



How We Use the CSI to Help With Learning Math Skills: A Coordinator's Observation Incorporating Knowledge and Self-Awareness

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As an instructor at a college with more than 9400 students enrolled, my focus in this article relates to a special workshop that included 31 individuals. I will begin by sharing my views on current educational practices; namely, that in the realm of teaching and learning, college students experience an interesting mix of acquiring knowledge and increasing self-awareness with goals to increase the college's graduation rates. However, addressing a student's self-awareness by recognizing their own feelings and behaviors about their college experiences is overlooked by the need to understand and retain the course contents.

Developmental Education and Queries Into Students' Self-Awareness

Our open-door admissions policy at Kapiolani Community College (KCC) presents us with a number of students who place into remedial courses, which impacts their graduation potential. One of these remedial courses is math. It is no surprise that math isn't a favorite subject for many students, although it is an important one. Students come to KCC with varying degrees of opinions about math—most of them negative. So, as a research question, I wondered: Is this resistance to math a result of their classroom experiences (implying a focus on acquiring knowledge) or, rather, are they unsure of their abilities as college students (implying a focus on increasing self-awareness)?

Math Compass Brush Ups: A Support Program

Through the support of federal grants, I was able to offer a math support program called Math Compass Brush Ups during the summers of 2009 and 2010. The three-part goals included: (1) identifying students' deficiencies in math based on their Math Compass Test scores, (2) addressing those deficiencies through varying tutorial support, and (3) providing students with tools to improve their Math Compass retest scores.

Motivational Assessment: Providing a Window for Understanding

I already had a rich collection of information about my students that focused on the issue of how students *acquire knowledge* around math, but I didn't have much information that addressed their *self-awareness*. Thus, during the summer 2009 Math Compass Brush Up, each student was required to complete a series of assessments, one of which was a survey assessing their feelings about math. The survey asked questions like, "How do you feel about math?", "How did you feel after completing the Compass Placement Test?", and "What was your math experience like in high school?" From this survey, I speculated: Could I have used this information to address a bigger picture with their math anxieties? How could I discretely address these affective responses in a math tutoring environment?

Then, in the summer of 2010, I was introduced to the Noel-Levitz College Student Inventory (CSI)TM and thought this could be a helpful supplement to my Math Compass Brush Up. In all honesty, I was reluctant, but the information from the CSI proved to be a perfect marriage with the development of my workshop. It asked questions of students, whose subsequent answers provided me a more holistic picture of my students so I could provide more relevant support. The online set up allowed me to create a seamless workflow since my math tutoring software was also online. Below are examples on how the CSI Form C (CSI-C) added a self-awareness component to my students' learning experiences.

Facilitating Meaningful Connections With Students Through Assessment and Dialogue

Case Study: Student A

Student "A" classified herself in the 45-54 age range and signed up for the Math Compass Brush Up after scoring in the pre-algebra domain. During the first few sessions, she shared her discomfort around math and as a first-time nontraditional college student. She also expressed reasons why she couldn't continue with the Brush Ups program. In any case, her CSI *Math Skills* results (under Academic Motivation), *Personal Support* results (under General Coping), and *Receptivity to Academic Assistance* (under Receptivity to Support Services) matched her presenting behaviors that guided me for a more meaningful and appropriate dialogue.

As a result, she mustered up the courage to complete the Math Compass Brush Up and took the Math Compass Placement Test again. Although she didn't place higher in the retest, her raw score showed obvious improvements.

Even though I do not have quantitative proof for the success of the CSI, I feel the evidence of its success was twofold; namely, her perfect attendance in the Brush Ups and her subsequent fall enrollment at KCC. Throughout my training as a counselor, I was taught to listen versus instruct, and that was how I trained my tutors. I believe in the case of this student, we took the time to listen to her concerns and provided relevant support and encouragement. Below is another example:

Case Study: Student B

Student "B" classified himself in the 24 and younger age range and signed up for the Math Compass Brush Up after scoring in the algebra domain. This student showed minimal interest in the Brush Up program and wasn't logging in the necessary hours to make a substantial impact toward improvements in math. After completion of the CSI, however, I noticed a low score on the scales *Personal Support*. Also noted was a low score on *Receptivity to Academic Assistance*, which explained his drop in attendance and lack of commitment to the Brush Up sessions. I initiated contact with the student and discovered that he was recently kicked out of his home and was living temporarily with a friend while looking for a permanent place to live, reflective of his low score on *Personal Support*. Hence, at that point, we refocused toward his basic needs so he could establish a safer living and learning environment.

Though his Math Compass retest results didn't improve, I used the CSI results as a way to address other issues that affected his studies. We communicated regularly throughout the Brush Up program about his living situation and I maintained a connection with him well into the fall semester. If it wasn't for the CSI, I'm not sure if I would have been able to *make a connection* to identify the critical issues that were happening in his life.

Learning and Development

Overall, the class was heterogeneous in terms of age range and varying math skills. In particular, I had some recent high school graduates mixed with nontraditional students; further, the students' math skills ranged from basic math to as high as trigonometry. Despite this variance, the CSI illustrated some common underlying issues that helped me—as the instructor—to construct a more solid base for increasing students' self-awareness; meanwhile, program tutors mainly focused on the students' acquisition of math skills.

Working Beyond Math Anxieties

The CSI was a wonderful tool that provided additional information where I could assist students to become "self-aware" of their math anxieties. *The CSI transformed conceptual items into identifiable constructs, for instance identifying a correlation between academic success and their Personal Support score.* This approach allowed us to blend academics and support services in a way that was less intimidating and more appropriate for facilitating learning. Most importantly, the CSI reminded me that we must continue to embrace students more holistically by observing both knowledge and self-awareness through a single lens.