2011

Efficacy of the CELCIS Intensive English Program

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Faculty Assessment Grant Final Report:

June 30, 2011

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Introduction

Established in 1975, The Center for English Language and Culture for International Students (CELCIS) program at Western Michigan University provides English language instruction to international students wishing to conduct academic study in the United States.

International students who wish to study at Western Michigan University must demonstrate sufficient proficiency in the English language by scoring at least 500 on the Test of English as a Foreign Language (TOEFL) for restricted admission, and 550 for unrestricted admission. Those who score above 550 have no further English language prerequisites. Students having restricted admission must take an English as a second language (ESL) "bridge course," either ENGL 3600 or ENGL 3610, during their first semester at Western. Those students who do not score within the appropriate ranges on the TOEFL may enroll in the CELCIS program. Once a student completes the advanced level of CELCIS, they may secure restricted admission to the University and enroll in ENGL 3600/3610 during their first semester.

Students who enter the CELCIS program are placed in one of five levels based on an assessment of their English proficiency. The students are exposed to 20 hours per week of English language instruction, divided among three main activities:

- Speaking and Listening (1 hour daily)
- Grammar and Communication (1 hour daily)
- Reading and Writing (2 hours daily)

Students also have the opportunity to participate in conversational exercises, cultural experiences, and have access to "conversation partners." These activities provide a comprehensive and immersive experience to students in order to support accelerated language learning. Students also gain knowledge about social and academic cultures in the United States.

In effect, the university regards completion of the advanced level of CELCIS equivalent to having a score between 500-550 on the TOEFL. The claim, then, is that completion of the advanced level gives CELCIS students the competency in English and academic practice similar to that of students entering the university with TOEFL scores between 500-550. This claim has never been tested, and it is the purpose of this study

to do so. To test this claim, the cumulative university grade point averages of students who had completed CELCIS and students who had attended CELCIS but had not completed the program were compared with students who had been granted restricted admission with TOEFL scores between 500-550 and taken ENGL 3600/3610 but not CELCIS. Absence of a significant difference between the grade-point averages of the CELCIS groups and the comparison group would suggest that CELCIS students do as well in the university as students who are admitted English proficiency scores on the TOEFL between 500-550.

This study intends to answer three questions:

1. *Do CELCIS graduates perform as well in their university studies as students who have been granted restricted admission, but have not completed CELCIS?*
2. *How does the university performance of students who have completed CELCIS compare with students who have attended CELCIS but not completed its curriculum?*
3. *What recommendations could encourage further capitalization of the strengths and needs of the CELCIS program and its students?*

Description of Accomplishments

In order to answer the primary research/assessment question, data was collected on subjects using the Banner Information Management System. The sampling frame for the data collection included all students who were identified as ESL students between the Fall 2005 and Spring 2011 semesters (n=1023). Additionally, data was collected for 272 students who met criteria for restricted admission to WMU (TOEFL score between 500-550, but required to complete ENGL 3600/3610). A student's data was included in the final analysis if that student had a university GPA on record (indicating that the student took classes after meeting either the CELCIS or the restricted admission criteria).

In addition to GPA (the dependent variable), data was collected about student gender, age, country of origin, English proficiency test scores, and number of attempted hours at WMU as control variables. These variables were intended to control for differences in maturity, possible length of exposure to the English language (older students who had more time to learn English prior to admission), theoretical differences in course difficulty (course taken later in an academic career could be more difficult than those taken earlier), and gender differences in countries where females have less educational opportunities than males. The proficiency test scores were excluded from the study, as many students did not have pre-test proficiency scores available, or had other means of demonstrating proficiency in order to meet admission criteria.

The student subjects were divided into three groups: Students who were restricted admits but had never attended CELCIS (comparison group), students who had not completed the full CELCIS curriculum but had been admittedto the university ("non-grads"), and CELCIS students who had completed the CELCIS program ("CELCIS

grads"). The final sample sizes for each group were as follows: CELCIS graduates (n=209), CELCIS students who did not graduate (N=174), and direct admits (n=227).Data analysis was conducted using a one-way analysis of variance to assess differences in group mean GPA across groups[1]. A natural log of the GPA was used as the independent variable in order to correct for skewness in the GPA distribution of the sample, which is a common issue with GPA as an outcome variable. Results of the ANOVA indicated a significant difference across groups in GPA due to group membership ($f=6.471$, $p\leq.002$). In order to further identify differences across groups, a post-hoc comparison using Tukey's HSD was used. This post-hoc comparison indicated that the comparison group of restricted admits did not do significantly better than the CELCIS grads, but did do significantly better than the CELCIS non-grad group. Furthermore, the CELCIS grad group did not do significantly better than the CELCIS non-grads. This indicates that although students in the control group had slightly higher GPAs, they do not *significantly* outperform them. In light of this finding, the second comparison between CELCIS grads and non-grads indicates that although there is not a significant difference in performance between the two groups, entering and completing CELCIS can help students to improve their future academic performance at WMU.

A multiple regression analysis was also completed on this dataset by regressing student GPAs on age, gender, attempted hours at WMU, and group membership (comparison, CELCIS non-grads, and CELCIS grads). Although in this model these predictors were poor overall estimators of GPA (adjusted $r^2 = .070$), this multiple regression indicated that students who graduated from CELCIS did not demonstrate a significant mean difference from the comparison group (GPAs for CELCIS grads were approximately 2% higher than the comparison group, likely due to random error and sampling). However, the difference between the comparison group and the CELCIS non-grads was significant, confirming findings in the ANOVA. These differences appeared while holding all other variables constant; i.e. regardless of gender, age, or number of hours attempted at the university.

The major limitation of this study was the use of GPA as an outcome variable. The low adjusted r^2 of .070 indicates that this model only explains 7% of the variation in GPA; this suggests that GPA may be a poor outcome variable for this type of study. Theoretically, a student's GPA may be affected by many events, such as family problems, political problems within a student's home country, drug/alcohol use, difficulty of coursework, or even relationship and lifestyle problems.

Specific Outcomes

Given the data constraints noted previously, the results of the quantitative assessment of program outcomes appears to suggest three key findings: 1) the CELCIS

[1] Due to space limitations, a summary of findings is presented in this document. Results are presented in chart form using SPSS 19 output in Appendix A of this document. Detailed presentation of descriptive and inferential statistics will be presented in following publications, and will be available upon request.

program accomplishes what it claims to do, namely to prepare non-native speakers of English for academic work at Western at a level comparable to other non-native speakers granted restricted admission; 2) the effect of English language proficiency on academic performance was difficult to study due to the types and methods of data collection used in the CELCIS program; 3) consistent use of a reliable and valid English language proficiency instrument at CELCIS and the university would facilitate future assessments of programmatic effectiveness.

The results of the study suggest that the CELCIS program is effective; by the measure of grade point average, students who have completed the CELCIS program do as well in the university as non-native speakers you have been admitted directly into ENGL 3600/3610. This point has been claimed since the ENGL 3600/3610 courses were created in the mid 1990s, and this study appears to support this claim.

A question that often arises during a study like this is "What is the effect of English language proficiency on academic achievement?" This study did not provide an answer, first because of the CELCIS program's philosophies of curriculum and assessment, and second because of limitations in the available data. When CELCIS was founded in 1975, it adopted a functional, constructivist curriculum which was far ahead of the rest of the ESL field at the time. CELCIS faculty and staff regarded standardized English proficiency tests such as the TOEFL and the Michigan English Language Assessment Battery as invalid, and alternative, product-based assessments were developed in house. In general, the assessments developed were qualitative, not quantitative. In addition, data collection was designed to support administrative decision making, student placement, and student progress reports, not assessment of program outcomes. Consequently, the English proficiency data that the CELCIS program could provide was not directly comparable to the data available for the comparison group. This situation could be ameliorated to some degree by adoption of an English proficiency assessment instrument that is both reliable and, in view of the CELCIS faculty, valid.

Summary

Two important points can be made from this study. First is that there is support for the curricular approach CELCIS takes to English for academic purposes. The program's product is what we claim it should be, and therefore, the program's claims about what and how ESL students should study for university entrance are strengthened. Second, further programmatic assessments may be necessary to further explore the impact of CELCIS, and will require improvement of the program's "information infrastructure." Better data collection and organization will allow more detailed assessments of how students perform while they are in CELCIS and after they enter the university.

Appendix A - Descriptive Statistics, Charts, and Graphs

Table 1 - Summary of Sample Characteristics and Distributions

	Mean	Median	St. Dev.	Min	Max
GPA	3.16	3.28	0.63	0.4	4
Age (yrs)	26.85	25.55	5.27	17	53
Attempted Hours	60.2	45	40.28	5	213
	n	**%**			
Male	203	33.10%			
Female	585	62.30%			
CELCIS Grads	209	34.10%			
CELCIS Non-Grads	174	28.40%			
Comparison Group	227	37.00%			

Table 2 - Summary of Group Statistics for the Independent Variables

	Comparison Group			CELCIS Non-Grads			CELCIS Grads		
	Count	Row N%	Group N%	Count	Row N%	Group N%	Count	Row N%	Group N%
Female	87	43.1%	38.3%	55	27.2%	34.0%	60	29.7%	31.1%
Male	140	36.8%	61.7%	107	28.2%	66.0%	133	35.0%	68.9%
	227			162			193		
	Mean	Median		Mean	Median		Mean	Median	
Age (yrs.)	27	26		26	25		26	25	
AttemptedHours	45	35		66	58		72	65	

*Row N% represent the percent of females and males that are in each group. Group% represents the percent of each group that are males or females

Table 3 - Summary of Proportions of Group Membership

	group		
	Comparison Group GPA	CELCIS Non-Grads GPA	CELCIS Grads GPA
Count	227	174	209
Column Valid N %	100.0%	100.0%	100.0%
Mean	3.2686	3.0418	3.1731
Standard Deviation	.5918	.6885	.6071
Median	3.3857	3.1800	3.2700
Minimum	.4762	.5000	.4000
Maximum	4.0000	4.0000	4.0000
Range	3.5238	3.5000	3.6000

Table 4 - Group GPA by Country of Origin, Rank Ordered by Number of Students per Country

Rank	Country	Mean GPA by Group			Rank	Country	Mean GPA by Group		
		Comparison Group	CELCIS Non-Grads	CELCIS Grads			Comparison Group	CELCIS Non-Grads	CELCIS Grads
1	999	.	3.0174	3.3738	26	SPAIN	2.8428	.	.
2	SAUDI ARABIA	3.4345	3.0614	3.1766	27	ARMENIA	3.2593	.	.
3	JAPAN	3.1617	2.7447	3.0470	28	BAHRAIN	2.1739	.	.
4	DOMINICAN REPUBLIC	3.0527	2.8938	3.2576	29	BANGLADESH	3.2391	.	.
5	CHINA	3.5330	3.2062	3.2396	30	BRAZIL	3.2292	.	.
6	INDIA	2.9635	.	.4000	31	BURMA (MYANMAR)	3.1263	.	.
7	TAIWAN	3.4390	3.6608	2.9860	32	CAMEROON	3.7143	.	.
8	KOREA, SOUTH	3.2789	2.5230	3.5164	33	FINLAND	2.2798	.	.
9	THAILAND	3.4992	3.5283	2.9200	34	GAZA STRIP	3.6129	.	.
10	JORDAN	3.6899	2.2150	1.5200	35	GEORGIA	3.9423	.	.
11	TURKEY	3.5802	3.9000	.	36	GERMANY	.	2.0000	.
12	IRAQ	3.9167	3.6750	.	37	HONG KONG	2.6667	.	.
13	MALAYSIA	3.4172	.	.	38	KAZAKHSTAN	3.3857	.	.
14	VIETNAM	.	3.4600	2.8900	39	LITHUANIA	2.5200	.	.
15	IRAN	3.5833	3.4850	.	40	NETHERLANDS	3.8000	.	.
16	LIBYA	3.6429	3.7800	3.6850	41	NIGERIA	.	3.8150	.
17	United States of America	.	2.8517	3.3700	42	PERU	.	3.3200	.
18	EGYPT	3.3326	.	.	43	SLOVAKIA	4.0000	.	.
19	MEXICO	3.7252	.	.	44	SRI LANKA	3.6364	.	.
20	COLOMBIA	3.2527	4.0000	.	45	SYRIA	.	.	3.0200
21	COTE D IVOIRE	.	.	3.3850	46	UNITED ARAB EMIRATES	.	3.6400	.
22	KUWAIT	2.5952	.	.	47	VENEZUELA	.	.	3.6800
23	PAKISTAN	3.0000	.	.	48	WEST BANK	3.2449	.	.
24	RUSSIA	3.0093	.	.	49	YEMEN	.	.	3.5450
25	SENEGAL	.	3.0500	2.2900					

Table 5 - ANOVA Summary Table – Dependent Variable is GPA

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.070	2	2.535	6.471	.002
Within Groups	237.800	607	.392		
Total	242.870	609			

Table 6 - Multiple Comparison Summary Table – Dependent Variable is GPA

Multiple Comparisons

	(I) group	(J) group	Mean Difference (I-J)	Std. Error	Sig.
Tukey HSD	Comparison Group	CELCIS Non Grads	.2268517*	.0630661	.001
		CELCIS Grads	.0954946	.0600024	.250
	CELCIS Non Grads	Comparison Group	-.2268517*	.0630661	.001
		CELCIS Grads	-.1313572	.0642337	.103
	CELCIS Grads	Comparison Group	-.0954946	.0600024	.250
		CELCIS Non Grads	.1313572	.0642337	.103
Tamhane	Comparison Group	CELCIS Non Grads	.2268517*	.0653200	.002
		CELCIS Grads	.0954946	.0574987	.265
	CELCIS Non Grads	Comparison Group	-.2268517*	.0653200	.002
		CELCIS Grads	-.1313572	.0669879	.144
	CELCIS Grads	Comparison Group	-.0954946	.0574987	.265
		CELCIS Non Grads	.1313572	.0669879	.144

*. The mean difference is significant at the 0.05 level.

Table 7 - ANOVA Summary Table - Dependent Variable is ln(GPA) - Natural Log of GPA

ANOVA

lnGPA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.706	2	.353	4.935	.007
Within Groups	43.420	607	.072		
Total	44.126	609			

Table 8 - Multiple Comparison Summary Table - Dependent Variable is ln(GPA) - Natural Log of GPA

Multiple Comparisons

	(I) group	(J) group	Mean Difference (I-J)	Std. Error	Sig.
Tukey HSD	Comparison Group	CELCIS Non Grads	.08450*	.02695	.005
		CELCIS Grads	.03222	.02564	.420
	CELCIS Non Grads	Comparison Group	-.08450*	.02695	.005
		CELCIS Grads	-.05228	.02745	.138
	CELCIS Grads	Comparison Group	-.03222	.02564	.420
		CELCIS Non Grads	.05228	.02745	.138

*. The mean difference is significant at the 0.05 level.

Table 9 - Multiple Regression Model Summary Table

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.281[a]	.079	.070	.19945

a. Predictors: (Constant), CELCIS Grad, rAge, Gender, Attempted Hours, CELCIS Student b. Dependent Variable: lnGPA

Table 10 - Multiple Regression Summary - Regression Coefficients

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.938	.053		17.681	.000
	Attempted Hours	6.509E-5	.000	.012	.275	.783
	rAge	.010	.002	.235	5.579	.000
	Gender	-.062	.018	-.142	-3.438	.001
	CELCIS Student	-.050	.022	-.117	-2.303	.022
	CELCIS Grad	.027	.022	.062	1.251	.211