

1. National Research Coordinator's Comments

- [00:03:10](#) This lesson is devoted almost entirely to exercising procedures for the resolution of equivalence theorems. The relation of these equations to other knowledge (represented geometrically), their meaning (e.g., that "impossible" equations correspond to parallel lines), and the rationale behind the procedures, occupy only about five minutes of the lesson. These were treated in a prior lesson, but apparently still pose problems.
- [00:04:23](#) The teacher intervenes immediately to cut short a less efficient approach and takes the lead in socratic dialogue that aims to progressively elicit the whole series of correct responses that will constitute an adequate procedure. In this lesson, students supply answers to the questions concerning the successive elements, but rarely expose whole problems themselves.
- [00:04:57](#) The teacher generally confirms or invalidates students' answers immediately, and often develops the reasoning behind them himself.
- [00:05:24](#) Who has the intellectual initiative in the solution of the following problem, the teacher or Ludivine?
- [00:09:41](#) When the teacher helps a student, he generally continues right through to the solution.
- [00:10:27](#) The teacher has a cordial and dynamic attitude with students.
- [00:12:51](#) The teacher has simple, evocative ways of explaining and justifying procedures. However, he is practically the only person in class who talks about math.
- [00:17:01](#) The teacher comes back to classwork to address a common mistake. As in a subsequent problem (18:44), he exposes the problem again himself in a clear and rapid way.
- [00:20:19](#) Here (as in 20:48 and 30:50) students propose incorrect procedures but ones which could offer interesting opportunities to understand their conceptions and work through them.
- [00:26:59](#) Sometimes the teacher's explanations of the more difficult aspects seem very rapid (see also 29:21). It is not clear from student's reaction (27:21) if he has understood.
- [00:37:53](#) Students are easily involved by the teacher's series of questions and seem to have a good grasp of the procedures.
- [00:39:47](#) At the end of the lesson, the teacher realizes that it is necessary to return to the meaning of "impossible" equations with a rapid review of the previous lesson. The explanation is clear, but feedback from the students does not permit to know whether it has been really understood this time. The lesson is, in general, busy and dynamic, but the preponderant

role taken by the teacher makes it difficult to know how much the students have really understood and if they would not need to take a larger role in order to really appropriate the math for themselves.