current school? What courses are you currently teaching?

*Listen for:*

- o How long have you been a teacher?*
- o How long have you worked for [district name] and at [school name] specifically?*
- o How many classes are you currently teaching? Are they all Algebra I?*

**OK, thank you for sharing some personal information about yourself. For the remainder of the interview, I'd like to get your perspective on professional development activities related to helping students succeed in Algebra I. This would include PD opportunities provided directly to Algebra I teachers, but it might also include PD opportunities for teachers in elementary or middle school, with an explicit focus on helping students eventually succeed in Algebra I [(see notes to interviewer below for instructions)]. I'd like you to focus on that subject area alone when you respond to these questions, OK?**

### **Notes to interviewer:**

*- Based on preliminary research and responses to questions on job responsibilities above, determine if the interviewee is able to speak about the PD program at the elementary and/or secondary school level. Also, try to focus the scope of the interview as closely as possible to PD for Algebra I. For example, ask the respondent to speak to the PD program for math education before asking the respondent to provide perspective on the PD program more generally (e.g., PD for math and science).*

*- If the respondent can speak to secondary math education, try to focus the scope of the interview as closely as possible to Algebra I education, by asking the respondent to speak to the PD program for Algebra I education before asking the respondent to provide speak to the PD program for secondary math education more generally.*

*- If the scope has to be broadened or altered from Algebra I education, tailor the following questions accordingly, for example, by specifying elementary or secondary math education, instead of Algebra I education.*

## IMPETUS FOR AND DEVELOPMENT OF PROFESSIONAL DEVELOPMENT PROGRAM

**I'd like to get a general idea of the professional development program in your district [or school] and how it was developed.**

**2. Do you know what the main reasons for developing the professional development program were?**

*Listen for:*

- o To enhance teachers' mathematical content knowledge*
- o To improve teachers' ability to strengthen students' reasoning and conceptual understanding*
- o To improve communication and aligned expectations between middle school math teachers and high school Algebra I teachers*
- o To support the implementation of Algebra I or other mathematics initiatives*

**3. Were you involved in the development of the professional development program? If so, what was that process like and did you feel like your contributions were valued and reflected in the current model?**

*Listen for:*

- o Who was involved in the developing it, and what were their roles?*
- o What specific roles did district representatives have compared with school leaders or teachers?*
- o How long did it take to develop the program?*
- o How long has the professional development program been in place?*

## **IMPLEMENTATION OF PROFESSIONAL DEVELOPMENT PROGRAM**

**Now that we have a better sense of how your professional development program was developed, I am interested in how it is implemented.**

### ***Implementation Features and Context***

**4. What kinds of professional development activities do you participate in and which of these do you find most useful?**

*Listen for:*

- o What types of content does the professional development cover and how does the content unfold over time? How is the content determined?*
- o In what ways is the professional development connected to your practice?*
- o How often do professional development activities occur? For how long? Over what span of time?*
- o To what extent do professional development activities include structured opportunities for you to collaborate with other teachers?*
- o To what extent does the professional development incorporate technology (e.g., online resources, videos, graphing calculators)?*

**5. How structured and coherent are professional development activities within the program?**

*Listen for:*

- o Is a clear timeline of events provided from the start and adhered to throughout?*
- o Are objectives, guidelines, and expectations made clear from the start and consistently upheld throughout?*
- o Do the various activities fit together and build on each other? Are these connections explicit?*

**6. Who participates in the professional development activities? How does the district support or encourage these individuals to attend?**

*Listen for:*

- o Is it for volunteers or are teachers required to attend?*
- o Are particular types of teachers targeted (e.g., new teachers, struggling teachers, teacher leaders, teachers from different grade levels) to participate?*
- o What, if any, tools or resources does the district provide to support your participation (e.g., teacher professional development plans, release time, stipends, substitutes)?*

***Tools Supporting Implementation***

**Now, we would like to ask specific questions about tools or resources that the district provides to support teachers' [and schools'] implementation of the PD program (e.g., PD curriculum, lesson planning guide, personalized PD plan).**

**7. You provided us with a copy of the {insert PD planning tool}. In what ways do you use this tool to support what you are learning through the PD program?**

*Listen for:*

- o What are its distinguishing features?*
- o Are the tools and resources available online?*
- o How are the tools linked to the district's algebra curriculum?*
- o Have you adapted the tools in any way?*

**8. You provided us with a copy of the {insert PD reference tool}. In what ways do you use this tool to support what you are learning through the PD program?**

*Listen for:*

- o What are its distinguishing features?*
- o Are the tools and resources available online?*
- o How are the tools linked to the district's algebra curriculum?*
- o Have you adapted the tools in any way?*

- 9. Can you describe any other tools (e.g., frameworks, software or other technology) that are used to support the design or delivery of professional development?**

*Listen for:*

- o Who is intended to use these tools and for what specific purposes?*
- o To what extent are these tools useful in identifying and addressing teacher professional learning needs?*
- o What limitations do they present?*
- o What additional resources, financial or otherwise, are needed to provide these resources to teachers?*
- o How, when, and by whom are these tools refined?*

- 10. What additional tools or resources do you think are needed to improve the PD program? Which of these would make your job easier?**

*Professional Development Providers*

- 11. What would you say are the key characteristics of a successful professional development provider/facilitator?**

*Implementation Challenges*

- 12. What are the major challenges that you, as a teacher, have faced regarding the professional development program's implementation? In what ways have you addressed these challenges?**

*Listen for:*

- o What strategies did and did not work and why?*

- 13. Were there any professional development activities that you didn't really find worthwhile? If so, why don't you think they worked in your situation?**

*Listen for:*

- o How did they fall below expectations?*
- o What can be done to make them successful or worthwhile?*

- 14. What changes would you make to the professional development program to increase its success?**

## **OUTCOMES OF THE PROFESSIONAL DEVELOPMENT PROGRAM**

**Next, I would like to talk about outcomes of the professional development program.**

**15. Reflecting on the professional development program as a whole, in what ways has it helped Algebra I teachers in your school?**

*Listen for:*

- o Student engagement or student-teacher relationships*
- o Teachers' own content knowledge*
- o Lesson planning for Algebra I instruction*
- o Overall pedagogical principles or techniques for Algebra I instruction*
- o Specific instructional practices or materials to teach a particular concept, or help students' overcome a learning challenge*

**16. Do you think the professional development program has benefitted certain types of teachers and students more than others? If so, which teachers and students seemed to benefit more than others, and why do you think this was the case?**

## **FINAL THOUGHTS AND CONCLUSION**

**OK, please take a step back to provide some key take-away thoughts from this interview today.**

**17. What do you think are the key components—the active ingredients—of a successful professional development program?**

*Listen for:*

- o Specific activities/practices*
- o Policies*

**18. Do you have anything else that you would like to add before we conclude this interview?**

**Those are all the questions I have. Thank you for your time and for participating in this project.**

**PROMOTING STUDENT SUCCESS IN ALGEBRA I**  
 Professional Development (PD) Topical Area  
**Principal Focus Group**

|                        |                  |
|------------------------|------------------|
| <b>Name:</b>           | <b>Title:</b>    |
| <b>State:</b>          | <b>District:</b> |
| <b>Interviewed by:</b> | <b>Date:</b>     |

**INTRODUCTION AND BACKGROUND**

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I’ll talk more about the topics of this interview, but for now, are there any questions about the project or why we are here?

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I want to assure you that we will treat the information you provide in a confidential manner. The recorded interview will be transcribed by a member of the project team, and only selected research staff will have access to the data, except as required by law. We will not use your name or attribute any quotes to you, instead, we will use pseudonyms in practice profiles. All efforts will be made to keep the description of the site general enough so that a reader would never be able to determine the true name or identity of the site or individuals at the site. Therefore, no one who reads the profiles of practice will know that the statements came from you.

I'd like to ask you to sign a consent form before we begin. It outlines some of the issues I've just mentioned with regard to anonymity and confidentiality. Please take a minute to read it and let me know if you have any questions.

Are there any questions before we get started?

***Notes to interviewer:***

*- Throughout the interview, possible probes are set aside following each general question. We would like to gather information relative to each of those probes. If, when the general question is asked, respondents provide the information requested by the probes, you do not need to ask the probing questions. In addition to providing additional information, asking the probing questions may help move the interview pace or may prompt a less talkative respondent. Keep the tone conversational and comfortable.*

*- To the extent that this information can be retrieved from other data sources (e.g., school records) beforehand, document that information below prior to the interview. During the interview, prompt the Principals to confirm its accuracy if their initial response does not do so.*

## BACKGROUND ON ROLE AND EXPERIENCE

Let's begin with some information about you.

1. Could you each tell me a little bit about your background and how you came to serve as a principal for [district name]?

*Listen for:*

- o How long have you worked for [district name]?
- o How long have you served as the principal of your current school?
- o What, if any, experience do you have teaching mathematics?

2. What role do you have with regard to teacher professional development and professional development for teachers of mathematics in particular?

*Listen for:*

- o What is your role with regard to professional development for mathematics teachers?
- o How much of your time is dedicated to professional development responsibilities?
- o How much of your time is dedicated to Algebra I issues specifically?

### **Notes to interviewer:**

- Based on preliminary research and responses to questions on job responsibilities above, determine if the interviewee is able to speak about the PD program at the elementary and/or secondary school level. Also, try to focus the scope of the interview as closely as possible to PD for Algebra I. For example, ask the respondent to speak to the PD program for math education before asking the respondent to provide perspective on the PD program more generally (e.g., PD for math and science).

- If the respondent can speak to secondary math education, try to focus the scope of the interview as closely as possible on Algebra I education by asking the respondent to speak to the PD program for Algebra I education before asking the respondent to provide speak to the PD program for secondary math education more generally.

- If the scope has to be broadened or altered from Algebra I education, tailor the following questions accordingly, for example, by specifying elementary or secondary math education, instead of Algebra I education.

**OK, thank you for sharing some personal information about yourself. For the remainder of the interview, I'd like to get your perspective on professional development activities related to helping students succeed in Algebra I. This would include PD opportunities provided directly to Algebra I teachers, but it might also include PD opportunities for teachers in elementary or middle school, with an explicit focus of helping students eventually succeed in Algebra I [(see notes to interviewer below for instructions)]. I'd like you to focus on that subject area alone when you respond to these questions, OK?**

## **IMPETUS FOR AND DEVELOPMENT OF PROFESSIONAL DEVELOPMENT PROGRAM**

**I'd like to get a general idea of the professional development program and how it was developed.**

### **3. Do you know what the main reasons for developing the PD program were?**

*Listen for:*

- o To enhance teachers' mathematical content knowledge*
- o To improve teachers' ability to strengthen students' reasoning and conceptual understanding*
- o To improve communication and aligned expectations between middle school math teachers and high school Algebra I teachers*
- o To support the implementation of Algebra I or other mathematics initiatives*

### **4. Were you involved in the development of the PD program? If so, what was that process like and did you feel like your contributions were valued and reflected in the current model?**

*Listen for:*

- o Who was involved in the developing it, and what were their roles?*
- o What specific roles did district representatives have compared with school leaders or teachers?*
- o How long did it take to develop the program?*
- o How long has the professional development program been in place?*

### **5. Could you explain the underlying principles that guided the development of the professional development program? To what extent do these reasons align with your school's instructional goals?**

*Listen for:*

- o Extent to which philosophy/principles were informed by data and/or research*
- o Including a focus on teachers' mathematical content knowledge*
- o Ensuring PD is tightly linked to classroom practice*
- o Creating sustained, intensive opportunities for teacher learning*
- o Providing structured opportunities for teachers to collaborate with one another and with other experts*
- o Incorporating technology*

### **6. How was the professional development program initially funded, and how is it being sustained?**

*Listen for:*

- o *Federal or district support; grant funding*
- o *Strategies for and steps taken to promote efficient use of resources*
- o *Strategies for and steps taken to promote sustainability*

## **IMPLEMENTATION OF PROFESSIONAL DEVELOPMENT PROGRAM**

**Now that we have a better sense of how your professional development program was developed, I am interested in how it is implemented.**

### ***Implementation Features and Context***

- 7. Could you describe the key features of the professional development program? What is the rationale behind these features, and which do you think are most important for your teachers?**

*Listen for:*

- o *What types of content does the professional development cover and how does the content unfold over time? How is the content determined?*
- o *In what ways is the professional development connected to teacher practice?*
- o *How often do professional development activities occur? For how long? Over what span of time?*
- o *To what extent do professional development activities include structured opportunities for teachers to collaborate?*
- o *To what extent does the professional development incorporate technology (e.g., online resources, videos, graphing calculators)?*

- 8. Who participates in the professional development activities? How do you support or encourage these individuals to attend?**

*Listen for:*

- o *Is it for volunteers or are teachers required to attend?*
- o *Are particular types of teachers targeted (e.g., new teachers, struggling teachers, teacher leaders, teachers from different grade levels) to participate?*
- o *What, if any, tools or resources does the district provide to support teachers' participation (e.g., teacher professional development plans, release time, stipends, substitutes)?*
- o *Is there any accountability in terms of what teachers are expected to do after participating in the professional development programs (e.g., homework, follow-up observations)?*

### ***Tools Supporting Implementation***

- 9. You provided us with a copy of the {insert PD planning tool}. In what ways do you think this tool supports what your teachers are learning through the PD program?**

*Listen for:*

- o What are its distinguishing features?*
- o Are the tools and resources available online?*
- o How are the tools linked to the district's algebra curriculum?*
- o Have you adapted the tools in any way?*

**10. You provided us with a copy of the {insert PD reference tool}. In what ways do you think this tool supports what your teachers are learning through the PD program?**

*Listen for:*

- o What are its distinguishing features?*
- o Are the tools and resources available online?*
- o How are the tools linked to the district's algebra curriculum?*
- o Have you adapted the tools in any way?*

**11. Can you describe any other tools (e.g., frameworks, software or other technology) that are used to support the design or delivery of professional development?**

*Listen for:*

- o Who is intended to use these tools and for what specific purposes?*
- o To what extent are these tools useful in identifying and addressing teacher professional learning needs?*
- o What limitations do they present?*
- o What additional resources, financial or otherwise, are needed to provide these resources to teachers?*
- o How, when, and by whom are these tools refined?*

**12. Are there additional tools or resources that you think are needed to improve the PD program for your teachers?**

### ***Professional Development Providers***

**13. What would you say are the key characteristics of a successful professional development provider/facilitator?**

**14. In what ways do you, as the principal, support implementation of the professional development program?**

*Listen for:*

- o How frequently do you meet with PD providers individually or collectively? For what purpose?*
- o Do you conduct observations of the professional development activities? If so, how often? Do you provide feedback to PD providers on their professional development activities?*

- o Do you feel like you are adequately supported to do this work?

### ***Implementation Challenges***

**15. What are the major challenges your school has faced in implementing the professional development program? In what ways have you addressed these challenges?**

*Listen for:*

- o What strategies did and did not work and why?

**16. What changes would you make to the professional development program to increase its success?**

### **OUTCOMES OF THE PROFESSIONAL DEVELOPMENT PROGRAM**

**Next, I would like to talk about possible outcomes of the professional development program.**

**17. How is the success of the professional development program measured?**

*Listen for:*

- o Changes in observed teacher practices
- o Student achievement measures
- o Course grades or failure rates
- o Graduation or drop-out rates
- o Other metrics

**18. Has the program been successful according to these measures? Why or why not?**

**19. Does the program appear to be more successful with certain types teachers or students than others?**

*If yes:*

**Which teachers or students have benefitted the most? Why?**

**Which teachers or students have benefitted the least? Why?**

### **FINAL THOUGHTS AND CONCLUSION**

**OK, please take a step back to provide some key take-away thoughts from this interview today.**

**20. What do you think are the key components—the active ingredients—of a successful professional development program?**

**21. Do you have anything else that you would like to add before we conclude this interview?**

**Those are all the questions I have. Thank you for your time and for participating in this project.**

**PROMOTING STUDENT SUCCESS IN ALGEBRA I**  
Professional Development (PD) Topical Area  
**Elementary School Mathematics Coordinator Focus Group**

|                        |                  |
|------------------------|------------------|
| <b>Name:</b>           | <b>Title:</b>    |
| <b>State:</b>          | <b>District:</b> |
| <b>Interviewed by:</b> | <b>Date:</b>     |

### **INTRODUCTION AND BACKGROUND**

Good morning/afternoon. First of all, thank you so much for being here and for being willing to participate in this project for the U.S. Department of Education. Before we start, we would like to introduce ourselves, provide a little background on our work, and answer any questions you might have.

My name is [name], and this is [name of the other site visitor]. We are researchers from American Institutes for Research and Windwalker Corporation, organizations that conduct research and technical assistance in education. We are here today to interview you as part of a collaborative effort to provide program developers and administrators with information to promote student success in Algebra I. We are particularly interested in Algebra I because it's a gatekeeper course in that it's a prerequisite for subsequent high school mathematics and science courses considered essential for getting into college. So, it is an important stepping-stone for success in high school and college.

As part of this project for the U.S. Department of Education, we are speaking with district staff, school administrators, math department chairs/leaders, and teachers about the approach to professional development practices and how it may contribute to student success in Algebra I. We're particularly interested in your perspective on how [district name] has contributed to professional development for Algebra I education. The data we collect will be used to develop technical assistance tools to help program developers and administrators implement similar programs to support struggling students.

I'll talk more about the topics of this interview, but for now, are there any questions about the project or why we are here?

### **DESCRIPTION OF INTERVIEW PROCEDURE AND CONFIDENTIALITY**

Next, I'd like to say a few things about the process for this discussion. During our session today, I'll be asking you some questions, and [another site visitor] will be taking notes on what you are saying. [S/he] will not record your names. If you don't mind, I would also like to record our conversation simply for note-taking purposes. No one outside of our project team will hear the recording; it will just be for our own reference. If you would like us to turn off the recorder at any point, just let me know. Would that be OK?

I want to assure you that we will treat the information you provide in a confidential manner. The recorded interview will be transcribed by a member of the project team, and only selected research staff will have access to the data, except as required by law. We will not use your name or attribute any quotes to you, instead, we will use pseudonyms in practice profiles. All efforts will be made to keep the description of the site general enough so that a reader would never be able to determine the true name or identity of the site or individuals at the site. Therefore, no one who reads the profiles of practice will know that the statements came from you.

I'd like to ask you to sign a consent form before we begin. It outlines some of the issues I've just mentioned with regard to anonymity and confidentiality. Please take a minute to read it and let me know if you have any questions.

Are there any questions before we get started?

***Notes to interviewer:***

*- Throughout the interview, possible probes are set aside following each general question. We would like to gather information relative to each of those probes. If, when the general question is asked, respondents provide the information requested by the probes, you do not need to ask the probing questions. In addition to providing additional information, asking the probing questions may help move the interview pace or may prompt a less talkative respondent. Keep the tone conversational and comfortable.*

*- To the extent that this information can be retrieved from other data sources (e.g., school records) beforehand, document that information below prior to the interview. During the interview, prompt the Mathematics Coordinators to confirm its accuracy if their initial response does not do so.*

## **BACKGROUND ON ROLE AND EXPERIENCE**

**Let's begin with some information about you.**

- 1. Can you each tell me a bit about your background and how you came to serve as elementary math coordinators in [district name]?**

*Listen for:*

- o How long have you worked for [district name]?*
- o How long have you served as a mathematics coordinator here?*
- o What experience do you have having teaching mathematics?*

- 2. Could you each briefly describe your current role and primary job responsibilities?**

*Listen for:*

- o What is your role with regard to professional development for mathematics teachers?*
- o How much of your time is dedicated to professional development responsibilities?*

**OK, thank you for sharing some personal information about yourself. For the remainder of the interview, I'd like to get your perspective on professional development activities related to helping students succeed in Algebra I. This includes PD opportunities for teachers in elementary or middle school, with an explicit focus on helping students eventually succeed in Algebra I [(see notes to interviewer below for instructions)]. I'd like you to focus on that subject area alone when you respond to these questions, OK?**

## **IMPETUS FOR AND DEVELOPMENT OF PROFESSIONAL DEVELOPMENT PROGRAM**

**I'd like to get a general idea of the professional development program in your district [or school] and how it was developed.**

- 3. What were the main reasons for developing the professional development program?**

*Listen for:*

- o To enhance teachers' mathematical content knowledge*
- o To improve teachers' ability to strengthen students' reasoning and conceptual understanding*
- o To improve communication and aligned expectations between middle school math teachers and high school Algebra I teachers*
- o To support the implementation of Algebra I or other mathematics initiatives*

- 4. Were you involved in the development of the professional development program? If so, do you feel like your contributions were valued and reflected in the current program?**

**5. Can you describe in detail how the professional development program was developed?**

*Listen for:*

- o Who was involved in the developing it, and what were their roles?*
- o What specific roles did district representatives have compared with school leaders or teachers?*
- o How long did it take to develop the program?*
- o How long has the professional development program been in place?*

**6. Could you explain any underlying principles that guided the development of the professional development program?**

*Listen for:*

- o Extent to which philosophy/principles were informed by data and/or research*
- o Including a focus on teachers' mathematical content knowledge*
- o Ensuring PD is tightly linked to classroom practice*
- o Creating sustained, intensive opportunities for teacher learning*
- o Providing structured opportunities for teachers to collaborate with one another and with other experts*
- o Incorporating technology*

**7. We understand that your district provides tools (e.g., PD curriculum, lesson planning guide, personalized PD plan) to support the implementation of professional development for Algebra I. What was the process for developing these tools?**

*Listen for:*

- o Who was involved and what were their roles?*
- o Did school-level staff have the opportunity to provide input?*

**8. How was the professional development program initially funded, and how is it being sustained?**

*Listen for:*

- o Federal or district support; grant funding*
- o Strategies for and steps taken to promote efficient use of resources*
- o Strategies for and steps taken to promote sustainability*

**IMPLEMENTATION OF PROFESSIONAL DEVELOPMENT PROGRAM**

**Now that we have a better sense of how the professional development program was developed, I am interested in how it is implemented.**

## ***Implementation Features and Context***

### **9. Could you describe the key features of the professional development program? What is the rationale behind these features?**

*Listen for:*

- o What types of content does the professional development cover, and how does the content unfold over time? How is the content determined?*
- o In what ways is the professional development connected to teacher practice?*
- o How often do professional development activities occur? For how long? Over what span of time?*
- o To what extent do professional development activities include structured opportunities for teachers to collaborate?*
- o To what extent does the professional development incorporate technology (e.g., online resources, videos, graphing calculators)?*

### **10. Who participates in the professional development activities? How are these individuals supported or encouraged to attend?**

*Listen for:*

- o Is it for volunteers or are teachers required to attend?*
- o Are particular types of teachers targeted (e.g., new teachers, struggling teachers, teacher leaders, teachers from different grade levels) to participate?*
- o What, if any, tools or resources does the district provide to support teachers' participation (e.g., teacher professional development plans, release time, stipends, substitutes)?*

## ***Tools Supporting Implementation***

### **11. You provided us with a copy of the {insert PD planning tool}. In what ways do you think this tool supports what your teachers are learning through the PD program?**

*Listen for:*

- o What are its distinguishing features?*
- o Are the tools and resources available online?*
- o How are the tools linked to the district's algebra curriculum?*
- o Have you adapted the tools in any way?*

### **12. You provided us with a copy of the {insert PD reference tool}. In what ways do you think this tool supports what your teachers are learning through the PD program?**

*Listen for:*

- o What are its distinguishing features?*
- o Are the tools and resources available online?*
- o How are the tools linked to the district's algebra curriculum?*

*o Have you adapted the tools in any way?*

**13. Can you describe any other tools (e.g., frameworks, software or other technology) that are used to support the design or delivery of professional development?**

*Listen for:*

- o Who is intended to use these tools and for what specific purposes?*
- o To what extent are these tools useful in identifying and addressing teacher professional learning needs?*
- o What limitations do they present?*
- o What additional resources, financial or otherwise, are needed to provide these resources to teachers?*
- o How, when and by whom are these tools refined?*

**14. Are there additional tools or resources that you think are needed to improve the PD program for your teachers?**

***Professional Development Provider Selection and Support***

**15. Who delivers or facilitates the professional development activities that we discussed earlier? How are these individuals selected?**

*Listen for:*

- o What criteria are used to select professional development providers?*
- o Who selects them (e.g., district-level staff, school-level staff, teachers)?*
- o To what extent are providers selected from outside the district (e.g., consultants, external organizations) and to what extent are they district- or school-level staff?*
- o Do any of you deliver or facilitate professional development activities within the program? Which activities?*

**16. What would you say are the key characteristics of a successful professional development provider/facilitator?**

***Note to interviewer:***

*If no focus group participants indicate that they serve as professional development providers/facilitators, then skip the next question about training and support for professional development providers.*

**17. For those of you who serve as providers or facilitators of professional development activities, what types of training and support do you receive to help you implement those activities?**

**NOTE: These could include, but are not limited to, workshops, webinars, instructional coaching, and professional learning communities.**

*Listen for:*

- o What is the format for this training (e.g., webinar, in-person, Web-based materials to review)?*
- o Who provides the training, and who receives it?*
- o When and how often does the training occur? Is training provided only once or repeated regularly (e.g., annually, biannually)?*
- o What are the training objectives?*
- o Is there anything that is not currently covered in the training that should be?*
- o What resources, financial or otherwise, are needed to support this training?*

**18. Aside from delivering/facilitating professional development activities, are there other ways in which you, as mathematics chairs/teacher leaders, support the implementation of the professional development program?**

*Listen for:*

- o Do you conduct observations of professional development activities? If so, how often? Do you provide feedback to PD providers on their professional development activities?*
- o Do you feel like you are adequately supported to do this work?*

### **Implementation Challenges**

**19. What are the major challenges that you as math department chairs/teacher leaders have faced in implementing the professional development program? In what ways have you addressed these challenges?**

*Listen for:*

- o What strategies did and did not work and why?*

**20. What are the major challenges that your school or district has faced in implementing the professional development program? In what ways have you addressed these challenges?**

*Listen for:*

- o What strategies did and did not work and why?*

**21. What changes would you make to the professional development program to increase its success?**

### **OUTCOMES OF THE PROFESSIONAL DEVELOPMENT PROGRAM**

**Next, I would like to talk about possible outcomes of the professional development program.**

**22. How is the success of the professional development program measured?**

*Listen for:*

- o Changes in observed teacher practices*
- o Student achievement measures*
- o Student promotion/retention rates*
- o Other metrics*

**23. Has the program been successful according to these measures? Why or why not?**

**24. Does the program appear to be more successful with certain types teachers or students than others?**

*If yes:*

**Which teachers or students have benefitted the most? Why do you think that is?**

**Which teachers or students have benefitted the least? Why do you think that is?**

## **FINAL THOUGHTS AND CONCLUSION**

**OK, please take a step back to provide some key take-away thoughts from this interview today.**

**25. What do you think are the key components—the active ingredients—of a successful professional development program?**

**26. Do you have anything else that you would like to add before we conclude this interview?**

**Those are all the questions I have. Thank you for your time and for participating in this project.**

**PROMOTING STUDENT SUCCESS IN ALGEBRA I**  
 Professional Development (PD) Topical Area  
**High School Math Chair/Teacher Leader Focus Group**

|                        |                  |
|------------------------|------------------|
| <b>Name:</b>           | <b>Title:</b>    |
| <b>State:</b>          | <b>District:</b> |
| <b>Interviewed by:</b> | <b>Date:</b>     |

### **INTRODUCTION AND BACKGROUND**

Good morning/afternoon. First of all, thank you so much for being here and for being willing to participate in this project for the U.S. Department of Education. Before we start, we would like to introduce ourselves, provide a little background on our work, and answer any questions you might have.

My name is [name], and this is [name of the other site visitor]. We are researchers from American Institutes for Research and Windwalker Corporation, organizations that conduct research and technical assistance in education. We are here today to interview you as part of a collaborative effort to provide program developers and administrators with information to promote student success in Algebra I. We are particularly interested in Algebra I because it's a gatekeeper course in that it's a prerequisite for subsequent high school mathematics and science courses considered essential for getting into college. So, it is an important stepping-stone for success in high school and college.

As part of this project for the U.S. Department of Education, we are speaking with district staff, school administrators, math department chairs/leaders, and teachers about the approach to professional development practices and how it may contribute to student success in Algebra I. We're particularly interested in your perspective on how [district name] has contributed to professional development for Algebra I education. The data we collect will be used to develop technical assistance tools designed to help program developers and administrators implement similar programs to support struggling students.

I'll talk more about the topics of this interview, but for now, are there any questions about the project or why we are here?

### **DESCRIPTION OF INTERVIEW PROCEDURE AND CONFIDENTIALITY**

Next, I'd like to say a few things about the process for this discussion. During our session today, I'll be asking you some questions, and [another site visitor] will be taking notes on what you are saying. [S/he] will not record your names. If you don't mind, I would also like to record our conversation simply for note-taking purposes. No one outside of our project team will hear the recording; it will just be for our own reference. If you would like us to turn off the recorder at any point, just let me know. Would that be OK?

I want to assure you that we will treat the information you provide in a confidential manner. The recorded interview will be transcribed by a member of the project team, and only selected research staff will have access to the data, except as required by law. We will not use your name or attribute any quotes to you, instead, we will use pseudonyms in practice profiles. All efforts will be made to keep the description of the site general enough so that a reader would never be able to determine the true name or identity of the site or individuals at the site. Therefore, no one who reads the profiles of practice will know that the statements came from you.

I'd like to ask you to sign a consent form before we begin. It outlines some of the issues I've just mentioned with regard to anonymity and confidentiality. Please take a minute to read it and let me know if you have any questions.

Are there any questions before we get started?

***Notes to interviewer:***

*- Throughout the interview, possible probes are set aside following each general question. We would like to gather information relative to each of those probes. If, when the general question is asked, respondents provide the information requested by the probes, you do not need to ask the probing questions. In addition to providing additional information, asking the probing questions may help move the interview pace or may prompt a less talkative respondent. Keep the tone conversational and comfortable.*

*- To the extent that this information can be retrieved from other data sources (e.g., school records) beforehand, document that information below prior to the interview. During the interview, prompt the Math Department Chairs/Teacher Leaders to confirm its accuracy if their initial response does not do so.*

## **BACKGROUND ON ROLE AND EXPERIENCE**

**Let's begin with some information about you.**

- 1. Can you each tell me a bit about your background and how you came to serve as high school math department chairs/teacher leaders in [district name]?**

*Listen for:*

- o How long have you worked for [district name]?*
- o How long have you served as a mathematics department chair here?*
- o What experience do you have having teaching mathematics?*

- 2. Could you each briefly describe your current role and primary job responsibilities?**

*Listen for:*

- o What is your role with regard to professional development for mathematics teachers?*
- o How much of your time is dedicated to professional development responsibilities?*

**OK, thank you for sharing some personal information about yourself. For the remainder of the interview, I'd like to get your perspective on professional development activities related to helping students succeed in Algebra I. This includes PD opportunities for teachers in elementary or middle school, with an explicit focus of helping students eventually succeed in Algebra I [(see notes to interviewer below for instructions)]. I'd like you to focus on that subject area alone when you respond to these questions, OK?**

## **IMPETUS FOR AND DEVELOPMENT OF PROFESSIONAL DEVELOPMENT PROGRAM**

**I'd like to get a general idea of the professional development program in your district [or school] and how it was developed.**

- 3. What were the main reasons for developing the professional development program?**

*Listen for:*

- o To enhance teachers' mathematical content knowledge*
- o To improve teachers' ability to strengthen students' reasoning and conceptual understanding*
- o To improve communication and aligned expectations between middle school math teachers and high school Algebra I teachers*
- o To support the implementation of Algebra I or other mathematics initiatives*

- 4. Were you involved in the development of the professional development program? If so, do you feel like your contributions were valued and reflected in the current program?**

**5. Can you describe in detail how the professional development program was developed?**

*Listen for:*

- o Who was involved in the developing it, and what were their roles?*
- o What specific roles did district representatives have compared with school leaders or teachers?*
- o How long did it take to develop the program?*
- o How long has the professional development program been in place?*

**6. Could you explain any underlying principles that guided the development of the professional development program?**

*Listen for:*

- o Extent to which philosophy/principles were informed by data and/or research*
- o Including a focus on teachers' mathematical content knowledge*
- o Ensuring PD is tightly linked to classroom practice*
- o Creating sustained, intensive opportunities for teacher learning*
- o Providing structured opportunities for teachers to collaborate with one another and with other experts*
- o Incorporating technology*

**7. We understand that your district provides tools (e.g., PD curriculum, lesson planning guide, personalized PD plan) to support the implementation of professional development for Algebra I. What was the process for developing these tools?**

*Listen for:*

- o Who was involved and what were their roles?*
- o Did school-level staff have the opportunity to provide input?*

**8. How was the professional development program initially funded, and how is it being sustained?**

*Listen for:*

- o Federal or district support; grant funding*
- o Strategies for and steps taken to promote efficient use of resources*
- o Strategies for and steps taken to promote sustainability*

**IMPLEMENTATION OF PROFESSIONAL DEVELOPMENT PROGRAM**

**Now that we have a better sense of how the professional development program was developed, I am interested in how it is implemented.**

### **Implementation Features and Context**

**9. Could you describe the key features of the professional development program? What is the rationale behind these features?**

*Listen for:*

- o What types of content does the professional development cover and how does the content unfold over time? How is the content determined?*
- o In what ways is the professional development connected to teacher practice?*
- o How often do professional development activities occur? For how long? Over what span of time?*
- o To what extent do professional development activities include structured opportunities for teachers to collaborate?*
- o To what extent does the professional development incorporate technology (e.g., online resources, videos, graphing calculators)?*

**10. Who participates in the professional development activities? How are these individuals supported or encouraged to attend?**

*Listen for:*

- o Is it for volunteers or are teachers required to attend?*
- o Are particular types of teachers targeted (e.g., new teachers, struggling teachers, teacher leaders, teachers from different grade levels) to participate?*
- o What, if any, tools or resources does the district provide to support teachers' participation (e.g., teacher professional development plans, release time, stipends, substitutes)?*

### **Tools Supporting Implementation**

**11. You provided us with a copy of the {insert PD planning tool}. In what ways do you think this tool supports what your teachers are learning through the PD program?**

*Listen for:*

- o What are the tool's distinguishing features?*
- o Are the tools and resources available online?*
- o How are the tools linked to the district's algebra curriculum?*
- o Have you adapted the tools in any way?*

**12. You provided us with a copy of the {insert PD reference tool}. In what ways do you think this tool supports what your teachers are learning through the PD program?**

*Listen for:*

- o What are the tool's distinguishing features?*

- o Are the tools and resources available online?*
- o How are the tools linked to the district's algebra curriculum?*
- o Have you adapted the tools in any way?*

**13. Can you describe any other tools (e.g., frameworks, software or other technology) that are used to support the design or delivery of professional development?**

*Listen for:*

- o Who is intended to use these tools and for what specific purposes?*
- o To what extent are these tools useful in identifying and addressing teacher professional learning needs?*
- o What limitations do they present?*
- o What additional resources, financial or otherwise, are needed to provide these resources to teachers?*
- o How, when, and by whom are these tools refined?*

**14. Are there additional tools or resources that you think are needed to improve the PD program for your teachers?**

***Professional Development Provider Selection and Support***

**15. Who delivers or facilitates the professional development activities that we discussed earlier? How are these individuals selected?**

*Listen for:*

- o What criteria are used to select professional development providers?*
- o Who selects them (e.g., district-level staff, school-level staff, teachers)?*
- o To what extent are providers selected from outside the district (e.g., consultants, external organizations) and to what extent are they district- or school-level staff?*
- o Do any of you deliver or facilitate professional development activities within the program? Which activities?*

**16. What would you say are the key characteristics of a successful professional development provider/facilitator?**

***Note to interviewer:***

*If no focus group participants indicate that they serve as professional development providers/facilitators, then skip the next question about training and support for professional development providers.*

**17. For those of you who serve as providers or facilitators of professional development activities, what types of training and support do you receive to help you implement those activities?**

**NOTE: These could include, but are not limited to, workshops, webinars, instructional coaching, and professional learning communities.**

*Listen for:*

- o What is the format for this training (e.g., webinar, in-person, Web-based materials to review)?*
- o Who provides the training, and who receives it?*
- o When and how often does the training occur? Is training provided only once or repeated regularly (e.g., annually, biannually)?*
- o What are the training objectives?*
- o Is there anything that is not currently covered in the training that should be?*
- o What resources, financial or otherwise, are needed to support this training?*

**18. Aside from delivering/facilitating professional development activities, are there other ways in which you, as mathematics chairs/teacher leaders, support the implementation of the professional development program?**

*Listen for:*

- o Do you conduct observations of professional development activities? If so, how often? Do you provide feedback to PD providers on their professional development activities?*
- o Do you feel like you are adequately supported to do this work?*

### ***Implementation Challenges***

**19. What are the major challenges that you as math department chairs/teacher leaders have faced in implementing the professional development program? In what ways have you addressed these challenges?**

*Listen for:*

- o What strategies did and did not work and why?*

**20. What are the major challenges that your school or district has faced in implementing the professional development program? In what ways have you addressed these challenges?**

*Listen for:*

- o What strategies did and did not work and why?*

**21. What changes would you make to the professional development program to increase its success?**

## **OUTCOMES OF THE PROFESSIONAL DEVELOPMENT PROGRAM**

**Next, I would like to talk about possible outcomes of the professional development program.**

**22. How is the success of the professional development program measured?**

*Listen for:*

- o Changes in observed teacher practices*
- o Student achievement measures*
- o Course grades or failure rates*
- o Graduation or drop-out rates*
- o Other metrics*

**23. Has the program been successful according to these measures? Why or why not?**

**24. Does the program appear to be more successful with certain types teachers or students than others?**

*If yes:*

**Which teachers or students have benefitted the most? Why?**

**Which teachers or students have benefitted the least? Why?**

## **FINAL THOUGHTS AND CONCLUSION**

**OK, please take a step back to provide some key take-away thoughts from this interview today.**

**25. What do you think are the key components—the active ingredients—of a successful professional development program?**

**26. Do you have anything else that you would like to add before we conclude this interview?**

**Those are all the questions I have. Thank you for your time and for participating in this project.**