UHCC Use of Regular Tuition rates Vice the Higher Summer School Tuition Rates for Summer Remedial Developmental Education Courses: Impact on Enrollment, Registrations, Student Success and Persistence

Office of the Vice President for Community Colleges, Academic Planning, Assessment, and Policy Analysis

Executive Summary

The purpose of the study was to explore the first year results following a change to use the general-funded tuition rate for Remedial and Developmental (Rem/Dev) Summer School vice the higher self-supported Summer School tuition rates for Remedial and Developmental (Rem/Dev) English and math courses. The Vice Chancellors Academic Affairs identified the summer 2011 courses taught by their institution at the lower regular tuition rate. These were the only courses (see Courses Table) considered for both summer and fall terms in the study. The research questions:

- Did the number of students and registrations in Rem/Dev courses increase from Summer 2010 (higher summer school tuition rates) to Summer 2011(regular tuition rates)?

- How did first-time students enrolled in summer 2010/2011 Rem/Dev education courses compare to first-time students enrolled in the same Rem/Dev education courses in the fall 2010/2011 in terms of overall success and persistence?

- How did the success rates of first-time summer school students enrolled in Rem/Dev education courses compare against first-time fall students using performance in the fall terms 2010/2011 as the baseline for comparison (second term for summer school students, first term for fall students).

Using source records from ODS, the sample-selection criteria were students who enrolled in Rem/Dev English and math courses (see Courses Table) in Summer 2010/2011, Fall 2010/2011, and Spring 2012 and:

- All students enrolled in Rem/Dev English and math courses (Courses Table).
- First-time students who were successful (GPA 2.0>=) and subsequently persisted to a second term.

The findings and recommendations of this study are:

1. Enrollment for Summer 2010 (summer school tuition rates) vs Summer 2011 (lower regular tuition rates): The number of all students enrolled increased by 43% and registrations increased by 42%. The unduplicated headcount of first-time students increased by 39% and registrations by 32%. The number of classes offered increased from 40 to 63. (Table 1)

2. Student success and persistence for first-time students only: Using overall performance figures for Summer/Fall 2010 and 2011 (Table 2), **student success** for Summer School first-time students compared to Fall Term first-time students was 15-23 percentage points higher in first term, and 5-6 percentage points higher in the second term. The **persistence rate** for Fall Term first-time students was 7-11 percentage points higher compared to the Summer School first-time students.

3. Student success rates for first-time summer school students compared against first-time fall students using the fall terms 2010/2011 and as the baseline for comparison of performance: The overall success rate for first-time summer school students in the fall term (subsequent term) was approximately 25 percentage points higher than the first-time fall term students. (Table 3)

4. **Recommendation**: Using the lower general funded tuition vice self-supporting summer school tuition rates should be continued based on increased headcount and class registrations. Due to the small summer school students sample size, the impact on student success and persisitence requires further study and more indepth statistical analysis when additional data are available.

Introduction

The purpose of the study was to provide a preliminary analysis of a change to offer Remedial and Developmental (Rem/Dev) English and math courses in summer school at the lower, general-funded tuition rate vice the higher self-supporting summer school tuition rate. The questions were:

- Did the number of registrations and students enrolled in Rem/Dev courses increase from Summer 2010 (summer school tuition rates) to Summer 2011(lower regular tuition rates)?

- Comparison of first-time enrolled Rem/Dev students: Summer and Fall 2010/2011

    - Summer Students
        - How many passed
        - How many persisted to the subsequent fall term
        - How many were successful in the fall (completion at a level that allows progression)

    - Fall Students
        - How many passed
        - How many persisted to the subsequent spring term
        - How many were successful in the spring (completion at a level that allows progression)

The study was conducted under the leadership of the Community Colleges' Director of Academic Planning, Assessment, and Policy Analysis (APAPA).

Sample Selection

Sample-Selection Criteria

The Vice Chancellors Academic Affairs identified the summer 2011 courses taught by their institution at the general-funded tuition rate vice the summer school tuition rates. This list of courses was used in calculating enrollment increase/decrease and success and persistence rates for summer/fall 2010 and fall 2011 terms.

Courses Table

College	Reading	Writing	Math
Hawaii		ENG 22	
Honolulu	ENG 97B, ENG 98B	ENG 22, ENG 60	MATH 24, MATH 25, MATH 50, MATH 97, MATH 98M
Kapiolani		ENG 22	MATH 24, MATH 25, PCM 23
Kauai			
Leeward	ENG 21, ESL 21	ENG 19, ENG 22, ESL 22	MATH 22, MATH 18, MATH 73, MATH 82, MATH 83
Maui		ENG 19, ENG 22	MATH 18, MATH 82
Windward		ENG 19, ENG 22	MATH 20, MATH 22, MATH 24, MATH 25

The selection process was based on ODS frozen data.
ODS views

- IRO_BASE_UH (EOS)
- IRO_REGS_UH (EOS)

ODS elements

- IRO_INSTITUTION
- SEM_YR_IRO
- PERSON_UID
- CRN

- SUBJECT
- COURSE_NUMBER
- FINAL_GRADE

The process was as follows:

1. Identify the courses designated Rem/Dev.
2. Identify and create a file of students who were enrolled in one of the designated Rem/Dev courses.
3. Compile number and percent passing (GPA 2.0>=). First-time students only.

Methodology

For 2010 and 2011 calculations of number of students and registrations, success and persistence, only students enrolled in the courses identified by the Vice Chancellors Academic Affairs in the Courses Table were considered.

Enrollments and Registrations

Calculated the number of registrations and unduplicated headcount of students for the categories of all students and first-time students.

Success and Persistence

For success and persistence calculations, only first-time students were considered. Comparison of first-time student for success and persistence controls for the effect of time on task, i.e. the longer in college, the better one should do, or the “experienced” student who may be taking a course for a second time.

Successful students are only first-time students who compiled a GPA 2.0>=.

For persistence calculations, only first-time students who were successful (GPA 2.0>=) were considered.

Using the Rem/Dev courses from the Courses table to select the students, the study compares:

- the performance of first-time students whose first term was summer against students whose first term was the fall.

- the fall term performance of first-time summer school students who were successful in the summer and persisted to the fall term (subsequent term), against the fall term performance of first-time fall students (first term).

Statistical Analysis

The criterion "passing" was measured by success rates (or pass rates) on specific courses. Passing rate was calculated as the number of A, *B,* C and *CR (or equivalent)* grades. Due to the limited number of semesters and amount of data, a simple comparison of rates was conducted.

Results and Observations

Enrollments

- From Table 1, Summer School registrations in Rem/Dev courses from the Courses Table increased by 42% from 2010 to 2011 for all students and 32% for first-time students. Only 15% of the summer school unduplicated headcount are first-time students suggesting the reduced regular tuition rate may not be the anticipated recruitent draw or an incentive for recent high school graduates. Tables 1 A/B provide a breakdown of the combination of Rem/Dev courses taken.

First-Time Students Success

- Table 2
    - Overall success rates for summer school students are higher than overall success rates for fall students when considering performance in the first terms for both sets of students. Further survey and study is needed to explore reasons for higher success - compressed time schedule, credit-load, student motivation.
    - The percentage of success for first-time summer school students is about the same in their first and second (fall) terms. For fall students, there is a 20% increase in success in the second term (spring). Approximately 50% of first-time summer school students were successful through their second term (fall). 39% of first time fall students were successful through their second term (fall). Further study on course taking decisions and motivation is needed to determine the cause of higher success of summer school studetns through their second term.
- Table 3 was constructed to provide fall term performance comparisons by credits-taken. Table 3A provides the summer school results and Table 3B provides the fall performance results of those first-time summer school students who were successful and persisted to that fall term (subsequent term). Table 3C shows the success rates of first-time students whose first term was that fall. Although the first-time summer school students do have the benefit of "time on task", unlike the first-time fall students, a comaprison of the fall performance of both groups is required to present more samples in like credits-attempted categories and to answer the question "does encouraging an early start by lower summer tuition rates result in higher success and persisitence". Table 3A shows that the majority of

summer school students took 6 or less credits and compared to Tables 3B/C results that show the majority of students enrolled in fall took 12 or more credits. Further study is suggested to explore why full-time students at the Rem/Dev level are taking additional college-level courses.

- Overall success rates for the summer school students were approximately 25 percentage points higher in both years. It appears that giving students a head start in the summer is of some benefit; however, a study somewhat parallel this study concluded differently. "Bridging the Gap, An Impact Study of Eight Developmental Summer Bridge Programs in Texas"**,** a 2012 study commissioned by 2012 by the National Center for Postsecondary compared students who took summer school rem/dev courses to a control group who did not. After two years of follow-up, the main findings of this study were that the difference in number of credits attempted or earned, success rates, and persistence rates were not statistically significant.

Tables 4-6 show the success and persistence rates of reading, writing and math Rem/Dev courses.

- According to the 2006 UHCC White Paper (http://www.hawaii.edu/offices/cc/docs/remedial-dev_task_force/Remedial_Dev_Ed_Paper.pdf), "The most current and extensive data about programs at two-year community colleges is the 2004 study done by the National Center for Developmental Education (Gerlaugh, Thompson, Boylan & Davis, 2007). In its survey of 29 institutions in various regions of the United States, the successful completion rates were 76 percent for reading courses, 73 percent in writing courses, and 68 percent in math courses." The success rates for UHCC Summer School students (Tables 4-6) were about 20% higher in reading and writing and about the same for math courses. UHCC Fall student success rates were about the same for reading and 10-15% less for writing and math.

<u>Persistence.</u>

Table 2 provides the persistence rates of only successful first-time students. For persistence rates to a second term, the first-time fall student groups were 7 to 11 percentage points higher. For persistence to a third term, the first-time summer school student groups were 5-6 percentage points higher than those who started in the fall. In light of the "Bridging the Gap" study cited above, more follow up study on the 2010 and 2011 cohorts is suggested.

Findings and Implications

- Readers should take into account that the sample size for first-time summer school students is 3-4% of the first-time fall student sample size.

- Research remit needs to be broadened. Other factors need to be considered such as student learning outcomes (SLOs), grading procedures, etc. According to the 2006 UHCC White Paper Group (WPG) "Research on developmental education is often criticized for its limitations in terms of generalizability. A basic dilemma is how colleges define the minimum standard of readiness for college level work. The WPG committee found the same to be true for the UHCCs. Underpreparedness is, by definition, relative to an expected norm, but that norm varied from campus to campus and from discipline to discipline within a single college. The committee found that the UHCCs do not offer all the same remedial and developmental courses; only ENG 22 is offered at all UHCCs. Additionally, the topics, assessment, and outcomes for the remedial and developmental courses are not the same at each campus. The committee also found that the use of COMPASS scores for placement into remedial and developmental courses varied campus to campus."

- Need to include student survey data with responses to questions like "Did Rem/Dev help you?" and CCSSE survey responses to questions on when students took their first Rem/Dev class, motivation for taking summer school courses and persisting to fall etc.

Conclusion

Using the lower general funded tuition vice self-supporting summer school tuition rates did result in increased headcount and class registrations. Anecdotal evidence from one college states that 'since the UHCCs started allowing charging regular tuition rates for Rem/Dev education classes in the summer, we've been steering our students to utilize the summer classes, making more sections available for more students, and have had better pass rates during summer when students are only focused on math.' The question whether a head start in summer school results in better performance requires continued study due to the large differences in sample sizes. Further, analysis of course taking patterns and grade performance, Rem/Dev vs transfer level courses, is required, particulary in the light of the relatively large number of fall full-time students who are taking Rem/Dev courses as part of their credit load.

Table 1

ENROLLMENT: Summer 2010 vs Summer 2011

A. Number of Classes Offered

Summer	READING	WRITING	MATH	Total
2010	3	9	28	40
2011	5	17	41	63

B. Total Registrations (All Students)

Summer	READING	WRITING	MATH	Total
2010	29	111	427	567
2011	55	175	574	804

C. Total Students

Summer	Total
2010	514
2011	738

D. Total Registrations (First-Time Students)

Summer	READING	WRITING	MATH	Total
2010	15	31	58	104
2011	14	45	78	137

E. Total Students (First-Time Students)

Summer	Total
2010	89
2011	124

F. Average Class Size (All Students)

Summer	READING	MATH	WRITING
2010	9.7	12.3	15.3
2011	11.0	10.3	14.0

Table 1A

Summer/Fall 2010/2011
Course Taking patterns

All Students

	Summer 2010 All Students	Summer 2011 All Students	Fall 2010 All Students	Fall 2011 All Students
Reading Only	12	25	131	82
Writing Only	85	130	1,667	1,583
Math Only	389	536	3,348	3,471
Reading and Writing	15	27	238	170
Reading and Math	2	2	43	65
Writing and Math	11	17	865	874
Reading, Writing, and Math	0	1	101	174
Total	514	738	6393	6419

Table 1B

Summer/Fall 2010/2011
Course Taking patterns

First-time Students

	Summer 2010 First-Time Students	Summer 2011 First-Time Students	Fall 2010 First-Time Students	Fall 2011 First-Time Students
Reading Only	7	9	91	54
Writing Only	20	36	954	913
Math Only	49	69	1,144	1,185
Reading and Writing	6	4	158	112
Reading and Math	2	1	31	44
Writing and Math	5	5	558	574
Reading, Writing, and Math	0	0	74	146
Total	89	124	3010	3028

Table 2

UHCC Overall First-Time Students

UHCC Overall First-Time Student Success Rate in 1st Term

Summer	Unique Headcount	GPA >= 2.0 in 1st Term	Success Rate in 1st Term
2010	89	69	77.5%
2011	124	89	71.8%

Fall	Unique Headcount	GPA >= 2.0 in 1st Term	Success Rate in 1st Term
2010	3,010	1,639	54.5%
2011	3,028	1,699	56.1%

UHCC Overall First-Time Student Persistence Rate

Summer	GPA >= 2.0 in 1st Term	GPA >= 2.0 in 1st Term and Enrolled in Subsequent Term	Persistence Rate
2010	69	57	82.6%
2011	89	72	80.9%

Fall	GPA >= 2.0 in 1st Term	GPA >= 2.0 in 1st Term and Enrolled in Subsequent Term	Persistence Rate
2010	1,639	1,471	89.7%
2011	1,699	1,561	91.9%

UHCC Overall First-Time Student Success Rate in 2nd Term

Summer	GPA >= 2.0 in 1st Term and Enrolled in Subsequent Term	GPA >=2.00 in 2nd Term	Success Rate in 2nd Term
2010	57	45	78.9%
2011	72	59	81.9%

Fall	GPA >= 2.0 in 1st Term and Enrolled in Subsequent Term	GPA >=2.00 in 2nd Term	Success Rate in 2nd Term
2010	1,471	1,074	73.0%
2011	1,561	1,181	75.7%

Table 3

First-Time Students
Succes by Credits Attemped

Summer 2010 First-Time Students

Summer 2010	Enroll Cnt	Enr %	Enroll & Pass Cnt	Enroll/ Pass %	Success Rate at Credit Load
1) <=3	44	49.44%	34	49.28%	77.27%
2) 4,5,6	37	41.57%	28	40.58%	75.68%
3) 7 - 11	7	7.87%	6	8.70%	85.71%
4) 12 or more	1	1.12%	1	1.45%	100.00%
	89		69		

Summer 2010 First-Time Students in Fall 2010

	Subsequent Semester Cnt	Cnt %	Subsequent Semester Pass Cnt	Pass Cnt %	Success Rate at Credit Load
1) <=3	2	3.51%	2	4.44%	100.00%
2) 4,5,6	4	7.02%	4	8.89%	100.00%
3) 7 - 11	11	19.30%	5	11.11%	45.45%
4) 12 or more	40	70.18%	34	75.56%	85.00%
	57		45	78.95%	

Fall 2010 First-Time Students

Fall 2010	Enroll Cnt	Enr %	Enroll & Pass Cnt	Enroll/Pass %	Success Rate at Credit Load
1) <=3	160	5.32%	97	5.92%	60.63%
2) 4,5,6	377	12.52%	205	12.51%	54.38%
3) 7 - 11	590	19.60%	306	18.67%	51.86%
4) 12 or more	1,883	62.56%	1,031	62.90%	54.75%
	3,010		1,639	54.45%	

Table 3 (cont'd)

Summer 2011 First-Time Students

Summer 2011	Enroll Cnt	Enr %	Enroll & Pass Cnt	Enroll/ Pass %	Success Rate at Credit Load
1) <=3	66	53.23%	45	50.56%	68.18%
2) 4,5,6	42	33.87%	32	35.96%	76.19%
3) 7 - 11	13	10.48%	10	11.24%	76.92%
4) 12 or more	3	2.42%	2	2.25%	66.67%
	124		89		

Summer 2011 First-Time Students in Fall 2011

	Subsequent Semester Cnt	Cnt %	Subsequent Semester Pass Cnt	Pass Cnt %	Success Rate at Credit Load
1) <=3	4	5.56%	3	5.08%	75.00%
2) 4,5,6	5	6.94%	3	5.08%	60.00%
3) 7 - 11	9	12.50%	7	11.86%	77.78%
4) 12 or more	54	75.00%	46	77.97%	85.19%
	72		59	81.94%	

Fall 2011 First-Time Students

Fall 2011	Enroll Cnt	Enr %	Enroll & Pass Cnt	Enroll/Pass %	Success Rate at Credit Load
1) <=3	136	4.49%	64	3.77%	47.06%
2) 4,5,6	420	13.87%	212	12.48%	50.48%
3) 7 - 11	564	18.63%	319	18.78%	56.56%
4) 12 or more	1,908	63.01%	1,104	64.98%	57.86%
	3,028		1,699	56.11%	

Table 4

UHCC Reading First-Time Students

UHCC Reading First-Time Student Success Rate in 1st Term

Summer	Headcount	Passing in 1st Term	Success Rate in 1st Term
2010	15	14	93.3%
2011	14	13	92.9%

Fall	Headcount	Passing in 1st Term	Success Rate in 1st Term
2010	354	258	72.9%
2011	356	277	77.8%

UHCC Reading First-Time Student Persistence Rate

Summer	Passing in 1st Term	Passing in 1st Term and Enrolled in Subsequent Term	Persistence Rate
2010	14	11	78.6%
2011	13	12	92.3%

Fall	Passing in 1st Term	Passing in 1st Term and Enrolled in Subsequent Term	Persistence Rate
2010	258	234	90.7%
2011	277	243	87.7%

UHCC Reading First-Time Student Success Rate in 2nd Term

Summer	Passing in 1st Term and Enrolled in Subsequent Term	GPA >=2.00 in 2nd Term	Success Rate in 2nd Term
2010	11	8	72.7%
2011	12	8	66.7%

Fall	Passing in 1st Term and Enrolled in Subsequent Term	GPA >=2.00 in 2nd Term	Success Rate in 2nd Term
2010	234	147	62.8%
2011	243	152	62.6%

Table 5

UHCC Writing First-Time Students

UHCC Writing First-Time Student Success Rate in 1st Term

Summer	Headcount	Passing in 1st Term	Success Rate in 1st Term
2010	31	27	87.1%
2011	45	36	80.0%

Fall	Headcount	Passing in 1st Term	Success Rate in 1st Term
2010	1,748	1,129	64.6%
2011	1,745	1,136	65.1%

UHCC Writing First-Time Student Persistence Rate

Summer	Passing in 1st Term	Passing in 1st Term and Enrolled in Subsequent Term	Persistence Rate
2010	27	23	85.2%
2011	36	29	80.6%

Fall	Passing in 1st Term	Passing in 1st Term and Enrolled in Subsequent Term	Persistence Rate
2010	1,129	1,008	89.3%
2011	1,136	1,045	92.0%

UHCC Writing First-Time Student Success Rate in 2nd Term

Summer	Passing in 1st Term and Enrolled in Subsequent Term	GPA >=2.00 in 2nd Term	Success Rate in 2nd Term
2010	23	18	78.3%
2011	29	21	72.4%

Fall	Passing in 1st Term and Enrolled in Subsequent Term	GPA >=2.00 in 2nd Term	Success Rate in 2nd Term
2010	1,008	664	65.9%
2011	1,045	740	70.8%

Table 6

UHCC Math First-Time Students

UHCC Math First-Time Student Success Rate in 1st Term

Summer	Headcount	Passing in 1st Term	Success Rate in 1st Term
2010	58	42	72.4%
2011	78	54	69.2%

Fall	Headcount	Passing in 1st Term	Success Rate in 1st Term
2010	1,815	972	53.6%
2011	1,959	1,170	59.7%

UHCC Math First-Time Student Persistence Rate

Summer	Passing in 1st Term	Passing in 1st Term and Enrolled in Subsequent Term	Persistence Rate
2010	42	32	76.2%
2011	54	41	75.9%

Fall	Passing in 1st Term	Passing in 1st Term and Enrolled in Subsequent Term	Persistence Rate
2010	972	857	88.2%
2011	1,170	1,052	89.9%

UHCC Math First-Time Student Success Rate in 2nd Term

Summer	Passing in 1st Term and Enrolled in Subsequent Term	GPA >=2.00 in 2nd Term	Success Rate in 2nd Term
2010	32	26	81.3%
2011	41	34	82.9%

Fall	Passing in 1st Term and Enrolled in Subsequent Term	GPA >=2.00 in 2nd Term	Success Rate in 2nd Term
2010	857	640	74.7%
2011	1,052	787	74.8%