Spend time in secondary school classrooms, and you are likely to realize that teachers work exceptionally hard to convince their students that the day’s lessons are worthy of their attention and effort. Using strategies ranging from inspiration to coercion, teachers are forever attempting to persuade students to participate meaningfully in class activities and to motivate them to achieve. When these techniques succeed, classrooms come alive with exploration, discovery, and learning. When they fall short, young people tune out, disengage, and, ultimately, fail.

Figuring out what motivates individual students and engages them in school is as essential as it is challenging. Indeed, it is the prerequisite for implementing student-centered approaches to learning. However, today’s teachers—confronting large class sizes, fast-paced academic calendars, and standardized assessments—face particular pressures to lump all students together and “teach to the middle.” To help educators understand how to engage and motivate each individual in a large, diverse group of teenagers, Eric Toshalis and Michael Nakkula review research on achievement motivation, school engagement, and student voice and highlight what works. They conclude that fostering student voice—empowering youth to express their opinions and influence their educational experiences so that they feel they have a stake in the outcomes—is one of the most powerful tools schools have to increase learning.

Toshalis and Nakkula observe that:

> To capitalize on individual motivations and meet individual needs, customized pedagogical approaches that differentiate instruction for each student tend to work far better than uniform “catch-all” techniques.

> Research shows that both intelligence and motivation are malleable. Helping students understand that they can acquire new skills and improve existing skills through effort, regardless of past achievement, increases their motivation to try.

> Tracking students based on perceived intelligence or motivation can be harmful. Separating “less intelligent” or “unmotivated” youth from their higher-achieving peers will likely exacerbate existing motivational dispositions and intellectual capacities.

> Providing opportunities for choice, control, and collaboration are potent strategies for increasing academic achievement. Young people are likely to be more motivated and engaged in an activity when they feel they have a voice in how it is conducted and can affect how it concludes.

> Many students have difficulty engaging in school, even when they feel motivated. For these students, it may be necessary to teach self-regulation skills to help them stay on task, set goals, monitor their learning, and change strategies as needed.

> Despite the benefits of technology, today’s myriad digital distractions can threaten productivity and cognitive complexity in learning. It is essential to teach adolescents when to unplug and how to focus on one activity at a time.

In this era of standardization and the Common Core, the practice of elevating student voice may be as countercultural as it is commonsensical. In short, the authors remind us that the system exists for the students, not the other way around.

**MOTIVATION AND CUSTOMIZATION**

Decades of research show that achievement and motivation are inextricably linked. However, no single motivational pathway or type of engagement guarantees academic achievement. Each student is a unique blend of individual interests, backgrounds, stories, and needs. Each is motivated in different ways at different times. Rewards and punishments can sometimes encourage temporary compliance or fleeting spikes in motivation, but those effects diminish or disappear when the incentives are removed or the teacher is not present. To affect
motivation levels in the long term, providing greater autonomy, more frequent experiences of competence, and elevated positive social interactions may be more effective for many students. To meet the challenge of reaching every student in today's diverse classrooms, customized teaching approaches that differentiate instruction tend to work far better than one-size-fits-all techniques.

Research supports a nuanced understanding of motivation: Students exist within a dynamic ecology; it shapes them, while they also shape it. Knowing each student well enough to see how this web of causality motivates him or her to achieve is crucial to teaching that student well. At their core, this is what student-centered approaches to learning are all about.

Some students enter school motivated and ready to learn, but many do not. Educators need to understand what they can about the different social, economic, and cultural contexts of their students and how these influence their efforts in the classroom. Moreover, it is beneficial to view these differences not as impediments to overcome but as resources that can enhance learning. Effective student-centered approaches use adolescents' personal experiences as hooks to help them connect with the curriculum.

EFFORT MATTERS MOST
Contrary to long-held views, intelligence is not a fixed trait, strictly the result of one's genetic makeup. After decades of debate, researchers now largely agree that individuals may differ in their biological aptitude for learning certain kinds of things, such as music or social skills, but functional intelligence is for the most part malleable and learnable, and therefore teachable. In other words, a student's intelligence—and achievement—can change. The most important factor, according to research, is a person's level of effort. And it is the individual's level of motivation that determines the intensity of the effort.

Motivation is also malleable as many studies demonstrate. In an interesting twist, it turns out that people's beliefs about the nature of intelligence can significantly affect their motivation. For example, those who believe that people are born either smart or not are more likely to give up when facing academic difficulty: they tend to think they just lack the intelligence to solve the problem. But students who believe that effort alone can make a positive difference are more likely to persist and succeed.

The importance of these findings for student-centered approaches to learning cannot be understated. Regardless of past achievement, if students believe (or are taught to believe) that they can acquire new skills and improve existing skills through focus and exertion, their motivation to try will grow. Therefore, it is essential to help students learn to associate their achievement with their effort, which they can control, rather than with an innate ability they simply may or may not possess.

For educators implementing student-centered approaches to learning, this means that praising a student's intelligence can do more harm than good. It is far better to instill and reinforce the belief that persistence will increase proficiency. Accordingly, praise is most effective when it is specific to a skill or talent the student is developing, such as, “Your writing has really improved, Maria. I can see your hard work paying off here.”

TRACKING DECREASES MOTIVATION
Misunderstandings about intelligence and motivation—and the mislabeling of students these produce—may actually contribute to today's troubling achievement gaps. Their changeable nature highlights a key point for educators: neither intelligence nor motivation should be used as categories to sort or track students in school. Grouping the so-called “unmotivated students” together and sequestering them from the supposedly “motivated students” is likely to exacerbate existing motivational dispositions and intellectual capacities.

Research suggests that it is a combination of academic challenge and social support that leads to substantial increases in learning. Motivating students to apply themselves in the classroom requires knowing them, their beliefs, their anxieties, and their backgrounds—and customizing approaches that are responsive to each. It does not require “dumbing things down,” a common feature of lower-tracked classes.

A more research-driven and student-centered approach would be to push all young people toward incremental growth in their knowledge and skills, and to ascertain what motivates each individual student to achieve in a particular class. Teachers can then enlist the student's help in identifying factors that might elevate his or her motivation, including changes to the classroom and curriculum or changes to the individual's beliefs and behaviors.

STUDENT VOICE
One of the most powerful tools available to influence academic achievement is helping students feel they have a stake in their learning. To feel motivated to do something and become engaged in its activity, youth (like adults) generally need to feel they have a voice in how it is conducted and an impact on how it concludes. Time and again, research has shown that the more educators give their students choice, control, challenge, and opportunities for collaboration, the more their motivation and engagement are likely to rise.

It is particularly important for adolescents, who are developing their sense of identity and their ability for complex thinking, to have the chance to affect decision making. Research shows that increasing levels of self-determination give rise to greater integration of the students' own sense of purpose, interest, and desire with what may be required of them from outside forces.

Student-centered classrooms that capitalize on the power of self-determination can substantially increase achievement and motivation. Promoting student voice also has been linked to other important educational outcomes, including: elevated achievement in marginalized student populations; greater classroom participation; enhanced school reform efforts; better
self-reflection and preparation for improvement in struggling students; and decreased behavior problems.

At its core, student voice is the antithesis of depersonalized, standardized, and homogenized educational experiences because it begins and ends with the thoughts, feelings, visions, and actions of the students themselves. This makes student voice profoundly student centered.

Toshalis and Nakkula illustrate the range of experiences that make up the spectrum of potential student voice-oriented activity in a classroom (see figure). Student influence, responsibility, and decision-making roles increase from left to right. Most student voice activities currently in schools consist of less-intensive involvement, in the forms of expression, consultation, and some participation. Increasing partnership, activism, and leadership would motivate more students to make an effort and, ultimately, to succeed.

**SELF-REGULATION**

No matter how enjoyable learning can be, everyone—adults, children, and teens alike—struggles at times to stay focused, remain on task, and do the hard work of learning new things. Research shows that people learn best when they self-regulate; their own internal focusing processes play a crucial role in engagement and the capacity to do difficult academic work. Students must decide first that they will try, then muster the necessary techniques to sustain their effort until they have made progress.

Cognitively, self-regulated learners plan, set goals, organize, self-monitor, and self-evaluate at various points while building new knowledge or skills. They tend to be self-starters who seek advice, information, and places where they are most likely to learn. Perhaps most important, self-regulated learners can change based on their assessments of the effectiveness of their learning strategies.

However, many students have difficulty self-regulating and engaging in classroom activities even when they want to. For these students, it may be necessary to teach self-regulation skills explicitly, to show them how people can manage their engagement in learning, and to give them an assortment of tools to try out. The good news is that self-regulation is among the more teachable skill sets. Ideally, this might involve developing a middle school course akin to “Introduction to Your Mind, Part 1,” with a companion Part 2 for high school students. The focus would be insights and activities from learning theory, cognitive science, brain research, and educational psychology to acquaint

### The Spectrum of Student Voice Oriented Activity

<table>
<thead>
<tr>
<th>Expression</th>
<th>Consultation</th>
<th>Participation</th>
<th>Partnership</th>
<th>Activism</th>
<th>Leadership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volunteering opinions, creating art, celebrating, complaining, praising, objecting</td>
<td>Being asked for their opinion, providing feedback, serving on a focus group, completing a survey</td>
<td>Attending meetings or events in which decisions are made, frequent inclusion when issues are framed and actions planned</td>
<td>Formalized role in decision making, standard operations require (not just invite) student involvement, adults are trained in how to work collaboratively with youth partners</td>
<td>Identifying problems, generating solutions, organizing responses, agitating and/or educating for change both in and outside of school contexts</td>
<td>(Co-)Planning, making decisions and accepting significant responsibility for outcomes, (co-) guiding group processes, (co-) conducting activities</td>
</tr>
</tbody>
</table>

Most student voice activity in schools/classrooms resides at this end of the spectrum.

The need for adults to share authority, demonstrate trust, protect against co-optation, learn from students, and handle disagreement increases from left to right.

Students’ influence, responsibility, and decision-making roles increase from left to right.
Students with the workings of the brain and the supports and strategies necessary to help it develop. Studies have shown that teaching naïve, novice, competent, and expert students how to continue to build on the self-regulatory strategies they have developed can elevate students’ content learning, writing, time management, and athletic performance. These skills may even be more important than the content we hope they learn along the way.

**DISENGAGING FROM DIGITAL DISTRACTIONS**

Self-regulation is arguably more important today than ever before. With the daily deluge of media, the glut of information at our fingertips, and the ubiquity of digital devices pumping out music, video, texts, and games, it is no wonder that distractibility is an issue for many youth (and adults).

Recent research has shown that the “noise” of myriad digital distractions threatens productivity and cognitive complexity in learning. Therefore, academic engagement is as much about selective disengagement—unplugging, as it were—as it is about the decision to focus attention and apply effort.

Recent brain research reveals that our brains are indeed capable of doing many things simultaneously as long as those things do not require much complexity and the costs for making errors is low. However, when the individual attempts to switch rapidly back and forth between competing activities—multitasking—the brain is limited in its capacity to do those activities well. The parts of the prefrontal cortex responsible for controlling impulses, weighing opinions, constructing arguments, making meaning, and solving problems are incredibly complex, but they are also quite slow in comparison to the more primal parts of the brain responsible for quick reactions, unconscious habits, and the “fight or flight” response. In short, multitasking hinders the deepest forms of engagement our brains need to learn complex things.

If opportunities to reduce distraction and sustain focus are not provided (or enforced) for children and adolescents, the phenomenon of “continuous partial attention” associated with chronic multitasking can literally rewire the brain in ways that make higher-order thinking, impulse control, and focus difficult. To access the most sophisticated parts of their brains, students require the elimination of competing disruptions, either through self-generated strategies of regulation or outside restrictions via teacher (and parent) monitoring. For these reasons, the infusion and use of technology in schools needs to be monitored judiciously.

Helping students to experience their own minds in this way is one of the most powerful contributions we can make to their development and learning. Ultimately, the core of student-centered motivation and engagement entails engaging deeply with one’s own thinking.

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**Students at the Center** synthesizes existing research on key components of student-centered approaches to learning. The papers that launch this project renew attention to the importance of engaging each student in acquiring the skills, knowledge, and expertise needed for success in college and a career. **Students at the Center** is supported generously by funds from the Nellie Mae Education Foundation.

To download Motivation, Engagement, and Student Voice and all papers in the **Students at the Center** series, go to the project website: www.studentsatthecenter.org