

To: Dr. Green, Executive Vice President of Instruction and Student Services
Adult Education Council
SLS Council
College Prep Council
Math Council
Academic Leadership Council
Office of Professional Development

From: External Review Leadership Team

Date: December 16, 2008

Re: Recommendations of the External Review Leadership Team (ERLT) of Developmental and College Preparatory Mathematics

Cc: Dr. Nancy Yurko, Associate Vice President of Liberal Arts and Sciences

We would like to thank you for supporting the proposal of the FCCJ External Review Leadership Team to solicit external reviewers to assess our developmental math program from a comprehensive approach – placement, advising, tutoring, support, testing, curriculum, and instruction.

It has been beneficial for the college community to participate in discussions with the external review consultants and to receive the written reports on professional development and the overall program. Most importantly, this approach provides an impetus for members of the college community to discuss what the results of the two reports mean for FCCJ. This conversation coincides with the preparations for the College's transition to a state college and related discussions on entrance, placement, remediation, and instruction.

Based on review of the two reports, subsequent conversations with various groups at the College, and solicitation of anonymous feedback, we offer the following recommendations. However, we also recommend additional data mining and analysis (see page 5) to examine curriculum, placement, and prerequisite issues in order to support the recommendations suggested below.

As we conclude our work on the External Review Leadership Team, we hope that the recommendations can be considered and implemented as best identified by the appropriate councils and departments.

Curriculum

1. Math Courses - Review the curriculum sequence of MAT0002 to MAT0024 to MAT1033 to determine if there are gaps in the curriculum.
 - a. Determine if there are concepts that are missing from the course outline or are not sufficiently practiced due to lack of time to teach and learn all of the concepts identified in the course outline.
 - b. Examine how college prep faculty teaching MAT0002, MAT0024, and MAT1033 and Adult Education faculty can work together to improve curriculum and instructional strategies for enhanced student success and progression.
 - c. Consider different course sequences that may be used at other institutions.
 - d. Consider use of Project Renaissance infused learning community model for those courses that are not combined with one of the SLS course ideas mentioned below.

2. SLS – Expand use of SLS 1931 Special Topics courses, SLS 0005/1103, and infused learning communities.
 - a. Design and/or expand use of learning communities with math courses and SLS 0005/1103.
 - b. SLS 1931 Special Topics
 - i. Implement course shell for math created under Project Renaissance as a math study skills course that can be completed along with MAT 0002, 0024, or 1033.
 - ii. Expand the use of SLS 1931, a special topics course, to offer remediation for students who maintained a “C” in MAT 0024 but failed both attempts at the exit exam, or who earned a 68% or 69% in MAT 0024 and therefore did not qualify to take the exit exam. Upon successfully completing the intensive four-week, one-credit SLS 1931 course and passing the MAT 0024 exit exam, students can then enroll in a twelve-week MAT 1033 course.
 - c. Consider use of Project Renaissance infused learning community model for those courses that are not combined with one of the other SLS course ideas above.
 - d. Modify the SLS 0005/1103 course outlines to include math study skills and awareness of math anxiety.
 - i. Provide support mechanisms for SLS and math faculty to obtain and share math anxiety awareness and math study skill resources.
 - ii. Provide a guest speaker program of FCCJ math faculty and other employees who can visit on-campus SLS courses and speak about math anxiety issues and math study skills.
 - iii. Videotape the guest speakers so that online SLS course instructors can provide the video to distance learning students and offer virtual Q & A with the guest speaker.
 - e. Expand SLS 0005/1103 requirement for all prep math students. We recommend that prep math students should take SLS 0005/1103 as a prerequisite or co-requisite to prep math.

Placement

3. Provide a “complete medical (math) history” of students (to support the medical model analogy) by using a more comprehensive slate of inventories and measures. Provide

medical math history information in a form that is easy to access and read (The current “success math report” is difficult to manipulate). This medical math history could be tied to Artemis class rolls for easy use by math instructors.

- a. Include non-cognitive measures and inventories besides a mathematics cognitive/skill placement test.
 - b. Consider use of ALEKS or other diagnostic placement tools in addition to the CPT at the campus assessment/testing centers. This testing scenario could be designed similarly to the assessment/testing centers’ administration of the Nelson-Denny reading model.
 - c. Design unique remediation plan for students who score low on CPT, then take and score low on Nelson-Denny. An additional diagnostic math instrument may be beneficial. We need to consider how to effectively assist a student who may not be appropriately placed in either prep math or adult education courses, including the possibility of TABE testing to see if MAT0002 students may be assisted in Adult Education courses.
4. Supply diagnostic and historical information to faculty, regardless of course delivery method, to offer a comprehensive “medical (math) history” of students.
 - a. Design and expand faculty access to placement, diagnostic, and enrollment history per student and per section. Information should include the following:
 - i. Percentage of students in each class section who possess each of the necessary skills and knowledge bases needed for the course
 - ii. Analysis of each individual student’s skills and knowledge base needed for the course
 - iii. Percentage and list of students in each class section who are repeating this math class.
 5. Require tutoring or use of learning center weekly (like South Campus weekly assessment) based on placement level. This increased demand on tutoring and learning centers may warrant an examination of the existing level of tutor staffing on each campus and center.
 6. Analyze results of South Campus pilot for level changes by offering a practice test of the state exit exam for use in level change decisions, instead of CPT. Repeat the pilot to provide sufficient data to consider policy changes in level change procedures. Consider additional diagnostic data for use in level change decisions.

Math Prerequisites

7. Consider adding a reading prerequisite for each math course.
 - a. In order to determine the appropriate reading prerequisite for each math course, an examination should be conducted of the reading level of most frequently used math textbooks in each course. This examination could be undertaken by FCCJ reading faculty, and the results supplied to the appropriate councils.
8. Orion should be programmed to detect D, F, FN, W grades in the prerequisites for a math course and remove students from the follow-on course, even if the final grade from one course overlaps with the start of the follow-on course. These student records should be

flagged and students should be referred to advising for help and better placement. Students should then be offered an explanation of remediation options.

9. Expand SLS 0005/1103 requirement for all prep math students. We recommend that prep math students should take SLS 0005/1103 as a prerequisite or co-requisite to prep math.

Academic Support

10. Students should be strongly advised to take college prep reading before college prep math, if reading is not added as a prerequisite. Guidelines about enrollment in college prep studies courses can be found online at http://catalog.fccj.edu/content.php?catoid=1&navoid=88#coll_prep_cour; however, further discussion about if and/or how enrollment is enforced in Orion may be beneficial.
11. Students should be advised to avoid overloading their class schedule in the first semester of math.
12. Students taking a math course for the 2nd and 3rd attempts should be required to meet with an advisor or math instructor, or other appropriate college resource, to discuss the issues related to their math success and offer them remediation opportunities that would be most effective for the unique student needs.
13. Require prep students to participate in an orientation to online learning prior to enrolling in an online prep course.
14. Design information and advising tips for new students.
 - a. Create several options for a full class load for students on financial aid, if a reading prerequisite is added for prep math.
 - b. Provide advising tips for employees and students on whether a student should take math in the first semester, if the student has been out of school for a while.
 - c. Design a student/employee “marketing” campaign or other mechanism in order to help students have a more positive perspective about math.
 - d. Offer mechanisms and resources to increase students’ awareness of the impact of “life issues” on academic success, and provide resources and referrals for the students to obtain assistance with these issues.

Professional Development

15. Design a comprehensive, ongoing professional development program for full-time and part-time faculty.
 - a. The professional development plan should be designed with both of the external reviewers’ reports in mind and the state college transition, as well as the current budget constraints.
 - b. The professional development plan should provide support for implementing the instructional strategies learned in the professional development program and include ongoing discussions and collaboration sessions after the workshop content is actually implemented.
 - c. Professional development should support the collaboration of MAT faculty and Adult Education faculty to improve curriculum and instructional strategies for enhanced student success and progression.

- d. Professional development for student success and academic administrators could also be provided to promote a supportive math environment for students.

Data Mining and Analysis Needs:

16. Collect and analyze the following information from other Florida community colleges:
 - a. CPT cut scores for placement into MAT0012, MAT0024 and MAT1033
 - b. Whether they offer MAT0002 or MAT0012 or MAT0024,
 - c. If there is a reading prerequisite, and
 - d. If math is discouraged for first semester if reading is too low.
17. Conduct analysis on the success rate based on math prerequisites and student success/retention rates in math courses (ie., how well a student does in MAT1033 based on the grade earned in MAT0024, and also compare this success rate to the one for students who simply place into MAT1033).
18. Conduct analysis on the length of time between math course enrollment
 - a. Does length of time between completing prerequisite courses make an impact on success in subsequent courses?

External Review Leadership Team Members

Betty Neyer (Assessment and Certification Manager, Kent Campus)
Bob McCown (Professor, Downtown Campus)
Donna Martin (Professor, North Campus)
Judy Staver (Dean of Liberal Arts/Sciences, South Campus)
Katharyn Downing (Adult Studies, Downtown Campus)
Kathleen Ciez-Volz (Program Development, Instruction and Student Services, Martin Center)
Lynne Crosby (Program Development, Liberal Arts and Sciences, Martin Center)
Paula Risko (Professor, Deerwood Center and Math Council Chair)
Ruth Dellinger (Professor, Kent Campus)
Sandra Willis (Dean of Student Success, Downtown Campus)
Sarae (Sunny) Mathews (Professor, Adult Studies, South Campus)
Vernett Lawrence (Learning Center Manager, North Campus)