Figure 2.4

Teacher Actions That Provide Target ed and Differentiated Support

When observing teachers in the mathematics classroom, look for the following.
Are your teachers: • Engaged in higher-level-cognitive-demand tasks with students during class so they can observe effective and expected problem-solving behavior? Students need constant feedback from the teacher and from each other during the learning experience the task generates. • Encouraging students to persist on a task, scaffolding as needed to support students' learning? Remember that the expectation is not needless student struggle but student productive struggle. Unproductive struggle is characterized by a situation in which students do not make progress toward sense making (Hiebert & Grouws, 2007; Warshauer, 2011). • Pulling from a pool of carefully selected hints or scaffolding prompts for higher-level-cognitive-demand tasks so that students can receive support to respond to a task without being given so much information that they do not need to put forth much effort (assessing questions and advancing questions)? • Helping students notice the progressions of structures in the mathematics content? This will help students to better recognize the types of differences and similarities between mathematical situations. • Helping students to embrace their errors and understand the value of learning from mistakes?

Sources: Hiebert, J., & Stigler, J. W. (2000). A proposal for improving classroom teaching: Lessons from the TIMSS video study. The Elementary School Journal, *101(1), 3–20. Warshauer, H. K. (2011).* The role of productive struggle in teaching and learning middle school mathematics. *Doctoral dissertation, University of Texas, Austin.*