

## **REHEARSING INSTRUCTIONAL ACTIVITIES TO SUPPORT ONGOING PROFESSIONAL DEVELOPMENT OF MATHEMATICS TEACHERS**

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### **DETAILED DESCRIPTION OF THE TOPIC THEME INCLUDING ANTICIPATED AIMS AND A RATIONALE OF THE PLANNED DISCUSSION GROUP.**

High-quality professional development, within the context of a supportive professional community, is essential to the cultivation of the expertise needed to promote higher levels of student achievement. The *a2i* project provides a variety of professional development activities to enable teachers to become familiar with project resources and to prepare to use them effectively. Teachers participate in day-long unit-based professional development workshops in which they work with teachers from other schools to unpack the core mathematics of a unit, look at data from Balanced Assessments, rehearse specific instructional activities in order to reflect together on teaching practice (see, Lampert & Graziani, 2009; Lampert et al, 2013), and plan unit and lesson enactment.

The rehearsal of instructional activities is the key element in bringing the workshop experience back to the classroom; the effective rehearsal of instruction significantly increases the likelihood that daily classroom practice will change by supporting two interrelated areas of teacher development.

First, rehearsals approximate the complex relational character of teaching. (Lampert et al, 238) Rather than presenting materials in a dissimilar context, rehearsals mimic the classroom environment and demand that participants consider aspects of practice as they arise in the relationships between teacher and learners. Participants practice making judgments, both in eliciting evidence of learning and in responding to evidence of learning, and then explore the outcomes of those decisions. The rehearsal space allows practitioners to pay attention to the principles and protocols that will allow ambitious teaching in the classroom, without the distractions of trying to learn while doing.

Second, rehearsals allow opportunities to “retry, reconsider, and receive feedback” through targeted work on both routine and adaptive performances. (Lampert et al, 239) The instructional activities are “deliberately designed to scaffold the use of principles, practices and content knowledge” (ibid.); by attending to the structures inherent in each activity, the practitioner learns to focus on the learners’ thinking, where in the structure it will arise and how to use the structure to support and extend that thinking. In rehearsal, the variations are considered and addressed, so that in the classroom every student can benefit from the activity.

Additionally, the instructional activity addresses the mathematics of the classroom. By attending to the mathematics through a structured rehearsal, the participants extend their own content knowledge, newly access their pedagogical knowledge, and thereby develop simultaneously as mathematicians and teachers. Often, the instructional activity allows students to access naïve, pre-grade level strategies successfully; teachers learn that these student strategies are stepping-stones towards the grade-level mathematics and how better to support students in their learning trajectory.

**KEY QUESTIONS AND ISSUES FOR THE WORKSHOP TO CONSIDER.**

1. How do we support teachers in understanding the core mathematics of each topic, teaching toward big ideas, and seeing connections between topics and units/lessons?
2. How do we support teachers in analyzing student thinking *in the moment* to inform their practice and in recognizing student use of earlier content standards as “stepping-stones” towards grade-level mathematics?
3. How could we structure our time and effort to most effectively trigger and sustain lasting shifts in schools’ instructional practices, across a variety of school conditions?

**A PRECISE DESCRIPTION OF THE ANTICIPATED STRUCTURE.**

**For Workshops: a description of how the time will be used in order to allow maximal participation of all workshop participants.**

<b>5 minutes</b>	<b>0. FRAMING</b>	<b>Participants will hear a brief description of the work for the day and how the different parts connect together.</b>
<b>20 minutes</b>	<b>1. EXPERIENCE</b>	<b>Participants will experience an Instructional Activity before exploring its structure and the rehearsal.</b>
<b>10 minutes</b>	<b>2. DEBRIEF/ UNVEIL the INSTRUCTIONAL ACTIVITY</b>	<ul style="list-style-type: none"> <li>● Participants will review parts of the Instructional Activity and why they matter</li> <li>● Participants will briefly discuss how the important features of the Instructional Activity must be integrated into planning and rehearsal.</li> </ul>
<b>15 minutes</b>	<b>3. PREPARE TO REHEARSE</b>	<p><b>Participants will engage with the mathematics of the task and witness a pre-rehearsal conference</b></p> <ul style="list-style-type: none"> <li>● Participants will do the math of the upcoming rehearsal in advance of the rehearsal.</li> <li>● The Lesson plan is given (not created or completed)</li> <li>● Live model the pre-rehearsal conference between the teacher and the coach (video)</li> </ul>
<b>25 minutes</b>	<b>4. MODEL REHEARSAL</b>	<p><b>Participants will present the Instructional Activity they prepared while the <i>a2i</i> team plays the coaching role.</b></p> <ul style="list-style-type: none"> <li>● <i>One of us rehearse IA with live coaching focused on an element of teaching decided in advance (and announced in the previous section).</i></li> </ul>
<b>15 minutes</b>	<b>5. DEBRIEF AND PLAN</b>	<b>Participants will debrief the rehearsal and discuss how this experience can be incorporated into their own work supporting in-service teachers.</b>