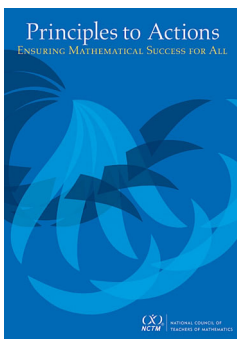


Build Procedural Fluency from Conceptual Understanding: Teacher and Student Actions

What are teachers doing?	What are students doing?
<ul style="list-style-type: none"> • Providing students with opportunities to use their own reasoning strategies and methods for solving problems. • Asking students to discuss and explain why the procedures that they are using work to solve particular problems. • Connecting student-generated strategies and methods to more efficient procedures as appropriate. • Using visual models to support students' understanding of general methods. • Providing students with opportunities for distributed practice of procedures. 	<ul style="list-style-type: none"> • Making sure that they understand and can explain the mathematical basis for the procedures that they are using. • Demonstrating flexible use of strategies and methods while reflecting on which procedures seem to work best for specific types of problems. • Determining whether specific approaches generalize to a broad class of problems. • Striving to use procedures appropriately and efficiently.



National Council of Teachers of Mathematics. (2014). *Principles to actions: Ensuring mathematical success for all*. Reston, VA: Author.

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