

What about their other courses?

Developmental student success

Outside of courses in the

Developmental Sequence;

A look at Fall 2009

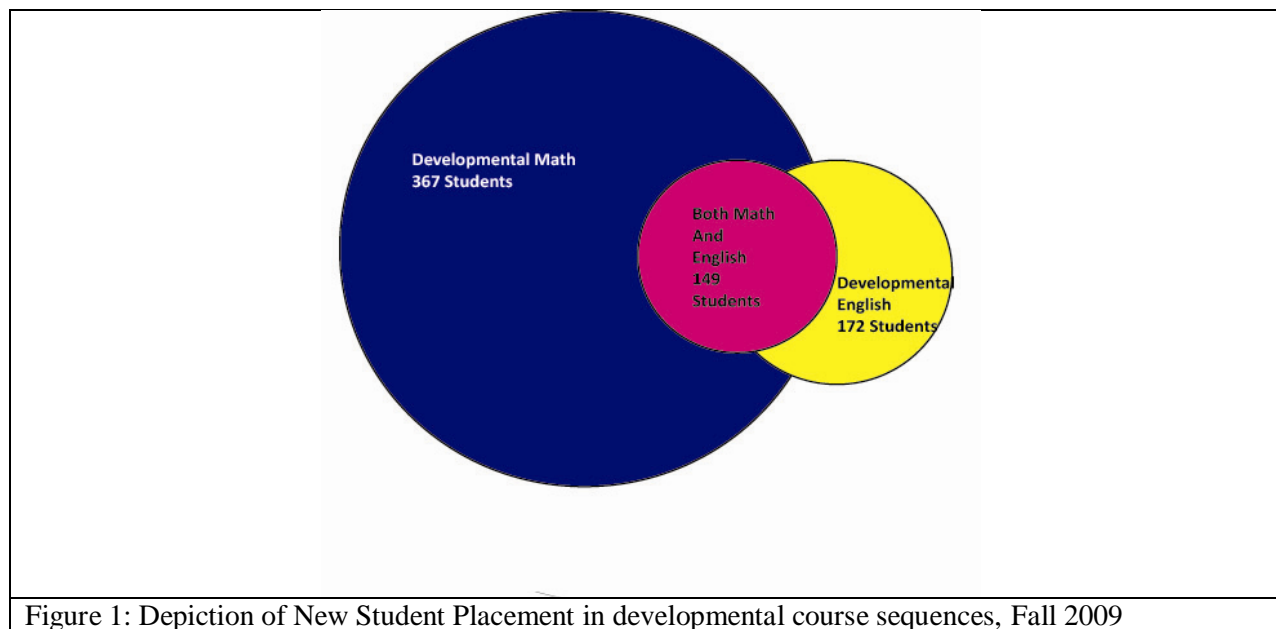
Institutional Research

Mendocino College

Spring 2010

Introduction

The success of students moving through basic skills or foundation skills courses is tracked by various projects and studies. However, what of their success in the other courses that they take while students at Mendocino College? This study attempts to shed some light on the success enjoyed by foundation skills students in their other courses. This study looks specifically at the success of New students (First-time students) in Fall 2009. Overall, there were 1,039 new students enrolled in Mendocino College in Fall 2009. Using May 1, 2009 as a start date for placement test tracking, 649 of these students did not place into either developmental English or developmental Math. 367 were placed somewhere in the developmental Math sequence (MTH10, MTH11, MTH44, MTH55, MTH56) and 172 were placed somewhere in the developmental English sequence (ENG10, ENG11, ENG80). Of those placed, 149 students were placed in both developmental sequences. This distribution is displayed in Figure 1. Overall, most of the students who were placed in the developmental English sequence also were placed into the developmental Math sequence.



Methodology

Placement testing scores for new students were extracted from Datatel starting with May 4, 2009 as the opening of the test date window. From these scores, placement in English and Math developmental sequences was established. Placements were then matched with both Fall 2009 student records (to determine the number of students in each category) as well as Fall 2009 course enrollment records (to determine success, etc.). Students who were placed into one or both development sequences, based upon their test score, were included, whether they enrolled in a developmental course or not. Course enrollments were identified as being transferrable to

either UC or CSU (200-level courses, only) or transferrable to CSU only (100-level courses). Courses enrollments which are not transferrable, including the developmental courses themselves, were excluded from analysis.

Student Success

Student success is assessed by the number of enrolled students who (a) complete the course; and (b) have a grade that permits the student to move on to the next course in sequence.

Comparative success rates for developmental and non-developmental students in various courses are shown in Table 1.

Course Category	Success Rates		Success Rates	
	Not Developmental English	Developmental English	Not Developmental Math	Developmental Math
UC and CSU Transferrable	71.0%	62.2%	71.6%	66.5%
CSU Transferrable	52.8%	56.8%	57.1%	49.5%
UC and CSU Transferrable with Physical Education omitted	71.4%	47.7%	71.5%	63.3%
CSU Transferrable with Physical Education omitted	53.2%	56.8%	57.8%	49.5%

Table 1. Comparative success rates for developmental and non-developmental students in various categories of courses.

Students placed within a developmental sequence, either English or Math, have lower success rates than students who were not placed within developmental sequences within courses that transfer to both CSU and UC. For students identified as being placed within the developmental English sequence, the gap is almost nine percentage points; for students identified as placed within the developmental Math sequence, the gap is only about five percentage points.

However, when one looks at the courses these students enroll in, an obvious pattern emerges. For students placed in the developmental English sequence, 46.9% of course enrollments in courses transferrable to UC and CSU are in Physical Education courses (PEG, 21.2%; PEI, 16.2%; and PEM, 9.5%). In contrast, students identified as not placed within the developmental English sequence, take a broader array of courses. For example, to reach the same 46.9% of course enrollments, the top areas include:

- ENG 13.2%
- PSY 12.6%
- PEG 11.6%

- SPE 4.7%
- THE 4.5%

Since these are courses identified as transferrable to both UC and CSU, these are all 200-level courses.

When the physical education courses are removed from the analysis, the differential between the success rate for students who were not placed with the developmental English sequence and the success rate for students who were placed in the developmental English sequence increases dramatically. With PEG, PEI and PEM courses omitted from the success rate analysis, the success rate for students who were not placed in the developmental English sequence actually increased slightly, from 71.0% to 71.4%. However, for students who were placed with the developmental English sequence, the success rate declined from 62.2% to 47.7%, a drop of 14.5 percentage points. This indicates that less than half of the students placed within the developmental English sequence are successful in the more demanding UC/CSU transfer-level courses.

Among students placed in the developmental Math sequence, the success rate on all courses transferrable to UC and CSU is 66.5%, just five percentage points below the success rate (71.6%) of their colleagues who were not placed in the developmental Math sequence. Interestingly, when the Physical Education courses (PEG, PEI and PEM) are removed from the analysis, there is virtually no change in the differential between these two groups of students. Students identified as not placed in developmental Math have roughly the same success rate, 71.5% when physical education courses are omitted. Students placed in the developmental Math sequence drop only about three percentage points in their success rate, from 66.5% to 63.3%. Part of the explanation for this lies in the course taking patterns of these students, as shown in Table 2.

Not Developmental Math		Developmental Math	
Subject Area	% of Enrollments	Subject Area	% of Enrollments
PSY	12.3%	PEG	17.5%
ENG	11.2%	PSY	10.7%
PEG	10.2%	ENG	10.6%
ART	5.3%	PEI	8.9%
MTH	4.7%	PEM	6.3%

Table 2: Comparison of enrollments between non-developmental Math students and developmental Math students. Distribution of enrollments in courses transferrable to CSU and UC. Top 50% of all enrollments.

The big difference is that students placed in the developmental Math sequence are not over loading into the physical education subject areas (PEG, PEI and PEM). While the three physical education subject areas still fall into the top course enrollment areas for developmental Math students, those enrollments only account for a total of 32.7% of all enrollments in courses

transferrable to UC or CSU, compared to 46.9% of total enrollments for those students placed within the developmental English sequence. Instead, students placed in the developmental Math sequence enroll in a variety of social science and humanities courses, much like the students not placed within the developmental Math sequence.

When focus is shifted to courses that are transferrable to CSU schools only, the pattern of success rates is quite different. First, the success rates for all groups of students in Table 1 are considerably lower among course transferrable to CSU only compared to success rates of courses transferrable to CSU only. This can be attributed to course taking preferences and the courses that fall into the “CSU only” criterion. Table 3 illustrates the principal subjects which all four groups enrolled in. The clear implication is that none of the groups had large enrollments in a physical education course.

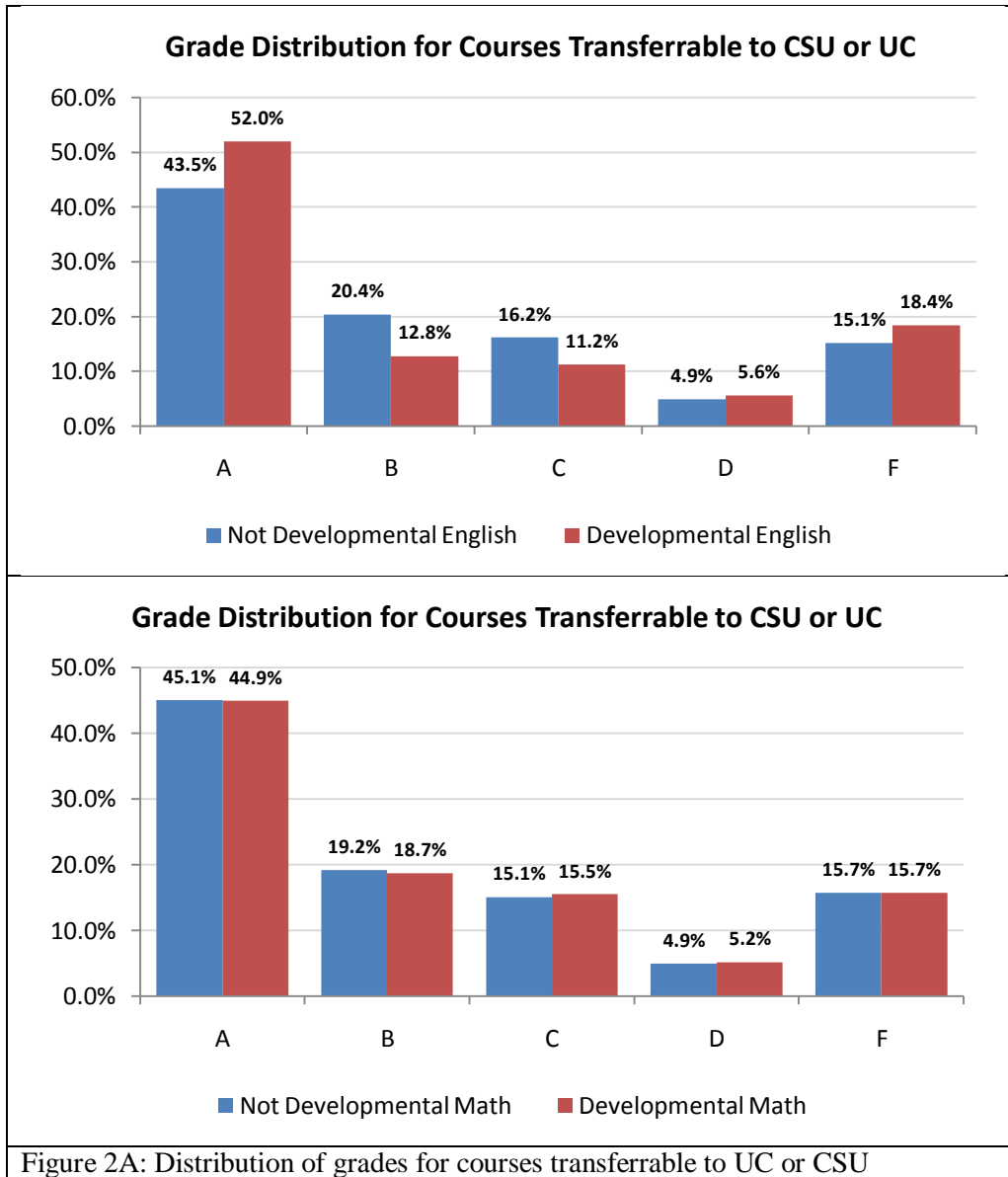
Non-Developmental English		Developmental English		Non-Developmental Math		Developmental Math	
Subject Area	% Enrolled	Subject Area	% Enrolled	Subject Area	% Enrolled	Subject Area	% Enrolled
BOT	13.4%	GDN	21.6%	BOT	12.6%	GDN	13.9%
BUS	10.4%	BOT	11.4%	BUS	10.4%	BOT	13.4%
CDV	9.2%	CDV	11.4%	CDV	10.0%	CDV	9.3%
THE	7.1%	CSC	8.0%	SPN	7.8%	BUS	7.7%
GDN	6.8%	HLH	8.0%	THE	7.4%	HLH	7.7%

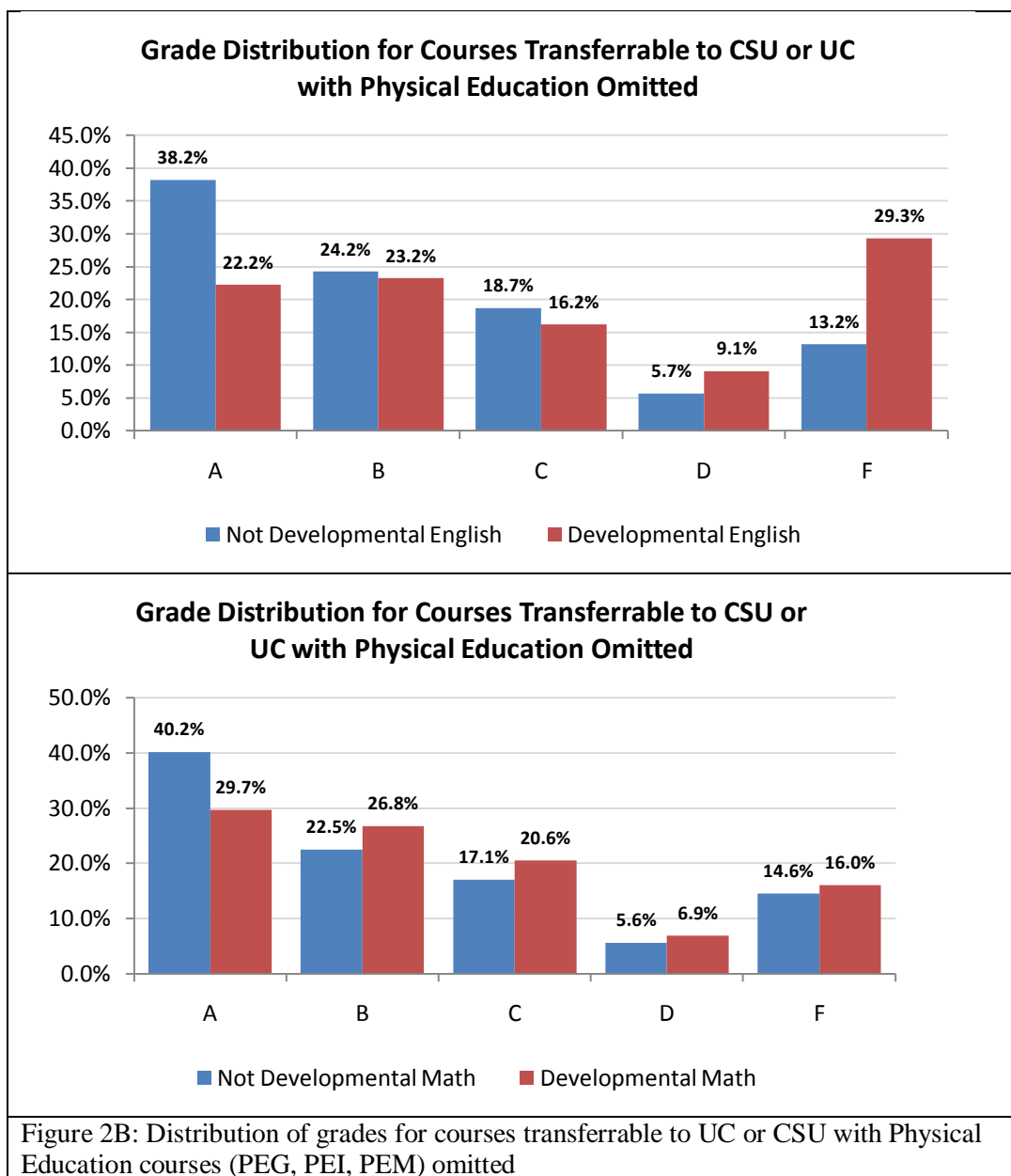
Table 3: Distribution of enrollments in CSU only transfer courses by subject area; top 5 subject areas for students in each placement group.

Instead, the top 5 subject areas (which yield about 50% of all enrollments for each group) show a variety of subject areas. One notable difference is that students who have been placed within one of the developmental sequences tend to have higher percentage of enrollments in Guidance (GDN) than students who were not placed in a developmental sequence.

Classroom Performance: Grades

Success rates give a broad overview of how well students are prepared to go on to the next course in sequence. Looking at grade distributions within each group provides a “drill down” to a more precise look at student performance in the classroom. Figures 2A and 2B present as a series of graphics which portray the distribution of grades for courses transferrable to UC or CSU.





Looking at the figures together, one can see that impact of physical education enrollments on grade distribution. In Figure 2A, students placed in the developmental English sequence actually had a higher proportion of “A” grades in courses transferrable to UC or CSU than their peers who were not placed. But, as shown in Figure 2B, when physical education courses are omitted, the proportion of A grades for students placed in the developmental English sequence drops from 52.0% to 22.0%. With physical education courses included, students placed in the developmental English sequence had roughly the same average grade, 2.7449 (A = 4, F = 0, withdrawals and incompletes excluded) as students who were not placed in the developmental English sequence, 2.7213. With physical education courses omitted, the average grade in

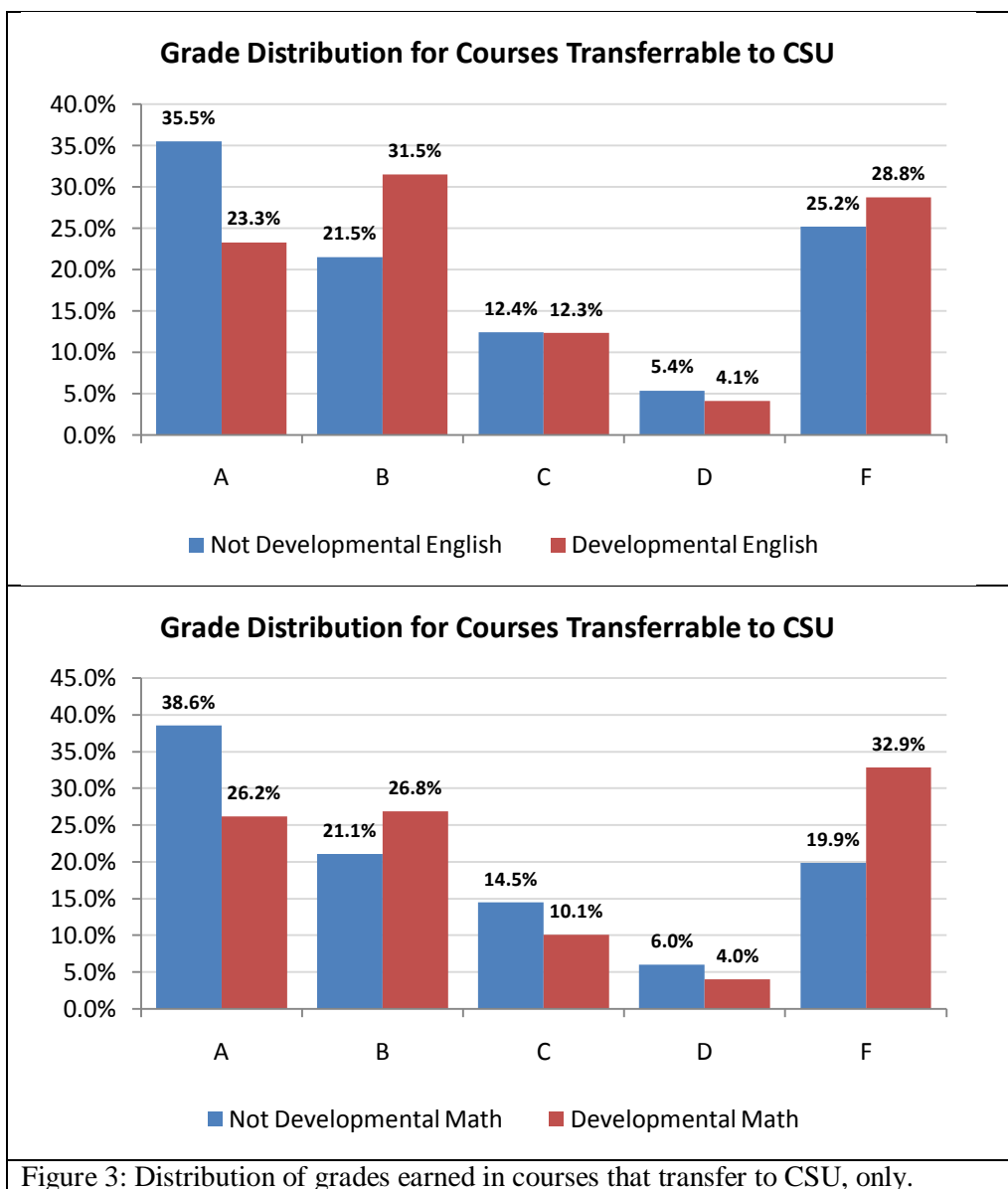
courses transferrable to UC or CSU earned by students placed in the developmental English sequence drops to 2.00 and the average grade for students not placed in the developmental English sequence drops only slightly to 2.687. The difference between the average grades for these two groups, with physical education courses omitted was found to be statistically significant ($t = 4.593$, $df = 819$, $p < .000$). In other words, when we go beyond the broad concept of success, we see that students placed in the developmental English sequence are performing substantially poorer than their counterparts who were not placed in the developmental English sequence, in courses that transfer to either UC or CSU.

Figure 2A illustrates that, in regard to placement in the developmental Math sequence, there is virtually no difference in the distribution of grades in courses transferrable to UC or CSU between students who were placed in the developmental Math sequence and those who were not. Those who were not placed in a developmental Math sequence had a slightly greater proportion of A and B grades and a slightly lower proportion of C and D grades than students who were placed in the developmental Math sequence; the proportion of students who earned an F were identical. These minor differences had little effect on the overall average grades for both groups (2.7295 for those not placed and 2.7204 for those who were placed) and the difference was not statistically significant.

When physical education courses (PEG, PEI and PEM) are omitted from the analysis, there is a substantial difference between the two groups, as shown in Figure 2B. The proportion of A grades earned by students placed in the developmental Math sequence drops from 44.9% to 29.7% in compared to a drop from 45.1% to 40.2% for students who were not placed.

The average grades earned by these two groups in courses transferrable to UC or CSU are considerably different when physical education is omitted. The average grade earned by students who were not placed dropped from 2.7295 to 2.6816. The average grade earned by students who were placed in the developmental Math sequence dropped from 2.7204 to 2.4739. What was once a negligible difference between the two groups is now about 10%. This difference, when physical education is omitted was found to be statistically significant ($t = 2.041$, $df = 819$, $p < .042$).

In Figure 3, the distribution of grades earned by students enrolled in courses that only transfer to CSU are compared. As was found in the student success analysis, the omission of physical education courses (PEG, PEI, PEM) has almost no effect on the distribution of grades or the average grade earned by students who were placed in a developmental sequence.



Statistically, there is no significant difference between the average grade earned by students placed in the developmental English sequence and those students who were not placed in the developmental English sequence, on courses that transfer to CSU, only. Students who were placed in the developmental English sequence earned an average grade of 2.1644; students who were not placed in the developmental English sequence earned a slightly higher average grade, 2.3678, however the difference was not statistically significant ($t = 0.955$, $df = 313$, $p < 0.34$).

For those students who were placed within the developmental Math sequence, classroom performance is quite different than the performance of their peers who were not placed in the developmental Math sequence. Students who were placed in the developmental Math sequence earned an average grade of 2.094, just barely a “C”. Students who were not placed in the

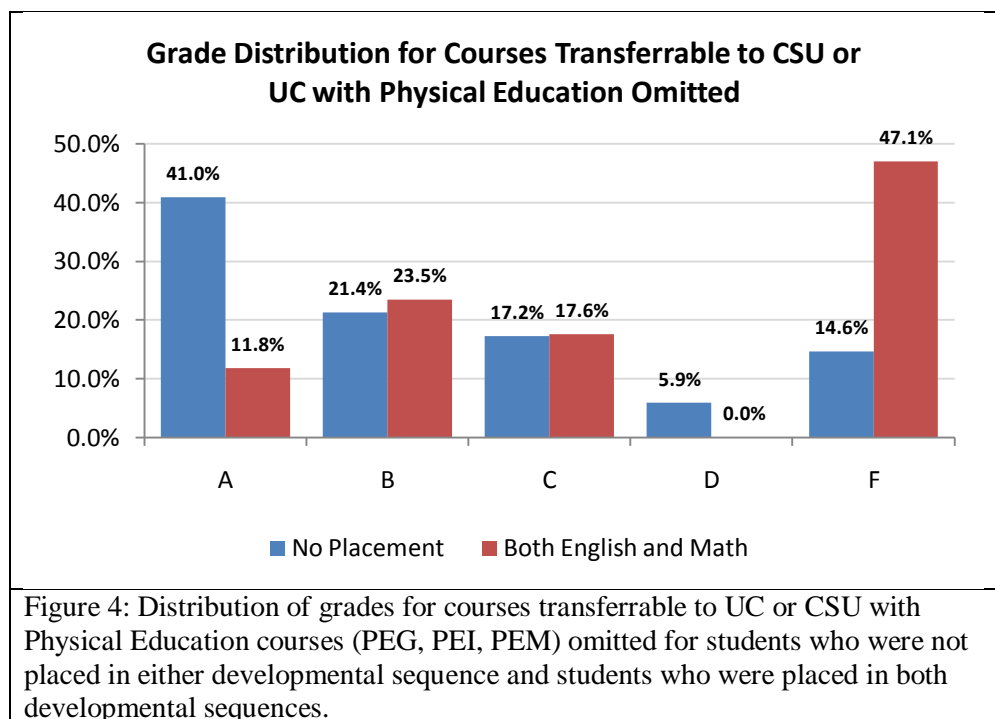
developmental Math sequence earned an average grade of 2.5421 in courses transferrable to CSU. This difference between the average earned grade was found to be statistically significant ($t = 2.408$, $df = 313$ $p < .017$).

Students Who Are Placed Into Both Developmental Sequences

Of students who are placed into developmental course work, 149 were placed in both the developmental English sequence and the developmental Math sequence. Of the students placed into the developmental English sequence, 86.6% were also placed into the developmental Math sequence, so we would not expect student performance to be radically different from that found for students placed into developmental English sequence.

In courses transferrable to both UC and CSU, new students who were not placed in either developmental sequence had a 70.8% success rate; students who were placed into both developmental course sequences had a success rate of 63.6%. However, when physical education courses are omitted from the calculation of the success rate, the rate for students who are not placed in either sequence does not change, but the success rate for students placed in both sequences drops to 47.6%. This indicates that, aside from physical education courses, students placed into both developmental sequences are successful in courses that transfer to UC or CSU less than half the time.

Further confirmation is shown in Figure 4, which compares the grade distribution in courses transferrable to UC and CSU for new students who were not placed in either sequence and for new students who were placed in both developmental sequences. As Figure 4 illustrates, where the largest percentage of students who were not placed in either developmental sequence, 41%, earned an A grade in courses that transfer to UC and CSU, the largest proportion of students who were placed in both developmental sequences, 47.1% earned an F.



Overall, the performance of students who were placed in both developmental sequences was quite low, with an average grade of 2.05, barely a “C” in courses transferrable to UC and CSU. In comparison, students who were not placed in either developmental sequence earned an average grade of 2.68. This difference was found to be statistically significant ($t = 3.619$, $df = 537$, $p < .000$).

Conclusion

While much attention is directed at the progression of students through developmental course sequences, not as much attention is given to these students’ success in other classes in which they enroll. This study looks at the classroom success of students who have been placed within either the developmental English course sequence or the developmental Math sequence, or both, based upon their placement test score.

Looking at First-time or “New” students only, in the Fall 2009 semester, it is apparent that students who are placed in either of the developmental sequences are not nearly as successful as those student who are not placed in either sequence. This holds true for students enrolled in courses that transfer to UC or CSU (200-level courses) and courses which transfer to CSU only (100-level courses). When physical education courses (PEG, PEI and PEM), the difference becomes glaring.

Drilling down from “success” to grades, as a measure of academic performance, the disparity becomes even greater. With physical education courses omitted, the difference in average grade

earned by students who were not placed in a particular developmental sequence and those who were placed was found to be statistically significant in nearly all cases.