

Studying Mathematics Learning from the Student Perspective

Facilitator Training

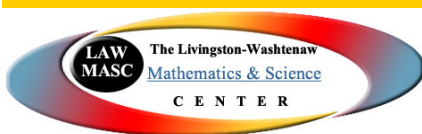
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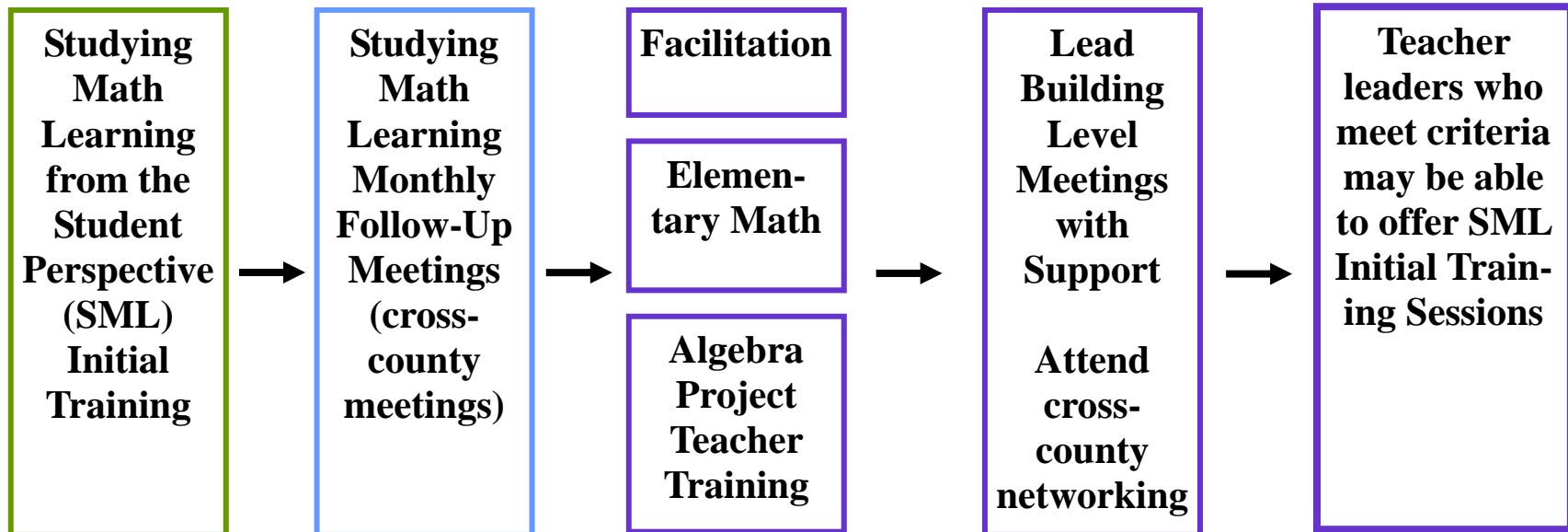
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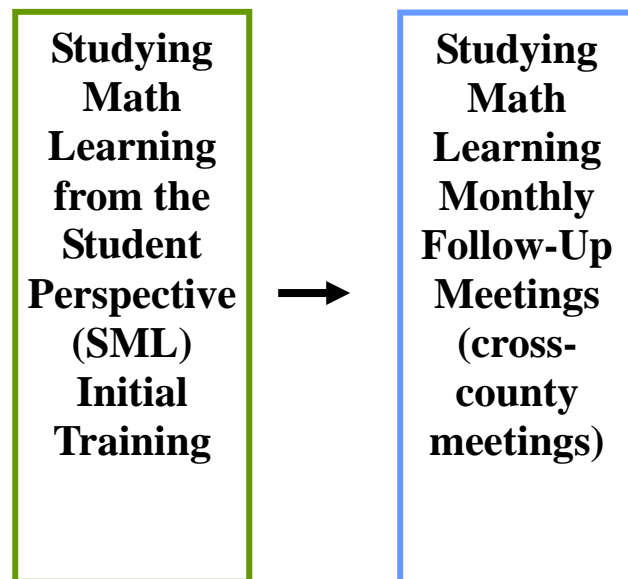
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Studying Math Learning *Teacher Leader* Training Sequence



Studying Math Learning *Practicing Teacher* Training Sequence





Forming Ground Rules

Developed by Marylyn Wentworth.

Ground Rules, or Norms, are important for a group that intends to work together on difficult issues, or who will be working together over time. They may be added to, or condensed, as the group progresses. Starting with basic Ground Rules builds trust, clarifies group expectations of one another, and establishes points of “reflection” to see how the group is doing regarding process.

Time

Approximately 30 minutes

1. Ask everyone to **write down what each person needs in order to work productively in a group**, giving an example of one thing the facilitator needs, i.e. “to have all voices heard,” or “to start and end our meetings when we say we will.” (This is to help people focus on process rather than product)
2. **Each participant names one thing from his/her written list**, going around in a circle, with no repeats, and as many circuits as necessary to have all the ground rules listed.
3. **Ask for any clarifications** needed. One person may not understand what another person has listed, or may interpret the language differently.
4. **If the list is VERY long – more than 10 Ground Rules — ask the group if some of them can be combined to make the list more manageable.** Sometimes the subtle differences are important to people, so it is more important that everyone feel their needs have been honored than it is to have a short list.
5. **Ask if everyone can abide by the listed Ground Rules.** If anyone dislikes or doesn’t want to comply with one of them, that Ground Rule should be discussed and a decision should be made to keep it on the list with a notation of objection, to remove it, or to try it for a specified amount of time and check it again.
6. **Ask if any one of the Ground Rules might be hard for the group to follow.** If there is one or more, those Ground Rules should be highlighted and given attention. With time it will become clear if it should be dropped, or needs significant work. Sometimes what might appear to be a difficult rule turns out not to be hard at all. “Everyone has a turn to speak,” is sometimes debated for example, with the argument that not everyone likes to talk every time an issue is raised, and others think aloud and only process well if they have the space to do that. Frequently, a system of checking in with everyone, without requiring everyone to speak, becomes a more effective ground rule.
7. **While work is in progress, refer to the Ground Rules whenever they would help group process.** If one person is dominating, for example, it is easier to refer to a Ground Rule that says, “take care with how often and how long you speak,” than to ask someone directly to stop dominating the group.
8. **Check in on the Ground Rules when reflection is done on the group work.** Note any that were not followed particularly well for attention in the next work session. Being sure they are followed, refining them, and adding or subtracting Ground Rules is important, as it makes for smoother work and more trust within the group.

Change Style Indicator

Every person needs to be His or Her own Change agent.

Instructions: Distribute a total of 3 points to each pair of statements. Depending upon how strongly you agree with statement A or B, assign the statement 0, 1, 2, or 3 points.

0 = Almost Never 1 = Sometimes 2 = Often 3 = Almost always

Remember: The total for each pair of statements must always equal 3. Use only whole numbers, no fractions.

Example:	<u> 2 </u> <u> 1 </u>	a. I honor traditions b. I break with traditions
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1. Please respond as you think you are, not as you want to be.

Question Number	Your Response	
1		a. I am good at generating new ideas.
		b. I am good at building upon existing ideas.
2		a. I become bored easily with routine tasks.
		b. I can perform long detailed tasks without boredom.
3		a. I am good with details.
		b. I can see the big picture.
4		a. I like to work on practical problems.
		b. I like to work on theoretical problems.
5		a. I value originality.
		b. I value utility.
6		a. I prefer to follow the book.
		b. I prefer to make it up as I go.
7		a. I like to try out new and untried solutions.
		b. I like to try practical solutions.
8		a. I prefer to work on one project at a time.
		b. I prefer to work on several projects simultaneously.
9		a. I produce many ideas, some of which may be unworkable.
		b. I produce a few relevant and proven ideas.
10		a. I believe policies should be challenged.
		b. I believe policies are to be followed.
11		a. I promote harmony in groups.
		b. I promote the sharing of different opinions in groups.
12		a. I bend the rules.
		b. I abide by the rules.
13		a. I seek familiarity.
		b. I seek adventure.
14		a. I complete projects in a roundabout way.

		b. I complete projects in a step-by-step fashion.
15		a. I like doing things in a familiar way.
		<u>b. I like doing things differently each time.</u>
16		<u>a. I like to hand off a project once I know it can be done.</u>
		b. I like to follow a project through to the end.
17		<u>a. I prefer creating something new.</u>
		b. I prefer improving upon something that already exists.
18		a. I appreciate tradition.
		<u>b. I appreciate change.</u>
19		<u>a. I like working on cutting edge issues.</u>
		b. I like working on relevant day-to-day issues.
20		a. I make decisions based on actual fact.
		<u>b. I make decisions based on my intuition.</u>
21		a. I prefer written instructions.
		<u>b. I prefer picture instructions.</u>
22		a. I respond to situations in a measured way.
		<u>b. I respond to situations spontaneously.</u>

Originator: Of the a/b responses, add up all of the underlined scores and place the total here _____

Conserver: Of the a/b responses, add up the rest of the letter scores and place the total here _____

Find the difference between the two and place the total here _____

Which was bigger, Originator or Conserver?

Circle your number on the line below.

63 56 42 36 28 1 14 7 0 7 14 1 28 36 42 56 63

Conserver

Pragmatist

Originator

Training Methods & Levels of Impact

Joyce & Showers (1980)

Training Method	Level of Impact	Evidence of Impact <i>What does this look like?</i>
Didactic presentation of theory & concepts	Awareness	Participant can articulate general concept & identify problems.
Modeling/ demonstration (i.e. live, video)	Conceptual Understanding	Participant can articulate concepts clearly & describe appropriate actions.
Practice in simulated situations with feedback (i.e. role play, written exercises)	Skill Acquisition	Participant can begin to use skills in structured or simulated situations.
Coaching & supervision during application	Application of Skills	Participant can use skills flexibly in actual settings.

Educational Change Process

Hall & Hord (1987)

Initiation: process leading to the decision to implement change

Implementation: process of putting the change into action

Institutionalization: process of stabilizing/continuing change (Fullan, 1991)

	Stages of Concern
0-Awareness	Little concern about or involvement in the innovation is indicated
1- Informational	There is general awareness of the innovation and increased interest in details.
2- Personal	Uncertain of demands of innovation; concerns regarding how innovation will affect self.
3- Management	Attention is focused on process and task of using innovation and most efficient use of time, resources, etc.
4-Consequence	Focus is on impact innovation will have on students.
5-Collaboration	Concern about coordinating and collaborating with others regarding innovation.
6-Refocusing	Exploration of additional benefits for students, including modifying or replacing innovation.

UNDERSTANDING CHANGE

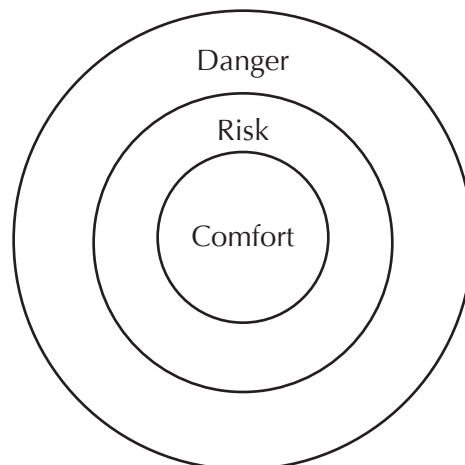
Trust	Vision	Skills	Resources	Payoff	Action Plan	Shared Values/Beliefs	=	Change
	Vision	Skills	Resources	Payoff	Action Plan	Shared Values/Beliefs	=	Sabotage
Trust		Skills	Resources	Payoff	Action Plan	Shared Values/Beliefs	=	Confusion
Trust	Vision		Resources	Payoff	Action Plan	Shared Values/Beliefs	=	Anxiety
Trust	Vision	Skills		Payoff	Action Plan	Shared Values/Beliefs	=	Anger
Trust	Vision	Skills	Resources		Action Plan	Shared Values/Beliefs	=	Spontic Change
Trust	Vision	Skills	Resources	Payoff		Shared Values/Beliefs	=	False Starts
Trust	Vision	Skills	Resources	Payoff	Action Plan		=	First Order Change



Zones of Comfort, Risk and Danger: Constructing Your Zone Map

The Zones Exercise comes from an unknown source (to me) within the NSRF organization. I first experienced it at the Fall, 2000, Critical Friends Group Symposium in Boca Raton, Florida. I have found the exercise useful and have tried to make notes for others. I hope the originator will claim the invention, and that others will add to this useful exercise as they discover new applications. Marylyn Wentworth, January, 2001.

1. Draw a diagram of concentric circles in the following manner:
 - a. The middle circle is Comfort, the second is Risk, the third is Danger.
 - b. Consider the various aspects of your work (as a CFG Coach, for example). Think about the aspects that feel really comfortable to you, those that feel like there is some risk involved, but generally positive, and those aspects that you know get your hackles up, make you feel defensive, cloud your judgment, make you want to retreat.
 - c. Decide on the size of each Zone based on your consideration. Do you work a lot in your Comfort Zone, your Risk Zone? Do you work only a little in your Danger Zone? Make the size of the Zones reflect the quantity of time you work there.
2. Think about the different activities you do and/or affective domains in which you work (i.e. facilitating groups, leading protocols, designing meetings, guiding peer observation, responding to conflicts between group members...). Make a list if it helps.
3. Put each activity or affective domain into the Zone that best represents your sense of relative Comfort, Risk or Danger.



Observations on the Zones

1. **The Comfort Zone** is usually a place where we feel at ease, with no tension, have a good grip on the topic, like to hear from others about the topic, know how to navigate occasional rough spots with ease. It is also a place to retreat to from the Danger Zone. For example, one of your Danger Zone aspects may be when people start disagreeing with passion and even disrespect. You might find that when that happens you retreat into your Comfort aspect of listening and not intervening, or even find a way to divert the conversation to a topic that is in your Comfort Zone.
2. **The Risk Zone** is the most fertile place for learning. It is where most people are willing to take some risks, not know everything, or sometimes not know anything at all, but clearly know they want to learn and will take the risks necessary to do so. It is where people open up to other people with curiosity and interest, and where they will consider options or ideas they haven't thought of before.
3. **Generally it is not a good idea to work from either your own Danger Zone or anyone else's.** That area is so full of defenses, fears, red-lights, desire for escape, etc, that it requires too much energy and time to accomplish anything from that Zone. The best way to work when you find yourself there is to own that it is a Danger Zone and work on some strategies to move into the Risk Zone (either on your own or with colleagues).

For example, if I feel my anger rising and my body getting rigid when someone says it's time we really clamped down on standardized tests and taught to them right now before the kids failed any more and it is suggested that our CFG should work in that direction as our main focus, I recognize the signs of being in my Danger Zone and know I probably won't be rational when I speak. Therefore I need a strategy. In this case, my strategy will be to ask calmly, "What are the advantages for the students if we do that? What are the advantages for teaching and learning? What are the disadvantages?" Then I have to listen and list. I can't trust myself to do more than ask questions until I become more rational and this isn't such a high level Danger Zone for me.

How to Apply the Zones Productively: Connection to Dilemmas

The Consultancy

1. Review your Zone Map and select a dilemma represented there.
2. Make some notes to give more detail to the dilemma. Notice what Zone the dilemma appears in, or if it is a complex dilemma and has aspects in several Zones.
3. Break into triads and plan your order and time for three Consultancies.
4. As you present your dilemma, use your Zone Map as a reference for the group. They may find fertile ground for probing questions or feedback in your Map, and can see how your dilemma relates to other aspects of your work.

Alternative to the Consultancy

1. Write a dilemma about your work before you come to the Zones Workshop.
2. After you have done the Zones Map, divide into triads.
3. Take turns reading your dilemmas aloud to each other.

4. Discuss the following questions for each person (20 minutes each):
 - a. How does your dilemma relate to your Zone Map? What Zone(s) is the dilemma happening in for you? For others related to your dilemma?
 - b. Are you working in your Danger Zone? Someone else's? Do you need to know about other people's Danger Zones?
 - c. If your dilemma is in your Danger Zone (or someone else's), how can you move those issues into a Risk or Comfort Zone? How might this movement contribute to solving the dilemma?
 - d. What would the other people who contribute to or are affected by your dilemma say about your dilemma?



Pocket Guide to Probing Questions

Developed by Gene Thompson-Grove, Edorah Frazer, Faith Dunne and further revised by Edorah Frazer.

The distinction between clarifying questions and probing questions is very difficult for most people working with protocols. So is the distinction between probing questions and recommendations for action. The basic distinctions are:

Clarifying Questions are simple questions of fact. They clarify the dilemma and provide the nuts and bolts so that the participants can ask good probing questions and provide useful feedback later in the protocol. Clarifying questions are for the participants, and should not go beyond the boundaries of the presenter's dilemma. They have brief, factual answers, and don't provide any new "food for thought" for the presenter. The litmus test for a clarifying question is: Does the presenter have to think before s/he answers? If so, it's almost certainly a probing question.

Some examples of clarifying questions:

- How much time does the project take?
- How were the students grouped?
- What resources did the students have available for this project?

Probing Questions are intended to help the presenter think more deeply about the issue at hand. If a probing question doesn't have that effect, it is either a clarifying question or a recommendation with an upward inflection at the end. If you find yourself saying "Don't you think you should ...?" you've gone beyond probing questions. The presenter often doesn't have a ready answer to a genuine probing question. *Since probing questions are the hardest to create productively, we offer the following suggestions:*

- Check to see if you have a "right" answer in mind. If so, delete the judgment from the question, or don't ask it.
- Refer to the presenter's original question/focus point. What did s/he ask for your help with? Check your probing questions for relevance.
- Check to see if you are asserting your own agenda. If so, return to the presenter's agenda.
- Sometimes a simple "why...?" asked as an advocate for the presenter's success can be very effective, as can several why questions asked in a row.
- Try using verbs: What do you fear? Want? Get? Assume? Expect?
- Think about the concentric circles of comfort, risk and danger. Use these as a barometer. Don't avoid risk, but don't push the presenter into the "danger zone."
- Think of probing questions as being on a continuum, from recommendation to most effective probing question. For example [on next page — from an actual Consultancy session in which a teacher was trying to figure out why the strongest math students in the class weren't buying in and doing their best work on what seemed to be interesting math "problems of the week"]:
 - 1) Could you have students use the rubric to assess their own papers? (recommendation re-stated as a question)

- 2) What would happen if students used the rubric to assess their own work? (recommendation re-stated as a *probing* question)
- 3) What do the students think is an interesting math problem? (good probing question)
- 4) What would have to change for students to work more for themselves? (better probing question)

In summary, good probing questions:

- are general and widely useful
- don't place blame on anyone
- allow for multiple responses
- help create a paradigm shift
- empower the person with the dilemma to solve his or her own problem (rather than deferring to someone with greater or different expertise)
- avoid yes/no responses
- are usually brief
- elicit a slow response
- move thinking from reaction to reflection
- encourage taking another party's perspective

Some final hints for crafting probing questions. Try the following questions and/or question stems. Some of them come from Charlotte Danielson's *Pathwise* work, in which she refers to them as "mediational questions."

- Why do you think this is the case?
- What would have to change in order for...?
- What do you feel is right in your heart?
- What do you wish...?
- What's another way you might...?
- What would it look like if...?
- What do you think would happen if...?
- How was...different from...?
- What sort of an impact do you think...?
- What criteria did you use to...?
- When have you done/experienced something like this before?
- What might you see happening in your classroom if...?
- How did you decide/determine/conclude...?
- What is your hunch about?
- What was your intention when?
- What do you assume to be true about?
- What is the connection between...and...?
- What if the opposite were true? Then what?
- How might your assumptions about...have influenced how you are thinking about...?
- Why is this such a dilemma for you?

Some Examples of Probing Questions:

- Why is a "stand-and-deliver" format the best way to introduce this concept?
- How do you think your own comfort with the material has influenced your choice of instructional strategies?
- What do the students think is quality work?
- You have observed that this student's work lacks focus – what makes you say that?

- What would the students involved say about this issue?
- How have your perspectives on current events influenced how you have structured this activity?
- Why aren't the science teachers involved in planning this unit?
- Why do you think the team hasn't moved to interdisciplinary curriculum planning?
- What would understanding of this mathematical concept look like? How would you know students have "gotten it"?
- Why did allowing students to create their own study questions cause a problem for you?
- Why do you think the expected outcomes of this unit weren't communicated to parents?
- What was your intention when you assigned students to oversee the group activity in this assignment?
- What evidence do you have from this student's work that her ability to reach substantiated conclusions has improved?
- How might your assumptions about the reasons why parents aren't involved have influenced what you have tried so far?
- How do you think your expectations for students might have influenced their work on this project?
- What do you think would happen if you restated your professional goals as questions?
- What other approaches have you considered for communicating with parents about their children's progress?



Three Levels of Text Protocol

Adapted by the Southern Maine Partnership from Camilla Greene's Rule of 3 Protocol, 11/20/03.

Purpose

To deepen understanding of a text and explore implications for participants' work.

Facilitation

Stick to the time limits. Each round takes up to 5 minutes per person in a group. Emphasize the need to watch air time during the brief "group response" segment. Do 1 – 3 rounds. Can be used as a prelude to a Text-based Discussion or by itself.

Roles

Facilitator/timekeeper (who also participates); participants

Process

1. Sit in a circle and identify a facilitator/timekeeper
2. If participants have not done so ahead of time, have them read the text and identify passages (and a couple of back-ups) that they feel may have important implications for their work.
3. A Round consists of:
 - One person using up to 3 minutes to:
 - LEVEL 1: Read aloud the passage she/he has selected
 - LEVEL 2: Say what she/he thinks about the passage (interpretation, connection to past experiences, etc.)
 - LEVEL 3: Say what she/he sees as the implications for his/her work.
 - The group responding (for a **TOTAL** of up to 2 minutes) to what has been said.
4. After all rounds have been completed, debrief the process.



Four “A”s Text Protocol

Adapted from Judith Gray, Seattle, WA 2005

1. The group reads the text silently, highlighting it and writing notes in the margin on post-it notes in answer to the following four questions (you can also add your own “A”s)
 - What Assumptions does the author of the text hold?
 - What do you Agree with in the text?
 - What do you want to Argue with in the text?
 - What parts of the text do you want to Aspire to?
2. In a round, have each person identify one assumption in the text, citing the text (with page numbers, if appropriate) as evidence.
3. Either continue in rounds or facilitate a conversation in which the group talks about the text in light of each of the remaining “A”s, taking them one at a time – what do people want to argue with, agree with, and aspire to in the text? Try to move seamlessly from one “A” to the next, giving each “A” enough time for full exploration.
4. End the session with an open discussion framed around a question such as: What does this mean for our work with students?
5. Debrief the text experience.



Text-Based Seminar

Developed by Gene Thompson-Grove.

Purpose

Enlargement of understanding of a text, not the achievement of some particular understanding.

Ground Rules

1. Listen actively.
2. Build on what others say.
3. Don't step on others' talk. Silences and pauses are OK.
4. Let the conversation flow as much as possible without raising hands or using a speaker's list.
5. Make the assumptions underlying your comments explicit to others.
6. Emphasize clarification, amplification, and implications of ideas.
7. Watch your own air time — both in terms of how often you speak, and in terms of how much you say when you speak.
8. Refer to the text; challenge others to go to the text.

Notes to Facilitators

Text-Based Seminars can be remarkably engaging and productive for both students and adults. A Text-Based Seminar facilitator has two primary tasks: posing the framing question and keeping the group focused without pushing any particular agenda.

Facilitating a seminar is not terribly difficult, but it can be challenging. A few tips might make the job easier:

1. Invest time in creating the framing question. It needs to be substantive, clear, relevant to the participants' experience, and likely to push their thinking in new directions. Above all, constructing a response to the question should require close reading of the text. We recommend that the framing question be genuine for everyone, including the facilitator, so that the entire group is engaged in the inquiry. Framing questions are often based on a quote from the text, which begins to establish a pattern of using the document as a basis for the conversation.
2. In addition to the framing question, create a few follow-up questions that seem to raise the level of participants' thinking. If the groups takes off, you may never use them (or you may create new ones that come from the conversation itself), but it's a good idea to have something in your hip pocket, especially if you aren't very experienced at this kind of facilitation.

3. Unless the entire group does Text-Based Seminars routinely, it is useful to go over the purposes and ground rules before you begin. Because so many conversations (in school and out) are based more on opinion than evidence, and aim toward winning the argument rather than constructing new knowledge, it is often important to remind the group of the basics: **work from the text** and **strive to enlarge your understanding**.
4. Give the group time (about 15 minutes) to re-read the text with the framing question in mind.
5. The most common facilitation problems in this kind of seminar come from two kinds of participants: the folks who have to win, and those who want to express opinions independent of the text and will use any quote they can find as a springboard. Usually, a reminder of the ground rules will pull them back, although it is sometimes necessary to redirect the conversation if you are dealing with a particularly insistent “winner.” With the “winner,” asking the group to examine closely the assumptions underneath the arguments or opinions being presented sometimes helps. When someone doesn’t stick to the text, it is often helpful to ask the group to look for evidence of the opinion being expressed in the text. What you **don’t** want to do is ask these two types of participants a direct question, or ask them to cite the evidence in the text for their opinions (although you might be tempted to do so). The goal is to redirect the conversation away from these folks, not to get them to talk more!
6. It is sometimes useful to keep running notes of the conversation, and to periodically summarize for the group what has been said.
7. It is also sometimes useful (especially if you are nervous) to have a “plant” among the participants — someone who will model ideal participant behavior at an early point in the seminar.
8. As is always the case when facilitating, try to keep the conversation balanced. Don’t let one or two people dominate. If there are many quiet people, asking them to speak in pairs for a few minutes on a particular point can sometimes give them an entry into the conversation when you come back to the large group. Sometimes you just have to say, “let’s have someone who hasn’t said much yet speak,” and then use **lots** of wait time, even though it may feel somewhat uncomfortable to do so.



Text-Based Seminar Guidelines

Developed by Gene Thompson-Grove.

Purpose

Enlargement of understanding a text, **not** the achievement of some particular understanding.

Ground Rules

- Refer to the text, and challenge others to go to the text. Use page numbers. Wait for others to get to the quote, then read it aloud.
- Listen actively.
- Build on what others say, referring to them by name.
- Don't step on others' talk. Allow for silences and pauses. Make time and space so everyone can participate.
- Converse directly with each other, and let the conversation flow as much as possible — without raising hands or using a speaker's list.
- Make the assumptions underlying your comments explicit to others.
- Ask questions of others in order to build understanding.
- Watch your own air time — both in terms of how often you speak, and in terms of how much you say when you speak.



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National
School
Reform
Faculty

Harmony
Education
Center

www.nsrharmony.org

Text Rendering Experience

Developed in the field by educators affiliated with NSRF.

Purpose

To collaboratively construct meaning, clarify, and expand our thinking about a text or document.

Roles

A facilitator to guide the process.

A scribe to track the phrases and words that are shared.

Set Up

Take a few moments to review the document and mark the sentence, the phrase, and the word that you think is particularly important for our work.

Steps

1. First Round: Each person shares a *sentence* from the document that he/she thinks/feels is particularly significant.
2. Second Round: Each person shares a *phrase* that he/she thinks/feels is particularly significant. The scribe records each phrase.
3. Third Round: Each person shares the *word* that he/she thinks/feels is particularly significant. The scribe records each word.
4. The group discusses what they heard and what it says about the document.
5. The group shares the words that emerged and any new insights about the document.
6. The group debriefs the text rendering process.

PLUS/DELTA

+ Things done well:

Δ Ideas for improvement:

PLUS/DELTA

+ Things done well:

Δ Ideas for improvement:



Examples of Focusing Questions for Looking at Student Work Sessions

Developed in the field by educators affiliated with NSRF.

1. About the quality of student work

- Is the work good enough?
- What is “good enough”?
- In what ways does this work meet or fail to meet a particular set of standards?

2. About teaching practice

- What do the students’ responses indicate about the effectiveness of the prompt or assignment? How might the assignment be improved?
- What kinds of instruction support high quality student performances?

3. About students’ understanding

- What does this work tell us about how well the student understands the topic of the assignment?
- What initial understandings do we see beginning to emerge in this work?

4. About students’ growth

- How does this range of work from a single student demonstrate growth over time?
- How can I support student growth more effectively?

5. About students’ intent

- What issues or questions is this student focused on?
- What aspects of the assignment intrigued this student?
- Into which parts of the assignment did the student put the most effort?
- To what extent is the student challenging him or herself? In what ways?



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Tuning Protocol: Overview

Excerpted, with slight adaptations, from Looking Together at Student Work by Tina Blythe, David Allen, and Barbara S. Powell (New York: Teachers College Press, 1999)

The tuning protocol was originally developed as a means for the five high schools in the Coalition of Essential School's Exhibitions Project to receive feedback and fine-tune their developing student assessment systems, including exhibitions, portfolios and design projects. Recognizing the complexities involved in developing new forms of assessment, the project staff developed a facilitated process to support educators in sharing their students' work and, with colleagues, reflecting upon the lessons that are embedded there. This collaborative reflection helps educators to design and refine their assessment systems, as well as to support higher quality student performance. Since its trial run in 1992, the Tuning Protocol has been widely used and adapted for professional development purpose in and among schools across the country.

To take part in the Tuning Protocol, educators bring samples of either own work or their students' work on paper and, whenever possible, on video, as well as some of the materials they have created to support student performance, such as assignment descriptions and scoring rubrics. In a circle of about six to ten "critical friends" (usually other educators), a facilitator guides the group through the process and keeps time. The presenting educator, or team of educators, describes the context for the student work (the task or project) - uninterrupted by questions or comments from participants.

Often the presenter begins with a focusing question or area about which she would especially welcome feedback, for example, "Are you seeing evidence of persuasive writing in the students' work?" Participants have time to examine the student work and ask clarifying questions. Then, with the presenter listening but silent, participants offer warm and cool feedback - both supportive and challenging. Presenters often frame their feedback as a question, for example, "How might the project be different if students chose their research topics?"

After this feedback is offered, the presenter has the opportunity, again uninterrupted, to reflect on the feedback and address any comments or questions she chooses. Time is reserved for debriefing the experience. Both presenting and participating educators have found the tuning experience to be a powerful stimulus for encouraging reflection on their practice.



Tuning Protocol

Developed by Joseph McDonald and David Allen

1. Introduction (5 minutes)

- Facilitator briefly introduces protocol goals, guidelines, and schedule
- Participants briefly introduce themselves (if necessary)

2. Presentation (15 minutes)

The presenter has an opportunity to share the context for the student work:

- Information about the students and/or the class — what the students tend to be like, where they are in school, where they are in the year
- Assignment or prompt that generated the student work
- Student learning goals or standards that inform the work
- Samples of student work — photocopies of work, video clips, etc. — with student names removed
- Evaluation format — scoring rubric and/or assessment criteria, etc.
- Focusing question for feedback
- Participants are silent; no questions are entertained at this time.

3. Clarifying Questions (5 minutes)

- Participants have an opportunity to ask “clarifying” questions in order to get information that may have been omitted in the presentation that they feel would help them to understand the context for the student work. Clarifying questions are matters of “fact.”
- The facilitator should be sure to limit the questions to those that are “clarifying,” judging which questions more properly belong in the warm/cool feedback section.

4. Examination of Student Work Samples (15 minutes)

- Participants look closely at the work, taking notes on where it seems to be in tune with the stated goals, and where there might be a problem. Participants focus particularly on the presenter’s focusing question.
- Presenter is silent; participants do this work silently.

5. Pause to reflect on warm and cool feedback (2-3 minutes)

- Participants take a couple of minutes to reflect on what they would like to contribute to the feedback session.
- Presenter is silent; participants do this work silently.

6. Warm and Cool Feedback (15 minutes)

- Participants share feedback with each other while the presenter is silent. The feedback generally begins with a few minutes of warm feedback, moves on to a few minutes of cool feedback (sometimes phrased in the form of reflective questions), and then moves back and forth between warm and cool feedback.

- Warm feedback may include comments about how the work presented seems to meet the desired goals; cool feedback may include possible “disconnects,” gaps, or problems. Often participants offer ideas or suggestions for strengthening the work presented.
- The facilitator may need to remind participants of the presenter’s focusing question, which should be posted for all to see.
- Presenter is silent and takes notes.

7. Reflection (5 minutes)

- Presenter speaks to those comments/questions he or she chooses while participants are silent.
- This is not a time to defend oneself, but is instead a time for the presenter to reflect aloud on those ideas or questions that seemed particularly interesting.
- Facilitator may intervene to focus, clarify, etc.

8. Debrief (5 minutes)

- Facilitator-led discussion of this tuning experience.



The Tuning Protocol: Tuning a Plan

Developed in the field by educators affiliated with NSRF.

When you tune a plan you have two basic components: a set of goals and a set of activities sequenced in a way that you believe will help the people you work with to meet those goals. The general objective is to get feedback from your colleagues about the degree to which the activities you structure seem likely to get your group to these goals. The plan is “in tune” when the goals and activities are most in alignment.

Time: Approximately 1 hour

Roles: Presenter, Participants (seated in small groups of 4-5), Small Group Facilitator (who also participates), and Large Group Facilitator

1. Presentation to the Large Group (10 minutes)

- Context for plan
- Goals that drive the plan
- Focusing question for feedback

NOTE: This question should be a more specific version of the general objective above.

Participants are silent.

2. Clarifying Questions from the Large Group (5 minutes)

- Clarifying questions are matters of fact. Save substantive issues for later.

The facilitator is responsible for making sure that clarifying questions are really clarifying.

3. Examination of the Plan (7 minutes)

- Participants read the plan, taking notes on where the plan seems “in tune” with the stated goals and where there might be problems.

4. Pause to Reflect on Feedback (2-3 minutes)

5. Feedback in Small Groups (15-20 minutes)

- Participants talk to each other about the presenter’s plan (as if the presenter is not in the room), beginning with the ways the plan seems likely to meet the goals, continuing with possible disconnects and problems, and perhaps ending with one or two probing questions for further reflection on the part of the presenter. These don’t need to be in tight sequence, but participants should always begin with some positive feedback.
- The Presenter may walk around the room and listen in on groups, but remains silent and doesn’t answer questions or engage in back and forth conversation.
- Facilitator may need to remind participants of presenter’s focusing question.
- Recorder takes notes on the warm and cool feedback.
- The group chooses one item of warm feedback and one item of cool feedback to share in the large group.

6. Sharing Feedback in the Large Group (5-10 minutes)

- Each group shares one item of warm feedback (in a round). When the first round has been completed, each group shares one item of cool feedback (again, in a round, and going in the opposite direction).

7. Reflection (10 minutes)

- Presenter talks about what s/he has learned from the participants' feedback. This is NOT a time to defend oneself (this is for the presenter and defending isn't necessary), but a time to explore further interesting ideas that came out of the feedback section.

At any point the presenter may open the conversation to the entire group (or not).

8. Debrief (5 minutes)

- Facilitator-led open discussion of this tuning experience, either in small groups or in the large group.

Mathematics Observation Protocol

Ground Rules

- Observation data is confidential
- Feedback may only be offered in response to questions from the observed
- The observed may stop the debrief if they feel uncomfortable at any time

Pre-Observation Conference

The person being observed

- Outlines the lesson for observers and
- Asks them to focus on a particular aspect of his practice.

Observation

Observers focus on the aspect of practice the teacher would like feedback on. Notes should include

- Descriptions of “focus events”
- Questions the observer may have

In the format of an “I saw...I thought” double-sided journal entry

Debriefing

- Observers restate the focus question and the teacher being observed shares their thoughts along with evidence supporting those thoughts and any additional wonderings. Observers may offer specific events that corroborate/contrast with the observed’s statements or summarize what the observed is saying.
- Observers may ask questions of the teacher, both for clarification or to expand the thinking. These questions may come from the field notes.
- The observed may choose to further open the conversation by asking additional questions of the observers.