

Teaching Math to Adults

Description:

In this course, participating adult educators will consider how their instruction might be enriched by focusing on learners' conceptual understanding of the mathematical procedures they are using. They will learn to gain access to adult students' mathematical reasoning as a component of formative assessment, so they can tailor instruction to the needs of the students. They will try activities or practices in their classrooms, observe and report on outcomes, and then consider how they might revise or improve the activity or practice.

The goal is for participants to improve mathematics learning in their classrooms by

- addressing *all* of the components of numeracy including reasoning and problem solving,
- using a variety of questioning techniques,
- examining effective instructional strategies,
- creating productive tasks that support critical and creative thinking
- benefiting from web-based resources

Course Materials:

Each week, participants will read the required readings and will have access to optional readings. (If you find you don't have time to read all of the optional readings during the 4 weeks of the course, I hope you will come back to them once the course is over.) Each week, a website will be included in the optional readings section.

You may notice that some readings are oriented to children rather than adults. Frankly, while we all know that adults are different from children, as educators, we can learn much from the better financed K-12 research and resources. You may also notice that some readings are taken from international sources. It's wonderful to learn about the work of colleagues far away!

Discussion Board:

Each week, participants will

- post a response to the assigned question about the required readings and will respond to other participants' postings.

During weeks 2, 3 and 4, participants will

- post a description of and a reflection on a practice activity (more information below), and will respond to at least two other participants' reflections.

All postings should be thoughtful and should contribute to the group discussion.

Assignments:

1. Each week, there will be an assigned question related to the required readings. Each participant will craft a thoughtful response to the question and will post it to the Discussion Board. Each participant will respond to a minimum of one other posting about the readings.

2. During weeks 2, 3 and 4, participants will try out a math activity or a math strategy in an adult class. (I expect that during week 1, you will be planning for an activity that you will try during week 2, etc.) The activity or strategy should be based, in some way, on the course readings. Each participant will describe what s/he was trying to accomplish, what s/he did, what happened, a reflection on why that happened, and thoughts about what could be changed or improved. Each participant will respond to a minimum of two other postings about the activities.
3. One time during the course, instead of a math activity assignment (as described in #2 above), each participant may choose to try out and evaluate an activity from one of the websites listed in the optional readings sections, posting the evaluation with the subject line stating the URL. The components of the evaluation include:
 - a. What are the learning opportunities to be found at the website?
 - b. In what teaching setting might you use the resource(s)?
 - c. What would you need to do to prepare learners for using the resource(s)?
 - d. What would you need to do as a follow-up to the use of the resource(s)?
 - e. Observe another person as he/she uses the website (this may be a learner, friend, child, etc.). What do you observe?
 - f. Comments?

Topics:

Four topics will be addressed during this course.

1. Week 1 - Thinking about what math is important to teach
2. Week 1 - Getting at learners' mathematical reasoning
3. Week 1 - Thinking about teaching math
4. Week 1 - Considering mathematical tasks

Certificate of Completion:

Participants who satisfactorily complete the course will be awarded a Certificate of Completion. This certifies that the participant has successfully complied with the following requirements:

1. The participant has logged onto the web site a minimum of two times a week on at least two different days each week.
2. The participant has demonstrated a careful reading of the required course documents, and has contributed to the group discussions of them.
3. The participant has completed the applied practice activities, and has described and reflected on them in postings on the discussion board. These activities will connect the content of course readings and discussion to the practice of teaching mathematics to adults.
4. The participant has reviewed one website if this option is chosen.
5. The participant has read and added quality responses to the posts of other class members. Quality postings are those that demonstrate meaningful reflection of the required readings, state or support a position, begin a new topic, or add substantive responses to the postings of other classmates.

