

Fast Track Math Summary
Submitted by Camille Moreno

During the weeks of June 18, 2007 through July 20, 2007 I had the opportunity to observe and participate in the Fast Track math program hosted by CSUS MEP program. Over the five weeks, I attended all but 4 days and was able to acquire a better sense of the logistics and components of the program which make it successful. Prior to attending the Fast Track math program, I read over the "Developer's Perspective" and "Fast Track Math" documents (attached). I admit that I had a slough of questions about the program and its claimed successes. Reading over the same documents after participating in the program, I can see that the documents do, in fact, give a very accurate description of the program.

On the first day of the program, Jack Fackrell (the proprietor) shared his personal academic story, which immediately put the students at ease. He also heartened the students by telling them that they were "hand picked" for this program based on their potential; they were personally recommended by a faculty member or administrator. Jack resumed by adding that this is no longer a high school environment, that there will be high expectations of every student, they must ask questions, and that they will need to take charge of their own learning. The sincerity and firmness with which Jack spoke to the students set the tone for the class.

After the first week of the program, I noticed there was a very distinct class climate. The students motivated each other as they worked together, yet they challenged each other on a competitive level. I also noticed the diverse makeup of the class, which I strongly believe created an exceptionally comfortable atmosphere for the students to learn.

I had the opportunity to speak with Jack during the program, and he told me how this program helps students fill-in "holes" with regards to their mathematical skills and understanding. Since there is no opportunity for remediation in high school, this program provides a way of filling in those holes expeditiously in an environment which supports that process. He spoke of the normal learning curve and how the learning curve for Fast Track math participants is much more similar to an exponential curve. Jack also mentioned that one of successes of this program proved to be helping students make the transition from high school to college in terms of rigor and expectations.

The following items provide more detail as to what I observed were important components of the program:

- More than one teacher—each teacher had a different style/method of presenting the material; the varied styles/methods allowed for flexibility in learning.
- Peer tutors—the tutors were former Fast Track math students or were versed in the program goals; the tutors included high school students and current college students.
- Mostly students of color—this component of the program struck me as being one that was key to fostering a supportive, yet challenging, learning environment.
- Student participants—most students were selected based on their interest in a math or science-based college curriculum; these students were already aware of the numerous math-based courses they needed to complete.
- Concentrated hours—having the students focus on math for four consecutive hours; after the first week and a half, many students were arriving early and/or staying later; their stamina for concentrating and staying focused seemed to improve. These concentrated hours allowed for critical processing of concepts (learning the "why" of a concept rather than memorizing) and earnest discussions between teacher and student and between student and student. Students were also given homework to complete each evening.
- Short-term commitment—having the program last for 5 weeks
- Student selection—highly motivated, showing lots of potential, hand-picked students; the students selected by their teachers and/or counselors were prepared and motivated to work diligently.

- Pull out groups—small groups of students grappling with the same topic(s) were taken aside to work with a tutor or teacher for more individual assistance.
- Accelerated Math software—this software program is set up so that students get individualized problems to work on based on their assessment. As the student masters each topic, they progress through the material. This software provides immediate and individualized feedback.
- Pre- and Post-Tests—the same assessment tests were given at the beginning and at the end of the program to establish a starting point for each student, as well as gather information about each student’s progress.

What follows are questions and answers (not verbatim) from a discussion I had with Madeleine Fish, MEP Director at CSUS regarding the Fast Track math program:

Q: In your opinion, what makes the Fast Track program different from other programs?

A: The individualization, from the initial assessment to the last day of the program.

Q: How do you recruit students for the Fast Track math program?

A: We target underrepresented students that have a goal which involves lots of math. We choose students that show personal commitment, but are not “acing” their classes. I think that a combination of formal letters sent out, face-to-face orientations, and teacher recommendations work well. We want to create a mindset that participating in Fast Track math is a “privilege”.

Q: What would we (CRC) need to include in a budget for Fast Track math?

A: Ideally, you would want to budget for training a group of individuals that would include teachers, tutors, administrators, and Accelerated Math program specialists. I think that the trained group could be district-wide to allow for a more successful program.

Q: What would we (CRC) need to plan for in terms of up front costs?

A: The biggest up front expense would be the training provided by Jack Fackrell. Other up front expenses would include training on the Accelerated Math software and working with the data it provides, purchase of the Accelerated Math software, and purchase of use rights to the Fast Track math program.

Q: What would you suggest as a next step towards the possibility of bringing Fast Track math to CRC?

A: You could arrange a meeting with CRC administrators and teachers as well as other interested teachers/administrators in the district where I would be willing to discuss the possibility of bringing Fast Track math to your district. In the meantime, I think being part of a large district could be advantageous in terms of having a very robust Fast Track math program, so you might try to garner interest among your colleagues.

During the 3rd week of the program, I had the opportunity to speak with Ginny Barnhill who is an independent business woman working with Madeleine and Jack. Ginny is working on “packaging” the Fast Track math program so that it could be easily instituted at other colleges.

Following are some of the thoughts that I have considered as far as CRC’s student population and how Fast Track math could help our students:

- 1) CRC population that could benefit from Fast Track math:
 - a) students scoring low on the assessment test, and placing into Beginning algebra or below
 - b) students in math/science-based major assessing into Beginning algebra or below
 - c) students who have taken Beginning algebra 2 or more times

- 2) Goals of Fast Track math for CRC students:
 - a) strengthen students’ math skills prior to enrolling in Beginning or Intermediate algebra
 - b) strengthen students’ math skills to complete a math or science-based major
 - c) strengthen students’ math skills enabling them to pass the math competency exam

- 3) Concerns
 - a) student recruitment—since assessment tests are not always completed prior to beginning of the semester
 - b) summer training and/or summer program—could an instructor’s load be partially satisfied with these?