
Why Teach in Groups Instead of Individualized?

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Though I understand the rationale for teaching one-on-one, especially in a multilevel class, I have to admit that I'm just not very good at planning and presenting work that way. Just as students have different styles of learning, instructors have different styles of teaching. I've tried keeping folders for every student, doing lots of xeroxing and correcting, and trying to make the rounds of the room to give every student some attention, but I quickly get overwhelmed, lose track of who is doing what, and feel I have never given anyone the time they need. So, what to do? I have found more success in planning a lesson for the whole class knowing that different students have different strengths they bring to it and different skills they are likely to take away. I encourage students to work in groups whenever they want to, and we usually discuss work as a full class after people have had a chance to try it on their own. From where I stand in the classroom, I can see many advantages to my students in this type of instruction. Here are just a few:

1) The curriculum frameworks for math encourage students to work on problem-solving, communication, reasoning and estimation. Group work supports these standards, which make math both challenging and interesting to adult learners.

2) When students work in groups on the same problem, I can walk around and listen to their discussions. It gives me a better sense of what they understand, and how they understand, than their written work alone. Also, students who explain their reasoning to each other actually deepen their own understanding.

3) When students work in groups they spend much more time on math than they do if each has to wait for me to come around. If someone gets stuck, there is always help nearby. Sometimes students use their native language to explain to each other if they are really stuck. Often this understanding then gets translated back into English to fit the problem.

4) Having a group discussion about problems that we have all been working on allows students to see different ways to approach the questions and arrive at solutions. Hearing from peers is, I believe, more instructive than relying exclusively on a teacher's explanations. And offering a solution, or even part of one, helps students feel more confident about what they do know and less insecure about what they don't.

How Many Rectangles?

Students had a choice of using color tiles or graph paper, and worked in groups of two or three. I assigned each team a number (20, 24, 30, 36, or 48) giving the higher numbers to the speediest students. The assignment was to find all the rectangles possible with the given number of tiles, and to record the width, length, perimeter and area.

After the teams built or drew their rectangles, we made a chart of all the results, and looked for patterns in the relationships between area and perimeter for the rectangles.

From this, students had a chance to review the factors of these numbers, learn or review the formulas for area and perimeter, detect patterns in number and shape, learn or review the symbols $<$ and $>$, look at similar and non-similar rectangles, and consider the proportions of various rectangles.
