

Analyzing Mistakes The student's perspective:

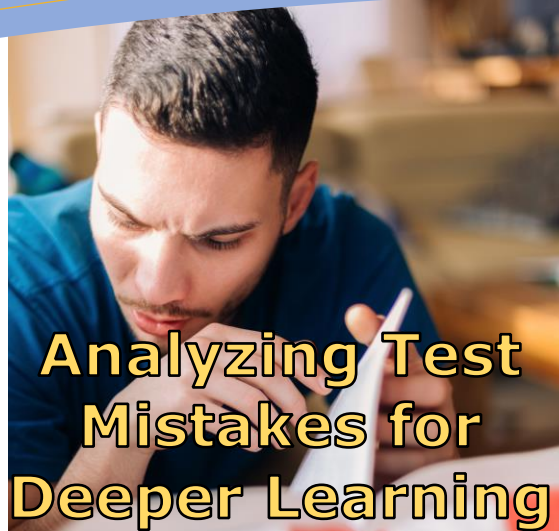
Miguel retrieved his test from the trash and began working on corrections. He recognized the types of mistakes he made, relearned some concepts on which he was a little rusty. His next test was far better, and he had fewer corrections to make. His confidence in his abilities soared.

"I didn't realize what I needed to know. I really got a lot out of making those corrections. A lot of my mistakes were when I was rushing. I forgot a negative on problem 8 on that first test and that really threw off my answer." He continued, "I think I will try to analyze my mistakes in my Chemistry class too. It really helped me learn better in my math class."

QUOTE OF THE MONTH

"If I accept you as you are, I make you worse. However, if I treat you as though you are what you are capable of becoming, I help you become that.

Johann Wolfgang
Von Goethe



Miguel crushed up his College Algebra test and threw it in the trash on the way out the door. "I knew when I walked outta here last Friday I didn't know what I needed to know. I knew I was going to bomb it! What a waste of a test!" he thought to himself.

We all have seen students behave like Miguel when receiving a less-than stellar test or exam. Unfortunately, the "waste of a test" will continue as he moves to throw out his exam as he walks out the door. Miguel will be unlikely to learn anything from his mistakes if those mistakes sit in the wastebasket in the classroom. As J. Harold Smith wrote, "more people would learn from their mistakes if they weren't so busy denying them."

Three major revelations will be likely to come to Miguel and to any student who analyzes their test results. First, they will have a better picture of the professor's learning requirements for the section of the class on which he just took a test. Second, these students will be able to pinpoint incorrect thinking and algorithms, and third, they will have the opportunity to clarify and relearn what is needed, both as building blocks for future learning and for the final exam.

Set the structure for analysis. As students receive their tests back, either on paper or digitally, have a structure in place to analyze and

Way to Succeed
Mindful Insights for Learning



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correct their mistakes. You might want to consider this a homework assignment built into their syllabus due a week after every test.

Correct all mistakes (and get help as needed). If students are oblivious as to how to get the correct answer, tell them this would be a good opportunity to visit the math help center or to come to your office for some guidance.

Break up your work into small chunks. Students like Miguel may have a lot of work to do to analyze and correct mistakes on a test. It may seem overwhelming to the marginal student. By breaking the task up into a small number of problems in a sitting, or number of days before the assignment is due, students can work on a manageable portion of the assignment, and take the time to be more thorough and in depth with each concept.

Analyze what happened. Have students take the time to figure out what went wrong. By taking note of these ideas, the learner can prevent similar mistakes on future tests.

Practice what you have learned. As a professor, you might want to create a document in which problems similar to test problems are available to your students for extra practice. Encourage them to create their own practice for improve confidence and final exam preparation.

File your test for later studying for the final exam. Each student should keep a section in their 3-ring notebooks, a paper, or online folder solely for tests and quizzes from which to study with later.

Continue to keep up with your regular attendance and assignments. Just because your students have extra to do to investigate and correct test mistakes, it is no excuse for not keeping up with the class as it continues.

What are typical accommodations?

According to the Office of Research at the University of Illinois in an article entitled "Improving Access, Transition, and Success: Meeting the Challenges Facing College Students with Disabilities, typical accommodations in college include but are not limited to

1. Accessible classroom location
2. Advance notice of assignments
3. Assistive computer technology
4. Notetakers
5. Readers
6. Interpreters
7. Lab or library assistants
8. Open/closed captioned videos/films
9. Course or program modifications
10. Document conversion (Braille, large print, tape)
11. Early syllabus
12. Exam modifications (e.g., extended time, alternative test format, quiet space for testing)
13. Priority registration

[Source: <http://ocrl.illinois.edu/articles/improving-access-transition-and-success-meeting-the-challenges-facing-college-students-with-disabilities/>]



Dr. Morgan, a math professor, looked at the special services report that described an incoming student, Xavier. The report indicated that Xavier had a learning disability and was requesting certain accommodations for his math class with Dr. Morgan. Dr. Morgan recognized that Xavier and other learning-disabled students have come with a history of well-documented and real learning difficulties and are wanting to learn despite their different ways of processing information.

Students with learning disabilities must not only adjust to the quicker pace and depth of learning, like most first-year college students. They must also adapt to a modified level of support received from special services, which is typically not what your special needs students are accustomed to. Special Services on most college and university

campuses are different than what your special needs students are accustomed to when they were in high school. Normally, the level of support is less intense, and the IEPs (the Individual Education Plans) students used in junior high and high school are filed for reference. Unless the disability is severe, students typically receive fewer accommodations and less time with special services personnel.

In college, the efforts of special disability services are focused on access to learning, equity, and accommodations. They are highlighted below.

Access. Access is the term used to describe the ability for students to experience all the learning tools, texts, and class situations for a certain course so they have the same opportunities as others to learn. In relation to your math course, this means that those with learning or physical disabilities should have barriers removed, if any, so that the learning-disabled student has the same opportunities and experiences as the general student, at least as much as is possible.

Equity. Equity is the logical conclusion of educational access. When students have access to the same educational opportunities,

Helping Students who have Learning Disabilities

they stand on equal ground, at least in theory. Equity does not mean equal outcomes, but equal opportunities. As educators, the equal opportunity for learning in your course paired with the appropriate access to all the course materials is a start to making the course access realistic.

Accommodations. Access and equal opportunities cannot always exist without accommodations. Accommodations remove barriers to learning, as much as possible. In your math class, you are not responsible for accommodations for the financial, physical, or admission practices of your school. However, once students arrive in your class, you may be asked to provide accommodations for anything associated with students learning your course material when they have learning disabilities. Again, you will most likely receive notification from your campus' special services department about any of your students who have accommodations, and what those accommodations are.

You should be prepared to put those accommodations into place as soon as possible. Every student deserves to be included in the learning processes of your class from the beginning.

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 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.

In Praise of High Standards and Expectations

As educators, we have a lot of hats to wear. Motivator, teacher, encourager, guide, advice-giver. The list goes on. The overarching theme of all these roles we have is that we push students to do more, be more, and learn more than they ever expected they could. And there it is.... expectations.

Our expectations for students' learning often surpass our students' expectations for achievement. Setting high standards and expectations from our perspective, revolve around what our students are supposed to learn in the course you are teaching, and many of your students have no idea what they are going to encounter in your class.

Have you ever noticed that the students who are a bit behind the others, the ones who scored lowest on their placement tests, are typically the ones who put in less effort than your higher-achieving students now that they are in college? They are often the ones whose expectations for achievement is set lower in their minds. Yes, they probably would like to earn an A in your class, but they don't always come with the

don't always come with the determination and habits of mind necessary for that level of success. Essentially, they don't always know what to do to achieve that top grade they want.

Your students often come with baggage such as anxieties and poor learning habits. They hold preconceived ideas about their abilities, and what they should do to be successful. They have found ways of approaching learning that have worked satisfactorily in the past, perhaps in high school math, but from experience, you know the methods they are using won't work at the college level. Your actions, words, and especially your high expectations and high standards have the power to develop those students into the mature learners they can be.

The following are some ideas that help get across the high standards and expectations you set for your students that push them to achieve and succeed.

Watch what you say. Words can lift up or cut down. Be careful to present positives in each interaction you have with your students.

Introduce your students to growth mindsets. Dr. Carol Dweck promotes the

Idea that students can change their own trajectory in life with a growth mindset of perseverance, taking on challenges, and learning from mistakes. Validate these ideas while seeking to discount those that are part of the fixed mindset.

Form a bond with your students through your bond with your content. Use your enthusiasm to connect with your students by pointing out their new learning and mathematical thinking and battling through challenging content. Your passion can be infectious.

Uncover the power and importance of effort. Effort, especially paired with help-seeking behaviors when needed, result in greater success, which is empowering for your students.

Show your enthusiasm for their success. Let them know you care, and want them to be successful. Your personal attention to their successes, even small ones, can be all a student needs to keep trying.

Treat mistakes as positive learning experiences. You don't need to downplay mistakes. Mistakes are important learning tools, highlighting common erroneous ways of thinking.

Require test corrections. When those mistakes happen on tests and quizzes, set the standard that mistakes must be corrected and content relearned.

Provide quality feedback.

Be a role model for effort and excellence.

Show examples of what you expect. Use a rubric on projects or use prior student examples. Show how you expect them to show their work on tests, and so on.

Promote intrinsic value to success and positive outcomes. Grades can be rewards, but the feeling of understanding, especially following a struggle, can be a more powerful motivator. The feeling of success promotes self-confidence and a can-do attitude.

Q&A About Way to Succeed

Q: I like the idea of Way to Succeed, but it seems expensive at \$12.99 per student.

A: For the price of a couple of coffees, your students can have the personal coach to help them through their first math or other STEM class, freeing you to teach your content.

How expensive is it to fail or not receive credit for the class they are taking with you?



Ninety-one percent of students who used Way to Succeed reported their grade improved in the combined categories of a little, a moderate amount, a lot, and a great deal as a result of using Way to Succeed. Ninety-six percent used the learning principles in their other classes.

If \$12.99 can achieve results like these for your students, why not give us a try!





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](https://www.waytosucceed.com) for more information about our product, pricing, and how to order.

You can be ready for Bridge and Fall 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](https://www.waytosucceed.com) can help you to assist your students with a personalized, stand-alone success program designed for mathematics and other STEM courses. [Way to Succeed](https://www.waytosucceed.com) 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. Three Common Learning Disabilities, and What Helps
2. Filling in Learning Gapsand more!

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