High Expectations
A Position of the National Council of Teachers of Mathematics

Question
What does it mean to hold high expectations for students in mathematics education?

NCTM Position
To hold high expectations means to engage all students in cognitively challenging tasks that are simultaneously within reach and rich enough to stretch students as far as they can go. Holding high expectations does not necessarily mean accelerating coursework or presenting material that is more difficult or should be done faster. Teaching with high expectations for all students ensures greater understanding for every student.

Holding high expectations begins with the fundamental assumption of equity—the belief that all students can learn and should be given rich and challenging opportunities to do so. Holding high expectations means assuming that all students, from prekindergarten through college, are able to handle complexity and engage in mathematical reasoning and problem solving. It is through tasks that challenge students to stretch and develop their reasoning and problem-solving skills that they learn more. Furthermore, holding high expectations involves recognizing that different students emerge as talented on different types of mathematical problems and in different topics in mathematics.

Challenging tasks are at the core of mathematical reasoning and sense making, and they provide an introduction to content that students need to learn. The appropriate introduction of this content helps motivate students to learn more (Stein, Remillard, & Smith, 2007; Silver & Stein, 1996; Stein, Grover, & Henningsen, 1996). Challenging tasks should not be postponed until the end of an instructional unit; rather they should be used to launch and sustain learning throughout the unit. Meeting high expectations requires effort from students (Willingham, 2009; Bransford, Brown, & Cocking, 2000). Teachers should challenge students to persevere to experience the rewards of meeting high expectations.

Teachers should assume that students bring to the classroom a diversity of mathematical understanding and backgrounds that can be tapped to enhance learning for all students (Donovan & Bransford, 2005). Therefore, classroom experiences that build mathematical communities to solve problems, communicate reasoning, and make sense of mathematics are key to high expectations for all.

Holding high expectations means giving all students access not only to challenging tasks but also to challenging courses and curricula (Stiff, Johnson, & Akos, 2011; Tate, 2005). This does not necessarily mean that courses are difficult or accelerated but does mean that they consistently make problem solving the focus for all students. High expectations for all students in mathematical reasoning, sense making, and communication enable students to learn to identify assumptions, develop arguments, and make connections within mathematical topics and to other contexts and disciplines.
References


