Proficiency Before the First Year

Humboldt: Pilot Redesign of Math Assessment and Placement

Identifying/Contacting Students to Participate: All incoming students are contacted by letter in May. The letter includes the possibility of improving the students’ mathematics placement status by taking an assessment test using the ALEKS software. Students could take the initial assessment anywhere (e.g., at home). Students who performed poorly were encouraged to use the ALEKS intelligent tutor software to self-remediate in precisely the content areas where they needed help. A proctored assessment was then administered at each orientation session as well as during the first week of the fall semester.

Format and Length of Session: Summer prior to arrival on campus, during freshman orientation and the first week of classes, students were subjected to proctored assessments—a math placement exam administered with the ALEKS software.

Pedagogy: ALEKS, on line self paced artificial intelligence based learning environment.

Learning Support: ALEKS software has tutorial support built into the interface.

Cost to Student: Those students who choose to self-remediate with ALEKS will pay $35.

Funding Source: All ALEKS licenses were initially provided by the ALEKS corporation at no cost to the students or to HSU. In the future (as of Summer 2009) HSU will pay $3.50 per assessment and all other ALEKS related costs will be paid by the students.

Evidence of Improved Learning: For the Summer 2008 trial, 53% of those students attempting to place into calculus successfully did so. Of those that did place into calculus, 65% finished the course with a successful outcome. This is consistent with the overall HSU calculus passing rate. Only 12% of the students attempting to reduce the number of required remedial courses successfully did so. Of those that did reduce the number of required remedial course, 67% completed the course they placed into with a successful outcome. This is slightly lower than the general passing rate in these courses at HSU.

Additional Comments: HSU plans to continue to implement this ALEKS based system for the Summer 2009 orientation cycle. In future implementations, we will focus on frequent and consistent messaging about the process with the goal of increasing the time students spend self re-mediating during the summer. In particular, we would like to significantly increase the success rate of those attempting to reduce the number of required remedial courses.
Long Beach: Jump Start

**Identifying/Contacting Students to Participate:** Collaborate with Office of Testing and Evaluation to schedule ELM and EPT test dates in March and April. Identify entering freshmen who need either Intermediate Algebra and/or Writing Skills. Contact identified freshmen and their families of their opportunities to remediate. The program coordinates ELM and EPT as well as work with enrollment services to identify those who will need assistance with math or English. Then they work with University College and Extension Services to register students.

**Format and Length of Session:** Workshops take place in summer. Writing skills offered as 3 hours a day, 5 days a week, over a 4 – 6 week period; intermediate algebra workshop offered as 3 hours a day, 5 days a week over a 4 week period.

**Pedagogy:** In-class workshop. In English, the assessment involves several writing pieces that demonstrate different skills and are used to compile a portfolio.

**Learning Support:** tutors

**Cost to Student:** $80. Although $80 is only a fraction of the whole cost, the $80 cost helps students solidify their commitment to the program.

**Funding Source:** Extension - includes price of instructors at 3 WTUs, tutoring, copying and handouts. Additional support provided by Office of Academic Affairs

**Evidence of Improved Learning:** An average over nine years produced about 85% ready for baccalaureate work.

**Additional Comments:** Future considerations: Offering EPT and ELM at regional high schools. ELM and EPT are looked upon as an afterthought, and so it lacks visibility to freshmen and families. If the EPT and ELM were administered at a local high school, they would be more visible. The results of the tests should be mandatory for admissions. It would move things along and get students ready for the freshman year.

San Marcos: Mathematics Acceleration Program (MAPS)

**Identifying/Contacting Students to Participate:** All entering first-year students known in early June to have failing ELM scores (over 450 in Summer 2008) are sent invitations to the mathematics portion of Summer Academy and/or MAPS. Summer Academy is a special version of our freshman success course which is paired with a section of MAPS laboratory. The letters are hand-signed, and customized according to the student’s ELM score and whether they are known to be in a special program (e.g., a Fall learning community or Athletics). Students in EOP Summer Bridge and the College Assistance Migrants Program (CAMP – which runs a similar “Summer Bridge” program) are intentionally excluded from these mailings since they receive separate mailings directly from EOP and CAMP. Other students receive letters inviting them to a version of Summer Academy emphasizing reading and writing across the curriculum.

**Format and Length of Session:** MAPS has been running every summer since 2003; the lengths have varied from 5 weeks to 6 weeks, and the frequency has varied from four to five meetings each week. In recent years, in order to synchronize MAPS with the co-curricular programming in EOP SB and CAMP), MAPS sections have met Monday through Thursday, for
two hours and twenty minutes (except for the last week, during which each period is extended by an hour).

**Pedagogy:** ALEKS supported by teams of instructors: the MAPS Director, Mathematics graduate students, and undergraduates recommended by the Mathematics Department. The philosophy is one of “instructor as coach;” the students are not directly evaluated by the instructional team, they are prepared by the instructors to be able to succeed in mathematics in general, and on the ELM examination (administered at the conclusion of the program) in particular. Instructors work individually with students, pull out small groups of students to work together on a topic that they are all ready to learn, and carefully monitor student progress and effort. The ALEKS Message Center is used to communicate extensively with students to encourage (and, as appropriate, to prod) them throughout the course. The ELM Problem Book is reviewed during the last week and, during this review, students are given practice working problems with a limited amount of available time.

**Learning Support:** See pedagogy.

**Cost to Student:** There are different costs depending on exactly which version of MAPS the student takes and whether they are sponsored by a program.

- Students signing up for MAPS through Summer Academy pay $406 in Extended Learning fees; they receive 3 units of baccalaureate credit coursework which fulfills the Area E requirement in General Education (this is the freshman success course) and one unit of non-baccalaureate credit (for MAPS).
- Students in EOP SB and CAMP are sponsored by those programs, which pay $200 per student to First-Year Programs.
- Students who are not in EOP SB or CAMP and who want to take MAPS without the freshman success course may enroll in a non-credit version of MAPS through Extended Learning for $200.
- In Summer 2008, the $200 fee was covered by an NIH grant for students intending to in major in one of the sciences.

**Funding Source:** Little-to-no direct general fund expenditures. Salaries of instructors and assistants are funded through EOP and other programs such as First-Year Program, which has received lottery funds to purchase ALEKS licenses

**Evidence of Improved Learning:** Students are required to retake the ELM exam at the end of the course; the test fee is built into the cost of the program. We have collected pre-MAPS and post-MAPS ELM exam scores for all students since program inception in 2003 who took the ELM exam both before and after participation in MAPS, a total of 259 students. A paired t-test compared the mean pre-MAPS ELM score (33.74) with the mean post-MAPS ELM score (45.31). This test was found to be statistically significant, indicating that participation is associated with an average improvement of 11.57 points. The 95% confidence interval for this increase is [10.35, 12.79]; as the ELM cut-offs currently used at San Marcos are 10 points apart, this is equivalent to a one-course improvement. For the purpose of comparison, a search was made for all students who took the ELM exam twice before the start of their first semester without participating in MAPS between 2003 and 2007. The average improvement for these students (for whom the nature of any intervention between the exams is unknown) was 7.01.

**Additional Comments:** Data on student improvement on the ELM exams as a function of time spent on ALEKS suggests that students should log over 40 hours on ALEKS. MAPS students are given the target of reaching 43 hours on ALEKS.
Pomona: Early Start Program

Identifying/Contacting Students to Participate: Letter is sent to eligible students, followed by postcard reminders. Multiple mailings are necessary.

Format and Length of Session: Traditional 10-week format. Five-week regular session classes are offered to accommodate students whose high schools do not end before the beginning of the Pomona summer term. Another option is a three-week Intensive Review Workshop in math, offered through Extended Education.

Pedagogy: In-class workshops

Learning Support: We are experimenting with other services. Once we put math students into a cohort that included a Success Skills Workshop coordinated by Student Affairs. It was not well attended. Alternative support for these students, as well as all students enrolled in summer remediation, is being considered, including a First-Year Experience course or Student Development Leadership Institute (SDLI) workshop offered by Student Affairs. One year, Early Start students were invited to spend their first week in the residence halls. Students were very satisfied with this experience. However, funds were not available to continue this experiment. Very successful was a reception for students and family members before classes started. Presenters covered EO 665, support services available, and general information.

Cost to Student:

Funding Source:


Additional Comments:

Bakersfield: Jump Start

Identifying/Contacting Students to Participate: Students who have been accepted to CSUB, who are Title V eligible, and who have scored between 450-549 on the SAT or 17-23 on the ACT. We contact students through the mail.

Format and Length of Session: Two weeks in early August—4 days a week, 3 hours a day; students attend both reading and writing sessions every day.

Pedagogy: Workshop based on ERWC modules

Learning Support: Tutors

Cost to Student: 0

Funding Source: Title V

Evidence of Improved Learning: Final Essay Exam (English Equivalency Exam)

Additional Comments: Students who moved up one or more levels in composition—2007—49%; 2008—35%.
Bakersfield: Early Start

**Identifying/Contacting Students to Participate:** Students who have been accepted to CSUB and who have scored between 450-549 on the SAT or 17-23 on the ACT. We contact students through the mail.

**Format and Length of Session:** Two weeks in late August—4 days a week, 3 hours a day; students attend both reading and writing sessions every day

**Pedagogy:** Workshop based on ERWC modules

**Learning Support:** Tutors

**Cost to Student:** 0

**Funding Source:** Enrollment Management

**Evidence of Improved Learning:** Final Essay Exam (English Equivalency Exam)

**Additional Comments:** Students who moved up one or more levels in composition—2007—67%; 2008—52%.