

A TEACHER REFLECTS



Although it was not a part of the lessons in this phase, I had students make an additional graph after the lesson on graphing improvement because the distinction between a broken-line and a solid-line graph was lost on most of them. Since I did not want to give in to their carelessness about whether the line was broken or solid, I felt I had to make them understand that there was a meaningful difference. However, I did not want to take a lot of time on another assignment.

What I did was have the students make a graph that showed their progress around a nearby track that had been previously measured and marked at very frequent intervals. I took the students outside and had them walk the track with a partner marking their progress at 10-second intervals. The next day we set up the graph with 10-second intervals on the x -axis and distance markings on the y -axis. Each student then charted the data his or her partner had recorded. I told the students that they should connect their points with a solid line because between each 10-second interval they had continued to make progress; they hadn't suddenly materialized at each marked point.

The improvement graphs and the graphs of the walking activity became the subject of small group discussions with questions designed to reinforce the difference between the two types of graphs. We continued with the rest of the lessons the following day, but I felt that the students had a better understanding of the types of line graphs and, at least some, also a deeper understanding of the *sense* of mathematics; there is a reason for a prescribed procedure.