Questioning Data

Overview

This video analysis activity is adapted from the Video Lens activity of the Teachers Empowered to Advance Change in Mathematics (TEACH Math) project (https://teachmath.info; Aguirre et al., 2012; Roth McDuffie et al., 2014a, 2014b). In this activity, participants analyze video cases attending to specific foci – (a) student interests, experience, funds of knowledge, (b) participation and positioning, and (c) classroom discourse. Analyzing video cases from different lenses aims to support participants in beginning to see what it might mean to attend to students' funds of knowledge and positioning and support participants in moving away from only looking at teaching to consider math teaching and learning issues, such as power and participation patterns.

Objective(s)

Teachers will

- See mathematics classrooms in more detail, suspending everyday interpretation to learn to look for patterns that otherwise may go unnoticed at a conscious level
- Begin to identify and analyze aspects of mathematics teaching and learning reflective of connecting to students' knowledge and experiences, attending to their positioning, and considering how discourse shapes these efforts

Materials Needed

Access to the internet
Questioning data video file (on internet)
Poster paper
Markers
Handout_VideoAnalysis
Handout_TeacherDiscourseMoves

Lesson Outline

LAUNCH

To launch this activity, the facilitator provides a brief overview of the approach to be used – that of using three different lenses to watch the same video – and of the central ideas from each of the three lenses:

- Student interests/experiences (FoK): What family, community, or cultural resources and knowledge does the teacher use/draw upon to support students' math understanding?
- Participation/positioning: Who participates? Does the classroom culture value and encourage most students to speak, only a few, or only the teacher?
- TDMs: What kinds of spaces exist for children to share and discuss their mathematical thinking with the teacher and the class?

EXPLORE

Pass out the Video Analysis handout to each group of teachers. Have teachers discuss the prompts and assign one person in each group to a distinct prompt. Encourage teachers to take notes about their particular area of focus as they watch the video.

Watch the video: Questioning Data (Annenberg)
https://www.learner.org/vod/vod_window.html?pid=900

Small Group Discussion & Poster Making
In your small group, discuss the video from the perspective of each lens. Then, prepare a poster of the key points of your discussion to share with the whole group.

Gallery Walk
Display the posters from each group around the room. Have the participants engage in a gallery walk – walking around the room to look at the posters on display. This gallery walk is a silent, reflective activity.

SUMMARIZE

Whole Group Discussion
To summarize this activity, engage in a whole group discussion. One goal of this discussion is to help participants understand the nature of each of the three lenses and distinctions between them. Discussion questions might include:

- What is the evidence in the video you have for that claim (as participants share key ideas from their posters)?
- What are the similarities and differences in the ways the three lenses focused your attention on specific aspects of instruction?

Facilitator Insights and Questions

- What kinds of things to participants tend to notice about students? About status? About discourse? (In other words, what do they attend to?)
- What kinds of things are absent in participants' comments? (In other words, what are they not attending to?)

References

Aguirre, J., Turner, E., Bartell, T. G., Drake, C., Foote, M. Q., & Roth McDuffie, A. (2012). Analyzing effective mathematics lessons for English learners: A multiple mathematical lens approach. In S. Celedón-Pattichis & N. Ramirez (Eds.), *Beyond good teaching: Advancing mathematics education for ELLs* (pp. 207-222). Reston, VA: National Council of Teachers of Mathematics.

Roth McDuffie, A., Foote, M. Q., Bolson, C., Turner, E. E., Aguirre, J. M., Bartell, T. G., Drake, C., & Land, T. (2014a). Using video analysis to support prospective K-8 teachers'

noticing of students' multiple mathematical knowledge bases. *Journal of Mathematics Teacher Education, 17*(3), 245-258.

Roth McDuffie, A., Foote, M. Q., Drake, C., Turner, E., Aguirre, J., Bartell, T. G., & Bolson, C. (2014b). Use of video analysis to support prospective K-8 teachers' noticing of equitable practices. *Mathematics Teacher Educator, 2*(2), 108-140.