If you’re a teenage speaker brought in to address a crowd of teachers on the subject of how you and your peers learn best . . . what are you going to say? In this funny and fast-paced “NED talk” produced by What Kids Can Do (WKCD), Ned knocks out eight powerful conditions of learning that are based on research in Mind, Brain, and Education (Hinton et al. 2012).

Ned begins by sharing that he has to “feel OK” to learn effectively. Indeed, neuroscience research confirms that emotion is fundamental to learning (Hinton, Miyamoto, & della Chiesa 2008). Emotion acts as a rudder to guide students’ learning, helping them gravitate toward positive situations and away from negative ones. This means, if learning experiences are positive, students will be motivated to engage in them. On the other hand, if learning experiences are riddled with stress or other negative emotions, students will jump through hoops to get out of them. In other words, “we feel, therefore we learn” (Immordino-Yang & Damasio 2007, p. 1).

Ned then goes on to explain that it is easier for him to learn when “it’s active” and “it matters.” In fact, neuroscience research suggests that active engagement and relevance are necessary for learning (OECD 2007). The changes in brain circuitry thought to underlie learning do not occur when individuals are passively exposed to information that is not relevant to their goals (Ahissar et al. 1992; Recanzone et al. 1992; Recanzone et al. 1993; Recanzone & Wurtz 2000; Ruytjens et al. 2006; Weinberger 2008; Winer & Schreiner 2011). In educational terms, this means that if students are passively sitting in a class while a teacher is lecturing, they are not necessarily learning anything. Students will learn more effectively when they are actively engaged in learning activities that they care about. The good news is that teachers can make almost anything relevant to students by using multiple pathways to core knowledge (Gardner 1983; Rose & Strangman 2007). For example, if students are learning fractions, they can choose to learn them from sharing a pizza, building a birdhouse, or sewing a dress—all of which involve measuring with fractions.

Ned also discusses the importance of working on his skills over time with support. The brain continually adapts to experiences, a property neuroscientists call plasticity (Singer 1995; Squire & Kandel 2009). As students learn—playing a math game online, conducting a chemistry experiment, or reading an article like this one—these experiences gradually sculpt connections among neurons in the brain. Connections that are used most often are strengthened, and those that are used least often are gradually weakened or pruned. As Ned says, “use it or lose it.” Students need opportunities to reinforce their learning.

Formative assessment is a powerful pedagogical technique for supporting and reinforcing student learning. Formative assessment involves ongoing assessment throughout the learning process for the purpose of shaping teaching and learning (OECD 2005). Educators use formative assessment to tailor instruction to meet each student’s current needs. In tandem, students use it to inform their next steps in learning. In this way, formative assessment provides students with coaching throughout the learning process, opportunities to reflect on their own learning, and support for planning their next steps—all of which Ned recommends (Andrade et al. 2012).

By the way, Ned also recommends zesty party mix so get yourself a bag, and enjoy the video!
References


Students at the Center synthesizes and adapts for practice current research on key components of student-centered approaches to learning. Our goal is to strengthen the ability of practitioners and policymakers to engage each student in acquiring the skills, knowledge, and expertise needed for success in college and a career. The project will be publishing a book in spring 2013: Anytime, Anywhere: Student Centered Learning for Schools and Teachers (Harvard Education Press). This Jobs for the Future project is supported generously by funds from the Nellie Mae Education Foundation.

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