ISSUE 19 November 2024

QUARTERLY JOURNAL OF WAY TO SUCCEED: MINDFUL INSIGHTS FOR LEARNING

Learning Insights

In this issue:

This is a complementary issue of *Learning Insights* from **Way to Succeed**

We are on a mission to help your first-ear students succeed in their college math and other STEM classes. We help students learn how to learn!

We will be attending

- **CMC³ (November 1-2) in Sacramento,**
- **AMATYC (November 14 – 17) in Atlanta and**
- **JMM (January 8 – 11) in Seattle.**

Stop by our booth at these events! We would love to visit with you!

Are Learning Styles for Real?

Everyone learns in one of three well-known learning modalities: Visual, Auditory, or Kinesthetic, right? A mounting amount of evidence says this premise is false. In reality, we use many different modalities depending on the learning situation in which we find ourselves.

Using only one modality is not effective in all situations. For example, repairing a car with only one tool would be impossible, most of the time. Using the same learning mode for all situations is also nearly impossible. For example, trying to learn the shapes of Kentucky, Indiana, and Illinois through auditory means is nearly impossible. Visual learning is more appropriate for this task. Learning to play a song on a guitar is more kinesthetic and auditory, although visual learning is not used much.

Does it really matter what modality a learner prefers anyway? Students, sticking to only one modality can be counterproductive. Students think they learn best auditorily for example, can downplay or ignore altogether other modes of learning. The blinders they self-impose can undermine learning in modes that is not their "favorite." The key is to use as many modalities as feasible that are relevant to the learning situation.

What to do. The most effective use of the idea of learning styles is to use a variety of learning modalities. Your students will learn more deeply if they can see, listen, write notes about and use physical or create symbolic representations for abstract mathematical concepts. Using a broad mix of modalities to present ideas is better than focusing on only one.

At the college level, you might be challenged to use different learning modes in your STEM classes. You have a lot of content to cover, and some modalities are very time-consuming. However, even in a basic lecture, the three modes of learning can be present. You can also encourage your students to use a multiple modalities when they are studying. A simple list follows.

Visual: Written examples, diagrams, graphs, outlines, labels, videos, readings, .

Auditory: Verbal explanations, small-group discussions, asking questions, reading aloud, songs and poems,

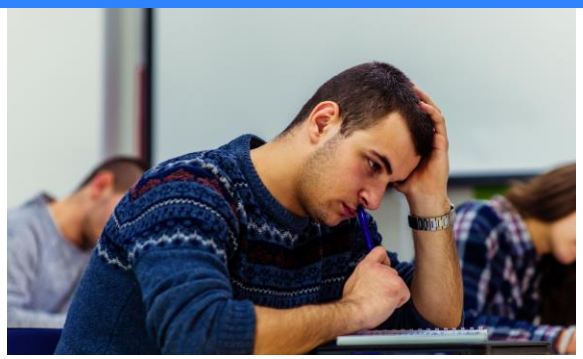
Kinesthetic: Manipulatives, symbolic representations, working through algorithms, note-taking, hands-on experiences, laboratory experiments,

How to help your students who have Imposter Syndrome

Understand their pain. Become mindful of what might be holding them back. You can address Imposter Syndrome with all your students since most of them have experienced Imposter Syndrome at one time or another. Here are some ideas to help your students in overcoming their insecurities of being in college.

1. Be mindful of your goals.
2. Understand what it takes to get there.
3. Endeavor to do what it takes to make the most of your opportunities.
4. Ability and knowledge are not a fixed commodity. There is always room for growth in these areas.
5. Build on your successes.
6. Learn from your mistakes and failures.
7. Seek help when you need it. There is no shame in needing help.
8. Get counseling if you are feeling overwhelmed.

Bravata, D. M., Watts, S. A., Keefer, A. L., Madhusudhan, D. K., Taylor, K. T., Clark, D. M., Nelson, R. S., Cokley, K. O., & Hagg, H. K. (2020). Prevalence, Predictors, and Treatment of Impostor Syndrome: a Systematic Review. *Journal of general internal medicine*, *35*(4), 1252–1275.



Imposter Syndrome

Must it be a self-fulfilling prophecy?

Imposter Syndrome among college students is when learners feel they do not have the ability or intelligence to fit in or achieve as well as a "real" college student. These students feel self-doubt about their abilities and often think they have somehow deceived the college admissions people who have allowed them to enroll. Many of these students fear being exposed as the fraud they think they are. Their belief in their own incompetence can be debilitating in that they are convinced they cannot produce the results expected by their college or university. This negatively affects any motivation to achieve. In this way, Imposter Syndrome becomes a self-fulfilling prophecy. These students believe they don't belong in college even though they are capable, and often hold themselves back by avoiding new opportunities for learning, especially those opportunities that appear to be too difficult. Drop-outs in this group are common.

Somewhere between 8 and 82 percent of individuals suffer from Imposter Syndrome in school or at work (Bravata, et al, 2020), so it is likely you have some of these students in your introductory math and STEM classes. Those individuals exhibit depression, low self-esteem, and anxiety, all of which interfere with job or school performance. The apparent difficulty of STEM courses among freshmen students intensifies this effect.

Who is at risk for developing impostor syndrome?

Many freshmen feel they don't belong at one time or another. But some demographics are more susceptible to Imposter Syndrome than others. First-generation students and minority students exhibit the highest incidence of this syndrome.

How it affects mindsets

Students with Imposter Syndrome do not always recognize that they have control over their learning. They often attribute success with luck and other external factors such as task simplicity. Failure is often attributed as a lack of intelligence, the wrong professor, or task difficulty. All of these attributions are external, shifting any responsibility for failure, or even the credit for successes, off of themselves. Yet mature learning, true independent and successful learning is self-directed and purposeful, and the ability to learn is dependent on more than external factors. In fact, the most important factor of student success are not intelligence and academic background, but are the effective approaches to learning utilized by the student.

Imposter Syndrome can be thought of as a byproduct of the "Fixed Mindset" theorized by Dr. Carol Dweck in her book, "*Mindset: The New Psychology of Success*." She states that those with a fixed mindset erroneously believe they are stuck with low ability and must accept the reality of their low skills without any way of improving. Students with Imposter Syndrome think this way too. They believe that they are not able to be successful like "real" college students are able to be. When they fail a Physics test, they believe they are incompetent, and fail to analyze and learn from mistakes.

Way to Succeed Can Help!

We designed Way to Succeed to accompany first-year math and other STEM classes. Our goal is to help your students become aware of and develop their learning skills and strategies in a personal way while freeing you to focus on your math or other STEM content. The online program works concurrently with your class, providing students with personal learning profiles and targeted actions for improvement, short, thought-provoking readings, videos, and short quizzes that that highlight the skills, attitudes, cognitions, and learning strategies in which successful students engage. Student can quickly make changes to become better learners and improve their academic achievement.

Constructivism and Engagement for Greatest Learning

According to the theory of constructivism, students develop or construct their own personal meaning for what is to be learned, and can then make the learning objective their own. This includes knowledge, critical thinking, and even morality. Most of the classroom applications of constructivism blends the two blended forms of constructivism, exogenous and endogenous, to form the Dialectical Constructivism model. Exogenous constructivism includes the exposure of the learner to situations, models, and conversations, including direct instruction. Direct instruction is what they see and hear from their professor. All is not quiet in the minds of students in these situations. The endogenous constructivism model is what goes on within, when actively build on cognitive ideas, knowledge, and thinking skills that reside within the learner. Direct instruction can trigger the student to make connections with prior knowledge and to build upon that knowledge. Constructivism is an internal process. The theory focuses on the individual learner's internal and environmental influences in order to build knowledge within. Obviously, these ideas and abstractions within the learner are not visible, and just being in the presence of learning situations and conversations does not mean that learners are making meaning of what they see and hear. However, these constructs are able to be formed in situations of both direct instruction and in problems-based learning situations. In other words, problems-based learning and direct instruction are both valid constructs for teaching.

If students can actively engage in the lessons, they are more likely to be able to construct their own knowledge in whether they are in a traditional or problems-based learning situations. In either case, learners cannot be passive cognitively, the responsibility for making sense of the concepts presented in their learning situations lies with the student. However, it is up to us as instructors to provide those opportunities that make it appealing and natural to engage in the content. For ideas, see the notes in the sidebar.

Improving Student Engagement in Math and STEM

One of the greatest criticisms of Direct Instruction is that students are passive recipients of information. Yet students who are engaged in any lesson are not cognitively passive. Increasing student engagement, even in large classes can happen. Here's how to encourage more.

1. Use an Anticipatory Set. Post your outline prior to class, helping students to focus on the agenda throughout the class.
2. Add Visuals. Use images, relevant news, and videos throughout your instruction for high interest and engaging lessons.
3. Question your students. Engaging questioning strategies can bring your instruction to a new level. For some great ideas, click here.
4. Let Students Interact. Small group discussions during the lesson help students make connections and support each other's learning.
5. Ask for class feedback. Real-time feedback using a survey tool during the lesson can allow you to both check comprehension and increase student involvement.
6. Include Practice opportunities. Have your students watch, then try out a skill.
7. Provide Stretch Breaks. Short physical activity breaks benefit learners cognitively and can increase learning efficiency. See the research support for this here.

Q&A About Way to Succeed

Q: I like the idea of Way to Succeed, but It's too much effort for my students. They are busy!

A: We understand your students are busy! That's why we designed Way to Succeed to be time-efficient for your students while still reaching them on a personal level. The short readings for each chapter average a little over 3 minutes for slow readers) and the short 5 – 10 question multiple choice quizzes don't take much time at all. The Way to Succeed learning assessments take a little longer, (10 minutes) but provide personalized, adaptive, and actionable information to students (and to you as their instructor) to help your students become more efficient and effective in their learning.

Almost 90% of our students say they would recommend Way to Succeed to other students.

QUOTE OF THE MONTH

"You don't understand anything until you learn it more than one way."

Marvin Minsky

Way to Succeed™

Visit our Website

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, and how to order.

You can be ready for Spring Semester 2025 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 to assist your students with a personalized, stand-alone success program designed for mathematics and other STEM courses. Way to Succeed helps students develop their own self-regulating and metacognitive skills so they can become more independent and effective learners.

- Students learn how to learn, especially in their math or STEM class.
- Our focus is on improving self-regulation, time-management skills, metacognition in your students, and how to access extra help resources.
- Nothing to grade. Nothing to plan. No essays for your students.
- Personalized learning diagnostics and recommendations for each student.
- Companion eBook for better student accountability.
- Research-based process with significant improvement in grades.
- Low department and per-student costs.
- Compatible with any STEM text or curriculum, online or face-to-face.
- Easy-to-access instructor reports.
- **Quick and easy set-up for your school, by department, course, or class.**

Upcoming Articles in the next issue of ***Learning*** *Insights*

1. Analyzing Student Mistakes
2. Instructional Coaching for Success….and more!

Way to Succeed
Mindful Insights for Learning

864-777-3015 text or call
www.waytosucceed.com