

Can Students Learn to Engage?

Yes! Many students are not aware of their role in their own learning. Project-based learning is a strong enticement for students to engage in their own education. However, learners do not always understand the connection between their learning and their levels of involvement with the mathematical processes and cognitions unless that connection is highlighted. Applying the same levels of in project-based engagement to other learning tasks in independent settings is essential for continued mathematics success.

TEACHING METACOGNITION

As a classroom instructor, you can encourage your students to think about the effectiveness of their actions when learning. Many of you already do this, but some of your students do not really see themselves needing the coaching in this regard. A personalized approach toward discovering learning strategies is needed. When students see how their personal attitudes and actions affect their ability to learn, they can make the appropriate changes that will help them improve their academic outcomes.



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Top Reasons Students Drop Out

According to an article by U.S. News and World report in March of 2019, paying for college is the biggest factor for students who drop out. Academic struggles and managing work responsibilities also play a large role in the decision to leave college. Below are the top 11 reasons students drop out of college, according to [Peterson's](#).

- 1. The cost of education is too high:** Scholarships, grants, and loans do not always cover costs.
- 2. The need to work full-time:** Related to the above reason, part-time work is insufficient to meet living costs such as rent, transportation, and utilities while going to school full-time.
- 3. Family issues:** Families do not always understand the level of commitment to learning and can become a burden on the college student and can get in the way of consistent study time and meeting deadlines.
- 4. Students feel too much stress:** College can be a stressful place. Most students are unprepared for the demands of college learning
- 5. Not sure of major:** Students without educational goals do not see the importance of classes, and find it difficult to stimulate their own motivation.
- 6. No need to complete a full degree:** Some students find they don't need a college degree to be successful in their chosen careers.
- 7. Unprepared for the workload:** College level work is a step up from most high school programs. Those students who are not ready to make changes in their own approach to classroom learning will not survive the first semester of college.

- 8. Personal emergency:** Illnesses, accidents, deaths in the family, even a loss of transportation can derail even the most determined student from pursuing educational goals.
- 9. College atmosphere isn't the right fit:** Often resulting from a lack of goals and an underestimation of workload, students feel out of place in a college classroom, especially for first-generation learners.
- 10. Too much fun outside of class:** This category is related to the workload issue above (#7). Self-regulation is essential especially when students experience a newfound freedom when out from under the confines of parental and high school controls.
- 11. Lack of advising:** Advisors on many campuses only meet with their students once a semester when it's time to sign up for classes. However, some students need more academic, career, or emotional guidance than others.

Two broad categories emerge from the list above: Money and Self-Management. Scholarships and grants help, but only go so far when attending school full time. Tuition and books are not the only expenses incurred when attending college. Living expenses such as room and board and reliable transportation top the list. Some students need to work while in school.

The need to work at least part time while in school is not a deal-breaker, but students must be able to manage their time, goals, and responsibilities in order to meet the financial demands of being in school. Understanding what it takes to be successful and an ability to manage time and learning independently helps reduce stress, empowers students to achieve success, keep valuable scholarships, and creates a feeling of belonging. Student success programs help advise students to become aware of college demands and develop time management skills.



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Mindful Insights for Learning

Math Anxiety and its Effects on Learning

Math Anxiety creates a heightened state of fear, uncertainty, and nervousness that appears to interfere with the logical thought required especially during assessments. Anxiety also can appear when a student is attending classes and when working on learning new material independently. Those students with Math Anxiety often convince themselves of the idea that they are not competent in mathematics. This perception that they lack competence can feed the fear to the point of phobic paralysis. Although Math Anxiety is not always debilitating, it has the potential to hinder a student's achievement, choice of major, choice of career, and self-esteem.

Quality Habits Reduce Anxiety

Generally, students who have developed quality learning habits have less anxiety when learning mathematics. Popular curricula have changed, textbooks have changed, and pedagogy has changed, leaving students with diminished opportunities to develop these habits before arriving on the college campus.

These habits, such as

- having a plan for study
- taking quality notes
- learning from mistakes
- reviewing previous material regularly
- learning for understanding, not for recognition

provide a framework for learning, and allows the student to be in better control of success and failure, reducing anxiety.



Colleges and universities rarely see unmotivated students, right? Well, not entirely. Students are motivated to be successful in college. Rarely do students enter a degree program with the intention of failing. However, novice students, whether in online or face-to-face classes, are not always aware of how to manage the requirements of being a successful student. **What appears to be a lack of motivation may be a disguise for other factors that are not apparent to instructors.** What are these factors and how can schools help students overcome them?

The top factors that are often interpreted as a lack of motivation in math students follow.

1. **Past history of math difficulty.** If a student has had difficulty in the past with mathematics content, he or she may think they can avoid repeating the painful experience by not attending class, giving up easily on homework, or being too embarrassed to seek help.
2. **Inadequate or non-existent role models for academic success.** To those students who are struggling, successful students appear to have it easy. Low-achieving students are often unaware of the

preparation successful students apply for themselves outside the classroom. Many students have not observed or experienced the hard work behind academic success, especially first-generation students.

3. **Deficiencies in mathematics preparation.** Curriculum at a variety of high schools frequently leave gaps in students' backgrounds. Students do not always know how to identify these gaps nor do they know what to do about them.
4. **Lack of confidence.** Related to all of the above factors, a lack of confidence can induce anxiety and weaken the determination a student needs to be successful. A student who second-guesses himself or herself finds it difficult to progress through assignments or complete tests.
5. **Incomplete understanding of the time and effort needed to be successful.** High schools around the country are moving toward working on assignments in class and eliminating most or all homework. Therefore at the high school level, less effort for personal preparation is necessary for success, giving students the erroneous idea that personal work and independent effort are not needed for academic achievement. In college, however, personal, deliberate, and independent preparation and learning is essential for academic success.

Motivating the Unmotivated

What causes low motivation and how does it affect academic success in college?

6. **Disorganization.** Students who have never needed to work to achieve in high school, or have never had to free time in their schedules can quickly become overwhelmed by the many assignments, tasks, test dates, deadlines, and readings, all requirements of being successful in the college classroom. Too often, the student becomes discouraged by their inability to manage day-to-day affairs.
7. **Burdensome responsibilities outside the classroom.** Work and family responsibilities can interfere with adequate time spent on school activities and assignments, leaving the student unable to recover from missing classes, incomplete assignments or poor test preparation. These factors sap the motivation of students who are trying to be successful.

If your students seem to be experiencing a drop in motivation, take the time to discover what is behind that decline and together, find meaningful solutions that will inspire your students to persevere in your class.



See how "Way to Succeed" can help! Visit waytosucceed.com.

The Decline of STEM Majors

How can we turn this trend around?



While the employment demand for qualified graduates in the sciences, technology, engineering and mathematics fields is rising, the number of students who graduate from colleges and universities in these STEM fields is declining. By some estimates, only half of the students who begin college as STEM majors actually complete their degrees in STEM (Gibson, Siopsis, & Beale, 2020).

Institutions are troubled by this trend. Many schools are concerned that their students are either not prepared adequately for college level learning in STEM fields, or that the support within the university or college system is lacking for these students. that causes these students to drop-out,

transfer to other schools, or change to less demanding majors, which wastes valuable time and resources.

Gibson, Siopsis, and Beale studied the effectiveness of a specialized support program designed to retain STEM students at their small liberal arts college. This 6-year study showed that supporting students with a with common sense remedies showed a significant improvement in retention and graduation rates for STEM majors.

By immersing their students into the STEM culture on campus, this school is projecting a more realistic understanding of expectations and providing students with the inspiration and means to accomplish their dreams while building a sense of community within the cohort on campus. The list to the right shows interventions that seemed to have a positive effect for retaining STEM students in this study.

- **Orientation focused on**
 - college success skills,
 - networking with other students and faculty,
 - time management,
 - self-efficacy measurements,
 - attitude improvement,
 - focus groups
- **Academic support including**
 - supplemental instruction,
 - peer-tutors,
 - faculty mentors
 - required freshmen research,
 - STEM seminars,
 - surveys,
 - field trips,
 - summer programs
 - attendance requirements at STEM activities.

Gibson, A. D., Siopsis, M., & Beale, K. (2020). Improving Persistence of STEM Majors at a Liberal Arts College: Evaluation of the Scots Science Scholars Program. *Journal of STEM Education: Innovations & Research*. 20(2). 6–13.

This Month's Q&A About *Way to Succeed*

Q: Our school already has a College Success course for freshmen. Why should we purchase the *Way to Succeed* program, too?

A: *Way to Succeed* provides a different focus in student success principles and naturally enhances any "Student Success" program you already have in place on your campus. *Way to Succeed* differs significantly from the way other student success programs work in two major ways.

First, the focus is in the mathematics classroom where students historically have the most difficulty. Secondly, it personalizes



an improvement approach for each student, regardless of a student's ability. All students benefit, but the ones who do not already have self-regulation and metacognitive skills necessary for college learning will benefit the most.

Personalized recommendations for students encourage and strengthen the use of existing resources your school provides. We also suggest dozens of other actions for students to personally think about and try that target weak areas to strengthen specific aspects of their learning practices and cognitions especially focused on mathematics and other STEM fields of study.

WATCH

Current Industry Trends: Campus Responses to COVID-19

Enrollment is projected to be down this fall in light of the changes coming to campuses. As many schools decide to move to a partial or entirely online classroom format, we should not be surprised that students are having second thoughts about enrolling for classes this fall. Despite the fact that students want the college experience this fall when they go back to campus, the COVID-19 Pandemic necessitates that institutions make sure their campus are safe for all students, faculty, and support employees during the reopening. Many of the non-academic social activities that students imagine as important parts of their college experiences are gone leaving students with the independent and sometimes lonely experience of sitting behind a computer screen with minimal interaction with peers and faculty.

QUOTE OF THE MONTH

"Optimism is the faith that leads to achievement. Nothing can be done without hope and confidence."

Helen Keller





Visit our Website

waytosucceed.com

We offer a unique research-supported approach to helping students become more independent and successful in your classes.

Visit [Way To Succeed](#) for more information about our product, pricing calculator, and how to order.

Be ready for Fall Semester 2020 classes!

First-year, at-risk, and probationary students typically need more support than most other returning students, especially when these students enroll in online classes. Way to Succeed can help you assist these students with a personalized, stand-alone success program that works well with mathematics and other STEM courses that helps them develop their own self-regulating and metacognitive skills.

- No instructor grading required
- Personalized for each student
- Focuses on improving the habits of self-regulation, time-management skills, metacognition, and accessing on-campus resources
- Research-based process
- Low, per-student cost
- Works well with online and face-to-face classes
- Compatible with any STEM text or curriculum
- Instructor reports

Upcoming Articles in *Learning Insights*

1. Learning Math (and STEM) is Different
2. Importance of Student Factors in Learning
3. Constructivism vs. Metacognition: Are These Related Ideas?

...and more!

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864-777-3015 text or call
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