Examining the Relationship of Remediation Status

on Retention, Graduation, and Dropout Rates

Office of Institutional Research

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September 25th, 2012

The Study

This study examines the impact of remediation status on retention, graduation, and dropout rates. The student population consisted of a total of 4,725 first-time freshmen students entering CSU San Bernardino in the Fall quarters between 2003 and 2005. Students who were exempt, passed, or required remediation according to their English Proficiency Test (EPT) and/or Entry Level Mathematics (ELM) test were included in the analyses. Students who were untested or did not have a remediation status were excluded.

To evaluate the impact of remediation status on retention, graduation, and dropout rates, students were grouped (yes/no) for requiring English remediation, requiring math remediation, and requiring both English and math remediation. Of the 4,660 students having a valid remediation status for English, 68% required remediation. Of the 4,089 students having a valid remediation status for math, 52% required remediation. Of the 4,064 students having a valid remediation status for both English and math, 42% required remediation.
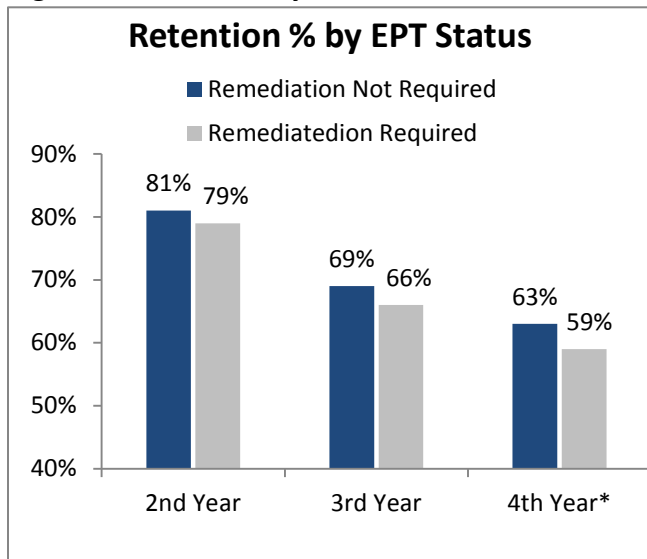
Retention Rates

Of the 4,725 first-time freshman students from the 2003 to 2005 Fall quarter cohorts, 80% returned for their second year, 67% for their third year, and 60% for their fourth year. This shows a loss of 20% from the first to second year followed by a 13% loss of students from the second to third year. These loses are comparable to the CSU system-wide retention rates for the same period.

Analyses were conducted to identify significant differences between remediation status and second, third, and fourth year retention. As shown by *Figure 1,* students requiring English remediation were retained at a lower rate in their fourth year than students not requiring English remediation (59% vs. 63%). Additionally, students requiring math remediation were retained at a lower rate than students not requiring math remediation in their second (78% vs. 82%), third (65% vs. 70%), and fourth (58% vs. 63%) years (*Figure 2*). Finally, students requiring both English and math remediation were retained at a lower rate in their second
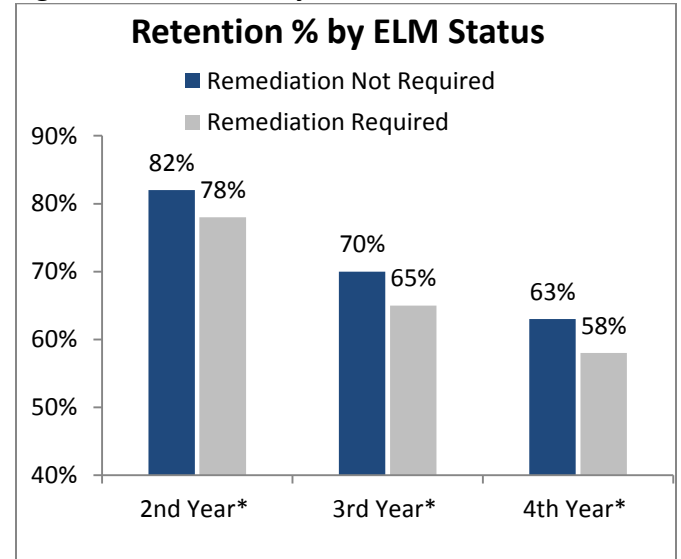
(78% vs. 82%), third (65% vs.69%), and fourth (58% vs. 62%) years (*Figure 3)*. In general, as the number of remediation quarters increased, retention rates tended to decrease (Table 1, pg. 10).

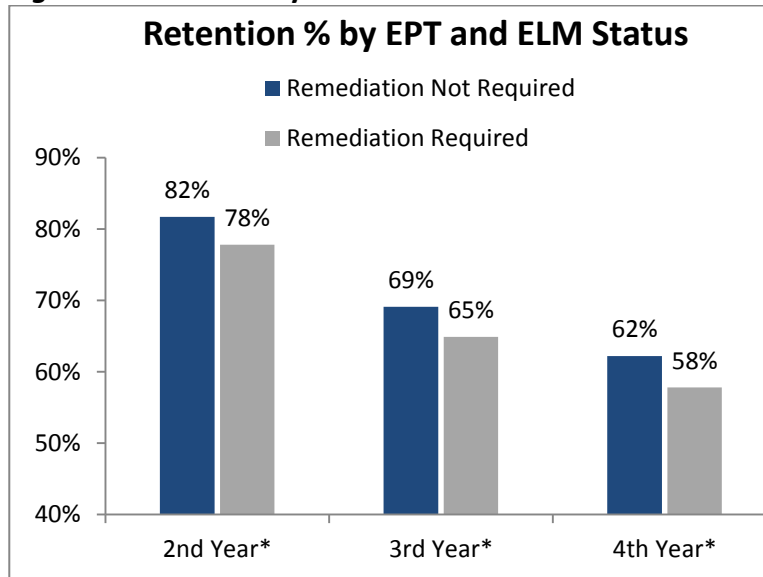*Figure 1.* **Retention by EPT Status**

*Significant at the p<.05 level.

Figure 2. **Retention by ELM Status**

*Significant at the p<.05 level.
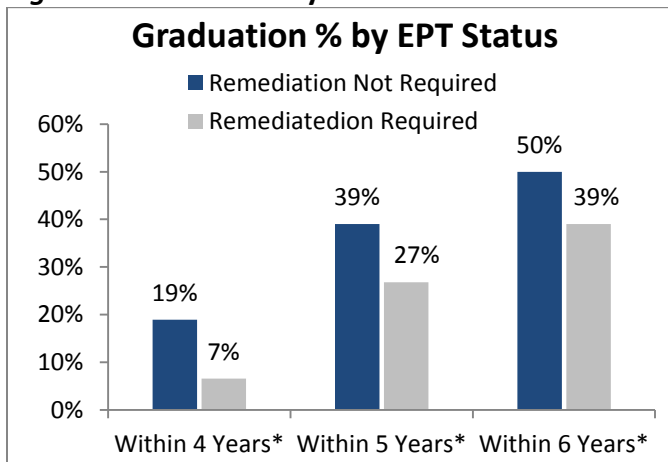
Figure 3. **Retention by EPT and ELM Status**

*Significant at the p<.05 level.

Graduation Rates

Of the 4,725 first-time freshman students from 2003 to 2005 Fall quarter cohorts, 11% graduated within four years, 31% within five years, and 43% within six years. This suggests that our students continue to make great strides towards completing their graduation requirements in their fifth and sixth year.
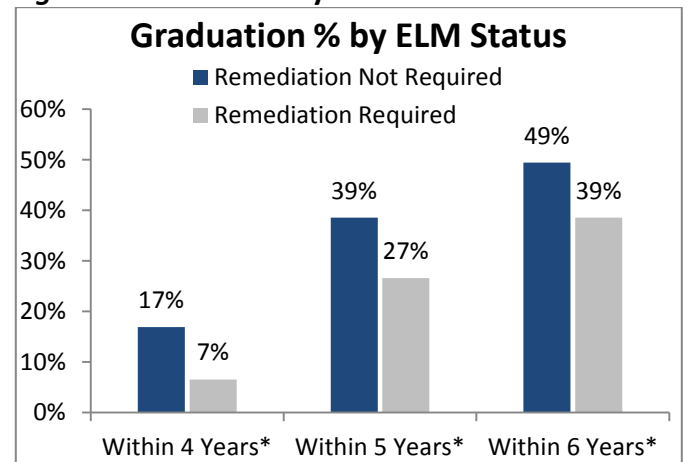
Analyses were conducted to identify significant differences between remediation status and graduation rates. Students requiring English remediation graduated at a lower rate than students not requiring English remediation in their fourth (7% vs. 19%), fifth (27% vs. 39%), and sixth (39% vs. 50%) years (*Figure 4)*. Similarly, students requiring math remediation graduated at a lower rate than students not requiring math remediation in their fourth (7% vs. 17%), fifth (27% vs. 39%), and sixth (39% vs. 49%) years (*Figure 5)*. Finally, students requiring both English and math remediation graduated at a lower rate than students not requiring both English and math remediation in their fourth (5% vs. 16%), fifth (25% vs. 38%), and sixth (38% vs. 48%) years (*Figure 6*). In general, as the number of remediation quarters increased, graduation rates decreased (Table 1, pg. 10).
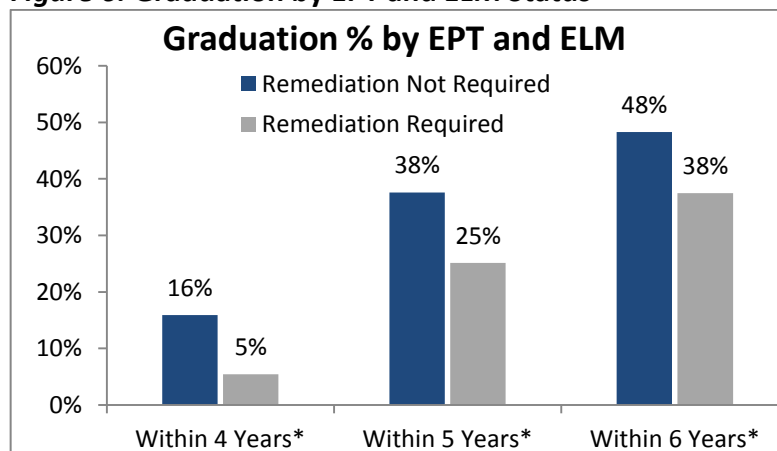
Figure 4. **Graduation by EPT Status**

*Significant at the p<.05 level.

Figure 5. **Graduation by ELM Status**

*Significant at the p<.05 level.

Figure 6. **Graduation by EPT and ELM Status**
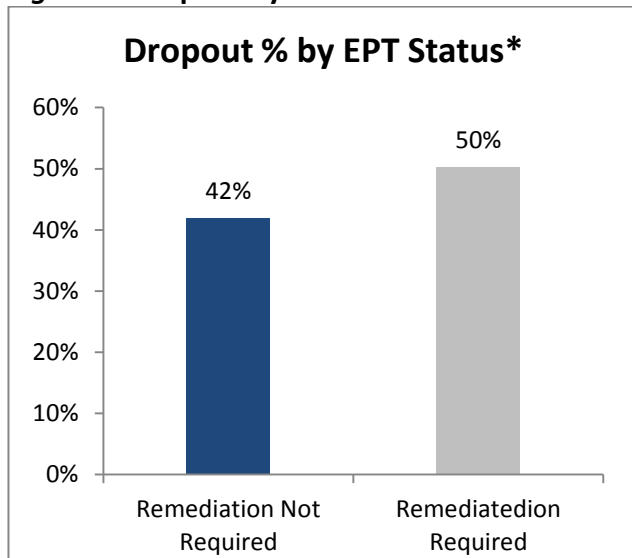

*Significant at the p<.05 level.

Dropout Rates

For the purposes of this study, dropouts were defined as students who did not graduate from CSU San Bernardino by the end of their sixth year, did not graduate in the summer term directly following their sixth year, and were not retained at the start of their seventh year. Of the 4,725 first-time freshman students from 2003 to 2005 Fall quarter cohorts, 48% dropped-out from CSU San Bernardino.
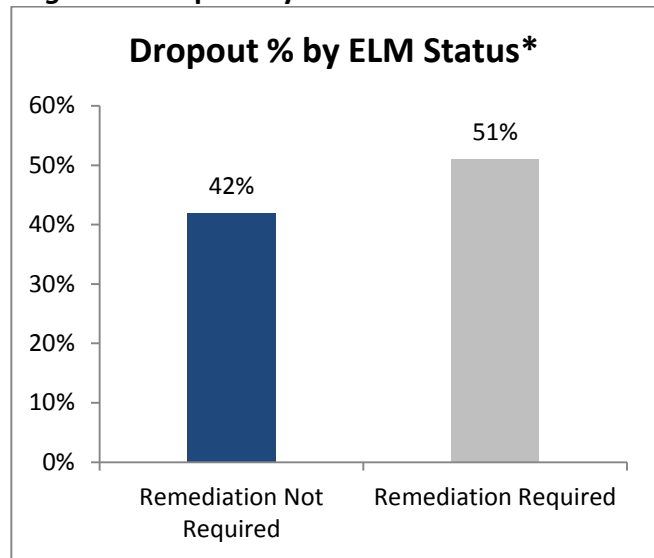
Analyses were conducted to identify significant differences between remediation status and dropout rates. Students requiring English remediation had higher dropout rates than students not requiring English remediation (50% vs. 42%; *Figure 7*). Similarly, students requiring math remediation had higher dropout rates than students not requiring math remediation (51% vs. 42%; *Figure 8*). Finally, students requiring both English and math remediation had higher dropout rates than students not requiring remediation in both English and math (52% vs. 43%; *Figure 9*). In general, as the number of remediation quarters increased, dropout rates tended to increase (Table 1, pg. 10).

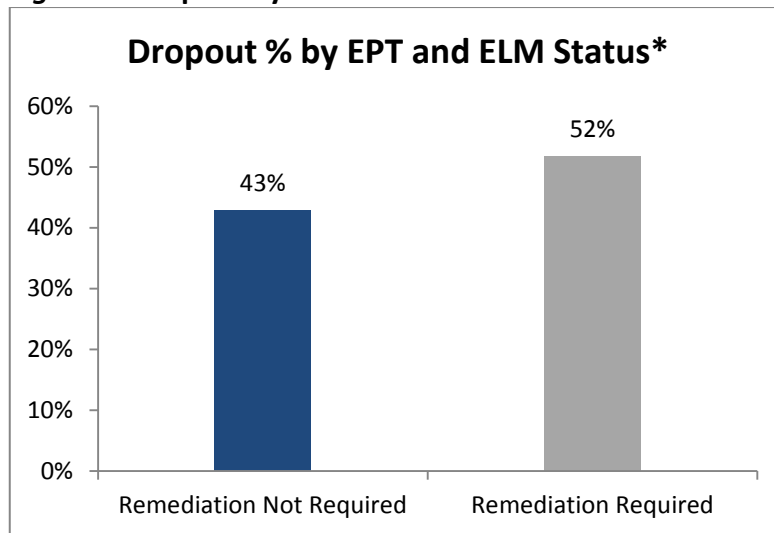*Figure 7.* Dropout by EPT Status

Dropout % by EPT Status*

*Significant at the p<.05 level.

Figure 8. Dropout by ELM Status

Dropout % by ELM Status*

*Significant at the p<.05 level.

CSUSB Office of Institutional Research September 25th, 2012

Figure 9. Dropout by EPT and ELM Status

Dropout % by EPT and ELM Status*

*Significant at the p<.05 level.

Discussion

Our study supports the relationship between remediation status and retention, graduation, and dropout rates. Students requiring remediation in English were less likely to be retained in their fourth year, less likely to graduate within four, five, or six years, and more likely to dropout than students not requiring English remediation (Table 2, pg. 10). Students requiring math remediation were less likely to be retained in their second, third, and fourth year, less likely to graduate within four, five, or six years, and more likely to dropout than students not requiring math remediation (Table 3, pg.8). Additionally, students requiring both English and math remediation were less likely to be retained in their second, third, and fourth year, less likely to graduate within four, five, or six years, and more likely to dropout than students not requiring both English and math remediation. Overall, students who required remediation tended to have lower retention rates, lower graduation rates, and higher dropout rates (Table 1, pg. 10).

This study also suggests a marked distinction between students that required two quarters of math remediation versus those that required three quarters of math remediation. Specifically, results showed a stark drop in second year retention (-12%), six year graduation rates (-15%), and an increase in dropout rates (+14%) between students who required two versus three quarters of math remediation (Table 3, pg. 10).

One prominent limitation of this study is the lack of student tracking to identify those leaving CSU San Bernardino in order to transfer to another college or university. According to the Fall 2012 first-time freshmen SOAR survey, of the 1,850 respondents, 11% intend to transfer to another four year school and 10% are unsure whether they intend to transfer or graduate from CSUSB.

Recommendations based on this study suggest the importance of connecting with students requiring remediation, especially in the first two years, to offer supportive services (e.g., the writing center, math tutoring, peer advising, etc.) and increase retention and graduation rates.

Supplemental Analysis

EPT Status (see Table 2)

Detailed analyses were conducted to identify significant differences between EPT categories. Students who were exempt, passed, or required one or two quarters of remediation according to their English Proficiency Test (EPT) were included in the analyses.

Results showed that students that passed, or required one quarter of English remediation, had higher second year retention rates than students requiring two quarters of English remediation.

Students who were exempt from English remediation had higher four, five, and six year graduation rates than students who required one or two quarters of English remediation, and higher four year graduation rates than those that passed. Students who passed had higher four and five year graduation rates than students requiring one or two quarters of English remediation, and higher six year graduation rates than those that required two quarters of remediation. Students who needed one quarter of English remediation had higher four, five, and six year graduation rates than students who required two quarters of English remediation.

Students requiring one quarter of English remediation had a higher dropout rate than students who were exempt. Additionally, students requiring two quarters of remediation had a higher dropout rate than students who were exempt, passed, or required one quarter of English remediation.

ELM Status (see Table 3)

Detailed analyses were conducted to identify significant differences between ELM categories. Students who were exempt, passed, or required one or two quarters of remediation according to their Entry Level Mathematics (ELM) test were included in the analyses.

Results showed that exempt students had higher second, third, and fourth year retention rates than students requiring two or three quarters of math remediation. Additionally, students who passed, or required

one or two quarters of math remediation had higher second and third year retention rates than students requiring three quarters of math remediation.

Students who were exempt from math remediation had higher four, five, and six year graduation rates than students who required one, two, or three quarters of math remediation, and higher four and six year graduation rates than those that passed. Students that passed had higher four and five year graduation rates than students requiring one, two, or three quarters of math remediation, and higher six year graduation rates than students requiring two or three quarters of math remediation. Students requiring one or two quarters of math remediation had higher five and six year graduation rates than students requiring three quarters of math remediation.

Students requiring one or two quarters of math remediation had higher dropout rates than students who were exempt. Additionally, students requiring three quarters of math remediation had a higher dropout rate than students who were exempt, passed, or required one or two quarters of math remediation.

Table 1. Retention and Graduation by Remediation Status

Remediation	Cohort	Retention					Graduation			Dropout		
		2nd Year	3rd Year	4th Year	5th Year	6th Year	Within Four Years	Within Five Years	Within Six Years	Summer Grads	7th Year Retention	Dropout
0 Quarters	1050	82%	70%	64%	38%	17%	23%	42%	53%	0.8%	7%	40%
1 Quarter	789	82%	69%	61%	44%	18%	11%	36%	47%	0.6%	8%	44%
2 Quarters	820	81%	67%	59%	44%	21%	8%	29%	40%	0.7%	10%	49%
3 Quarters	678	80%	67%	61%	49%	22%	8%	28%	41%	0.9%	10%	48%
4 Quarters	576	76%	64%	57%	46%	22%	3%	23%	36%	1.0%	9%	54%
5 Quarters	151	70%	56%	49%	40%	21%	1%	12%	23%	1.3%	10%	66%
Total	**4064**	**80%**	**67%**	**60%**	**44%**	**20%**	**11%**	**32%**	**44%**	**0.8%**	**9%**	**47%**

Table 2. Retention and Graduation by English Placement Status

EPT Status	Cohort	Retention					Graduation			Dropout		
		2nd Year	3rd Year	4th Year	5th Year	6th Year	Within Four Years	Within Five Years	Within Six Years	Summer Grads	7th Year Retention	Dropout
Exempt	731	81%	69%	63%	38%	16%	23%	42%	52%	0.8%	7%	40%
Passed	781	82%	68%	62%	41%	20%	15%	36%	47%	0.8%	9%	43%
1 Quarter	1568	81%	67%	59%	45%	20%	9%	31%	43%	1.0%	9%	48%
2 Quarters	1580	77%	66%	58%	47%	23%	5%	23%	36%	0.9%	11%	53%
Total	**4660**	**80%**	**67%**	**60%**	**44%**	**21%**	**11%**	**31%**	**43%**	**0.9%**	**9%**	**48%**

Table 3. Retention and Graduation by Entry Level Mathematics Status

ELM Status	Cohort	Retention					Graduation			Dropout		
		2nd Year	3rd Year	4th Year	5th Year	6th Year	Within Four Years	Within Five Years	Within Six Years	Summer Grads	7th Year Retention	Dropout
Exempt	1052	84%	72%	65%	43%	18%	19%	41%	53%	0.6%	7%	40%
Passed	900	79%	67%	59%	38%	18%	14%	36%	46%	0.6%	9%	45%
1 Quarter	751	80%	67%	60%	46%	23%	8%	29%	40%	1.2%	11%	48%
2 Quarters	1189	79%	66%	59%	46%	21%	7%	27%	40%	0.8%	9%	50%
3 Quarters	197	67%	54%	49%	41%	21%	3%	13%	25%	2.0%	9%	64%
Total	**4089**	**80%**	**67%**	**60%**	**44%**	**20%**	**11%**	**32%**	**44%**	**0.8%**	**9%**	**47%**