

# From a Developmental Education Perspective

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*Aprilsue Grulick earned her MS and BS in Technical Education from the University of Akron in Ohio. Prior to moving to Texas and joining Texas State Technical College Waco as a developmental mathematics instructor, Ms. Grulick served as Director of Educational Services at the Lebanon Branch Campus of the Harrisburg Area Community College in Harrisburg, Pennsylvania. While there, she was responsible for the management of the academic programs and class scheduling in addition to overseeing the day-to-day operations and budget of the academic side of the campus. She also supervised the team of ninety-two adjunct instructors who taught all the Lebanon Branch Campus courses. Her hobbies include playing the piano, watercolor painting, meditation, yoga, reading, photography, walking, and gardening.*

Our students never seem to be as ready for the rigors of college as we'd like them to be. Why is this? Could it be that there is a similar characteristic among most of the unprepared Texas State Technical College students? First we must address the question of what kind of students come to TSTC. Because we are a technical educational institution, we draw students who are interested in learning employable technical skills from our many certificate and degree programs. I personally believe that a high percentage of these students come to us with the false assumption that the basic academic skills are not really necessary prerequisite skills for acquiring the technical-skills training offered at TSTC.

Students come to TSTC highly motivated to learn a new technical skill. But many of these students begin in developmental courses, rather than technical courses, because their placement test scores are low. The secondary education records of many of these students would reveal that they did poorly in one or more subjects including reading, writing, or mathematics. Now they are doing poorly in the same areas here at TSTC. Thus, the developmental education department is diligently attempting to remediate these students in their deficient areas. Many of these students are still failing to gain the necessary skills for college success. Could it be that the students are still failing for the very same reasons that they failed similar classes in secondary education?

I talk to my developmental mathematics students so I can understand their individual perspectives. Many of them express self-doubt as they begin their first semester with us. They lack the confidence in their abilities to acquire the necessary preparatory skills. Many students tell me they feel additionally discouraged because they are taking too many classes. When I ask them about their hobbies and the things that they like, I find that many of these students are very talented individuals.

Perhaps our current educational system is not designed to reach and teach this class of students. Higher education has been designed basically for the people of our

society with strengths in linguistic and logical intelligence, without equal appreciation for people who are “intelligently different” because their strengths are in other areas. Dr. Howard Gardner, professor of education at Harvard University, developed the theory of multiple intelligences in 1983. This theory identifies eight separate ways of being “smart,” of which only two are traditional measurements of IQ. It suggests that perhaps we can deepen and expand our instructional styles to reach more students.

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Over the past twelve years, I have been teaching and observing developmental mathematics students in four different states across our country. Currently, I teach students in all three levels of developmental mathematics here at TSTC Waco. My goal is to continually improve my teaching style in order to benefit more students. Because of this goal, I continually read and research to find the “Best Practices” in developmental education, and apply new strategies in the classroom every chance I get. I have discovered that many of my students do not perform well in the traditional classroom where the instructor is the center of attention. Given a more relaxed and hands-on approach, these “differently intelligent” students come alive. I analyze the students’ needs before I determine the best way to teach them. Every semester

each new class is an exciting and new adventure for me. This requires me to be very sensitive and caring, while being flexible and ready to shift gears when I recognize that I have lost the students’ attention.

Allow me to identify several key characteristics I discovered that have proven to be essential to student success in my developmental mathematics classroom. The list begins with making sure that my students feel respected, accepted, and safe.

I respect all my students as uniquely intelligent people having individual strengths, weaknesses, and differences. Many students have poor math skills because they were not interested in learning math previously. Each one is a unique student needing my personal help to overcome high math anxiety.

Hand in hand with the need for respect is the need for a cheerful attitude and a friendly, supportive classroom atmosphere. Brain-based learning research has shown that people learn best when challenged, but challenge must occur in a nonthreatening friendly environment. Adult students are not likely to risk the chance of being embarrassed in front of their peers while learning new material.

Because many students are similar, but no two students are exactly alike, each student interprets his or her environment in a truly individualized manner. These unique characteristics give students individual learning styles. Traditional education capitalizes on the instructional style where the teacher takes the leadership role and students observe the instructor’s presentations. Typically, students with strong linguistic and logical intelligences find no problem with this approach, given a respectful

instructor and a non-threatening setting.

Dr. Howard Gardner has identified a group of students who are equally intelligent, but who would not excel in the traditional classroom with the lecture and note-taking approach. These “differently intelligent” students find the traditional classroom an inefficient way to learn new material. They need a more relaxed, hands-on approach, and an active learning style, which provides them with immediate feedback. Remember that these students not only have great difficulty in comprehending abstract concepts and lengthy reading assignments, they also are in denial of the necessity of learning such skills and are equally unsure of their ability to do so.

Most of these unprepared students have very short attention spans for the lecture teaching style. I have my best results with these students by limiting my lectures to 15-20 minutes, and using the rest of the period to have students work out problems themselves. I finally realized that completing my well-developed lecture is less productive than letting the students have active classroom time. Even though I do not present every textbook example, the students nevertheless benefit because they gain self-confidence while working out problems during classroom time. This instructional style frees me up to wander around the classroom, finding and helping students who need my personal attention. Eventually many students become self-motivated to read the textbook examples and do more homework problems on their own.

I find, in the classroom, that less is more. To many students, a multistep solution to a math problem is so overwhelming that they simply shut off their minds in discouragement in the middle of the lecture. To bring these students back, I encourage them by pointing out what they already know and how the new material just builds on that familiar process. Because math is not a spectator sport, I make sure that I do not “hog” all the time with my lectures. Many times I give a five-problem quiz during the last 10-15 minutes. These are “just-for-fun quizzes” that encourage students to evaluate their new skills. Students first work out the problems on their own, and then they compare answers with their friends. Finally, as a group, we discover and announce to the class each problem’s correct answer. I know that my students are learning math. I see it happening. I witness students teaching one another as they debate and defend their quiz solutions.

My students are finding that math can be fun to learn in a relaxed atmosphere where they feel respected and appreciated for their differences as well as their abilities. They slowly build their self-confidence and their ability to learn math. I find that students enjoy actively participating in their classroom learning experience. My students have fun and they come back for more.

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