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## Mathline: Professional Development Discussion Topics

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*(Some ideas may apply to more than one standard of the **NCTM Professional Standards for Teaching Mathematics.**)*

### Standard 1: Worthwhile Mathematical Tasks

- ❶ In order to develop students' mathematical skills, we often begin by stating the objective. In this lesson, the objective was never stated but was developed during the activity. In your opinion, what are the advantages and disadvantages in using this approach?

### Standard 5: Learning Environment

- ❷ It is a key function of the teacher to develop and nurture students' abilities to learn with and from each other. . .” (p. 58) The video teacher used a game to help students learn from each other. How do you set this climate in your classroom?

### Standard 6: Analysis of Teaching and Learning

- ❸ “Student journals are yet another source that can help teachers appraise their students' development.” (p. 64) Twice during the lesson, the video teacher instructed her students to write in their journals. The first time was to describe their game playing strategy before the analysis and the second time was to describe their strategy after the analysis. Do you think that maintaining student journals is an effective way to assess students' conceptual and procedural understanding in the mathematics instructional program? Why or Why not? Should it be optional for students to share their journal entries with the teacher/class?
- ❹ “Students' disposition toward mathematics — their confidence, interest, enjoyment, and perseverance — are yet another key dimension that teachers should monitor.” (p. 63) Suppose one of your students has lost every game that he has played, even after analyzing the first moves of the game. Frustration sets in and his once positive disposition changes to a very negative one. How would you solve this problem?
- ❺ Students were almost tricked into learning new terminology relating to some number theory concepts. Do you think that this game playing environment provided a sound context for learning these concepts or do you view this learning as basically superficial and short-lived? Why do you feel this way?
- ❻ If you use this lesson with your students, what is the single most important outcome that you would want every student in your class to be able to demonstrate?