Learning Insights

In this issue:

The Three Phases of Self-Regulation

1. Forethought Phase:
   a. Task Analysis
      i. Goal Setting
      ii. Strategic Planning
   b. Self-Motivation Beliefs
      i. Self-efficacy
      ii. Outcome Expectations
      iii. Intrinsic Interest/Value
      iv. Learning Goal Orientation
2. Performance Phase:
   a. Self-Control
      i. Imagery
      ii. Self-Instruction
      iii. Attention Focusing
      iv. Task Strategies
   b. Self-Observation
      i. Self-Recording
      ii. Self-Experimentation
3. Self-Reflection Phase:
   a. Self-Judgment
      i. Self-Evaluation
      ii. Causal Attribution
   b. Self-Reaction
      i. Self-Satisfaction/Affect
      ii. Adaptive/Defensive

Learning how to learn is your students' best advantage for success! Way to Succeed can help! We offer math- and STEM-specific learning solutions for your students!

Self-Regulation in Learning:

Do your students know what Self-Regulation is?

Part 1 of a two-part series on self-regulation in students

Definition. Zimmerman (2002)[1], an expert on self-regulation, defined it concisely as "when learners transform their mental abilities into academic skills" (p. 64). Notice that it is the *learners* who are performing this transformation. The most effective learners are pro-active when learning, and they apply goals, strategies and self-evaluation to the process. They are also aware of their own limitations and know how to compensate for them, finding new methods of learning that work best for themselves. Because of these adaptive learning methods and self-monitoring, these students are typically more successful than students who are more random and haphazard in their approach to learning.

If you find that your students are missing these skills and characteristics, you are not alone. Even Zimmerman in 2002 noted a decline in student self-regulation, and attributed the phenomenon to the fact that schools generally do not teach students how to learn on their own. Teachers do their best to help their students learn by creating experiences for their students, but most of the awareness of what helps students learn is not conveyed to the learner.

Phases. Self-regulation follows three sequential and cyclical stages, according to Zimmerman and Campillo.[2] These stages are Forethought, Performance, and Self-reflection (See sidebar for a brief outline of Zimmerman's and Campillo's model). The idea behind this model is that when a learner enters into a learning situation, he or she uses certain skills, affective traits, and motivations to internalize what is to be learned. These are self-directed, and vary for the learner based on the learner's strengths and weaknesses.

The Good News. By many accounts, self-regulation is teachable and students can learn to adopt the characteristics of self-regulation with an initial awareness of the skill set and a chance to apply self-regulatory practices in their classes. Once students realize they can pro-actively manage learning and can be successful, the intrinsic motivation of learning tasks naturally increases. This inspiration jump-starts the learning process cycle for the next learning experience, because students believe they can be successful and have the tools with which to learn.

References:

[1]Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. *Theory Into Practice, 41*(2), 64-70. doi:10.1207/s15430421tip4102_2.

[2]Zimmerman, B. J., & Campillo, M. (2003). Motivating self-regulated problem solvers. In J. E. Davidson & R. J. Sternberg (Eds.), The psychology of problem solving (pp. 233–262). Cambridge University Press.

In the next issue of Learning Insights, we will suggest ways you can encourage your students to be more self-regulating in your classes.

Way to Succeed
Mindful Insights for Learning

Way to Succeed™

Mitigating the Struggle for College Success

Students come to college not knowing what to expect academically, socially, and how they are held accountable for their own learning. Some students adjust quickly to the increased demands of learning and the social and schedule freedoms students inevitably experience in college. But if a student is not well prepared for the change from high school to college learning, the transition to college is frustrating and unproductive.

Much of the preparation for college takes place in high school, but even the best academically prepared students are not rationally ready for the other responsibilities involved with learning. Mitigating these discrepancies between expectations and reality is a world-wide problem at the college level. Motivated, capable students continue to underperform and even drop out at high rates. What can be done to help curb this disturbing and ever-increasing trend?

Difficulty in being successful in college appears to consist of two major components: 1) underpreparedness prior to coming to college, and 2) underachievement once students arrive on campus. These two ideas are related, but each has its own set of difficulties and solutions. This article briefly summarizes these issues and poses possible directions schools can take to mitigate the effects on student success.

Underpreparedness: McMahon (2018) promoted three major areas in which students are unprepared for college.
1. Need for remediation. (Academic background)
2. Lack the study habits and other habits of mind necessary for college success (Knowing how to learn)
3. Lack the ability to use critical thinking skills to apply appropriate strategies to learning situations (Knowing how to problem-solve)

Most schools have remediation solutions in place. Whether your school has placement tests, co-requisite classes for those who are behind their peers, remedial software, or some type of extra advising situation, a lack of content background can be difficult but not impossible for students to overcome. More damaging is the lack of experience with learning, such as lacking study habits and critical thinking skills that are necessary for the more independent learning required at the college level.

Underachievement: Once students arrive on campus, they must quickly figure out how to achieve success regardless of how well they were prepared in high school. Even those who come with good study habits are often surprised at the level of independence and self-regulation that accompanies college-level learning. All students need to find ways to make up for academic gaps in their background knowledge, develop effective study strategies and time management techniques, and apply cognitive strategies to make learning efficient and effective in the heightened demands of college. Many students never make this transition into becoming the mature learners that college students need to be, and end up deferring or leaving their college dreams behind.

Conclusion: Students enrolled your classes arrive with a wide variety of learning practices and skills. Most students will need to improve in these areas if they are to be successful in your classes, but they will not always be aware of their personal need to do so. Often, your students' approaches to college-level learning are more important than their aptitude for your content area or their intelligence. Effort, self-regulation, and organizing their time can go a long way towards college success. By setting clear expectations in your class, providing personal attention to at-risk students, and by explaining how to navigate the changes in college vs. high school learning, you can help your students improve their chances of success, regardless of their background.

McMahon, M. (2018). Underprepared College Students. *Underprepared College Students - Research Starters Education*, 1–6. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&AuthType=shib&db=e0h&AN=45827557&site=eds-live&scope=site

Let Us Help You!

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 academic skills and strategies in a personal way while freeing you to focus on your math or other STEM content. The online program works outside of class, providing 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 so they can quickly make changes to become better learners.

Grouping Students Effectively: What is Best for Learning?

Project-based learning and group work have been shown by many to be an excellent way for students to become more engaged in the course content, and appears to improve performance on exams and other learning assessments over students not involved in working in groups on projects (Kuh, et al, 2007). Group work can be an effective way to help your students learn, and through the group experience, you are helping your students create relationships with each other. This can make the project-based experience more enjoyable and can provide a break from the lecture/study routine for your students.

Managing such groups, especially in a mathematics class, can pose issues such as uneven distribution of work, grading group members fairly, and domineering team members. But by thinking through steps, you can create a great learning experience for your students.

Even though you probably have assigned group work for your students before, you may find some of the ideas that follow helpful for your next group learning project.

1. Decide on learning outcomes ahead of time. You should decide on what students are supposed to learn academically and socially. Academic goals depend on content, but social goals can consist of getting along with others, resolving conflict, meeting deadlines, leadership growth for all members, and so on.

2. Choose a good group size for your task. Two to six people is typical, but three seems to be most ideal and beneficial for learning (Johnson et al., 2006).

3. Determine how you will group your students. Keep your objectives in mind for each of these grouping techniques.
>Informal groups: neighboring students as they sit in your class
>Randomized groups: select groups using playing cards, random number generator from class lists. or some other random process.
>Self-selected groups: Students select their own groups of a given member size.
>Assigned heterogeneous groups: Groups that have a variety of abilities can serve to bolster low performers as they work through a project, but try not to overburden high achieving students with helping their peers too often.
>Assigned homogeneous groups: Students with similar abilities typically work together well. Low-achieving students can become more engaged with their learning when they have no one to depend on but themselves. This gives you the opportunity to be more attentive to the needs of your struggling students.

4. Determine ahead of time how you will assess learning. Several options are available to both grade the group work and hold individuals accountable for participation and learning. Explain clearly to your students how they will be graded. These are just a few ideas.
>Individual test and group test over the same content. Average the two grades.
>Group project grade with a component where group members grade each other on contributions to the final product.
> Include the problem solved in the group project on individual tests and exams to determine learning attained by all group members.

5. Evaluate the project and the process. Look for what worked and what could be improved. You may want to survey your students to see what they thought about the project and what they were able to glean from the learning experience.

Johnson, D.W., Johnson, R.T., and Smith, K.A. (2006). Active learning: Cooperation in the university classroom (3rd edition). Edina, MN: Interaction.

Kuh, G.D., Kinzie, J., Buckley, J., Bridges, B., and Hayek, J.C. (2007). Piecing together the student success puzzle: Research, propositions, and recommendations (ASHE Higher Education Report, No. 32). San

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QUOTE of the MONTH
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....goal directed self-imposed delay of gratification is perhaps the essence of emotional self-regulation: the ability to deny impulse in the service of a goal, whether it be building a business, solving an algebraic equation, or pursuing the Stanley Cup.
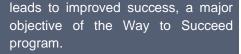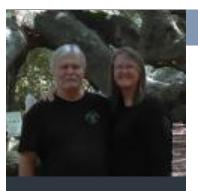
Daniel Goleman

Q&A About Way to Succeed

Q: Is Way to Succeed just another Study Skills or Student Success program? Our school already has these.

A: No, it's more than that! Study skills are just one part of what is addressed in the Way to Succeed mini-course. Quality learning encompasses other skills, attitudes, and being aware of such ideas as planning, use of strategies, metacognition, goal setting, and includes mindful applications of individualized remedies **customized for each student's strengths and weaknesses**. Students improve their self-regulation (see article, p. 1) which leads to improved success, a major objective of the Way to Succeed program.

Mathematics, Physics, Chemistry, and Engineering require students to recognize situations where certain strategies can be used to answer mathematical problems, and then to have the skills and knowledge to use the strategy successfully. Because we focus on math and other STEM classes, we can address these and other learning skills and practices that lead to success in the STEM fields in a way no other "Study Skills" program can.

Way to Succeed™

Be ready for Fall Semester 2023 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 benefits all students with a personalized, stand-alone success program that works well with any mathematics or other STEM course. Way to Succeed helps your 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
- No grading required
- Personalized for each student
- Companion eBook for better student accountability
- Focus on improving self-regulation, time-management skills, metacognition, preparing for exams, and accessing extra help resources
- Research-based process showing improvement in grades
- Low department and student cost
- Compatible with any STEM text or curriculum, online or face-to-face
- Easy-to-access instructor reports
- Quick student set-up for your school or by class

Upcoming Articles in the next issue of *Learning* Insights

1. Self-Regulation (Part 2): Encouraging Your Students to Self-Regulate.
2. Using Strategies in Problem-Solving: Making Wise Decisions
3. Top-Down vs. Bottom-up Reforms for Improved Learning

….and more!

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