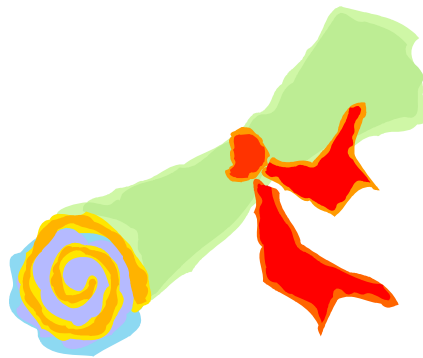


Fresno City College

**Student Success of POLSCI-2 by Levels of
English Completed
Spring 2010 to Fall 2011**



Office of Institutional Research, Assessment, and Planning

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Summary

The purpose of this study was to identify if student success in POLSCI-2 classes was affected by students' level of English completed. Students enrolled in POLSCI-2 in the most recent two years were included in the study (n=7,427).

Performance data were compared between students who completed different levels of English. Statistical analyses to determine performance differences between various groups were performed. Following is a brief summary of the research findings:

1. Students who completed transfer level English performed better in POLSCI-2 than those who completed lower level English.
2. Students who only completed 100 or 200 levels English were unlikely to be successful in POLSCI-2.
3. Students who started their first English at transfer level were more likely to be successful in POLSCI-2.
4. Of all the variables examined, student cumulative GPA was the single most important predictor in predicting student success in POLSCI-2.
5. Class size is not related to student performance in POLSCI-2.
6. Of the students who completed transfer level English, those who started with transfer level English performed much better in POLSCI-2 than those who moved up from 100 or 200 level English.
7. Among the three English classes examined (English 125, 126, and 1A), English-1A is a stronger predictor to predict student success in POLSCI-2.

Student Success of POLSCI-2 by Levels of English Completed

Spring 2010 to Fall 2011

Introduction

POLSCI-2 (American Government) is a major transfer level class offered at FCC every semester. It serves about 1,700 to 2,000 students each semester. The majority of POLSCI-2 sections are offered as large group instruction (LGI) with more than 60 students enrolled. In the past two years, enrollment for this class ranged from 20 to 222 students.

Student performance in POLSCI-2 is much lower than other classes at FCC, even though large numbers of students are enrolled in POLSCI-2 (see Table 1). Students earned a lower GPA and had a lower success rate in POLSCI-2. It is important to identify what possible factors may influence student performance. In this study, the primary focus will be on students' preparedness in English prior to taking POLSCI-2.

Table 1. GPA and Success Rate of POLSCI-2

Spring 2010 (n=2,022)	<i>POLSCI-2</i>	<i>FCC</i>	<i>Difference</i>
GPA	1.61	2.33	-0.72
Success Rate	47%	67%	-20%
Fall 2010 (n=1,773)			
GPA	1.54	2.31	-0.77
Success Rate	43%	66%	-23%
Spring 2011 (n=1,810)			
GPA	1.44	2.34	-0.9
Success Rate	40%	67%	-27%
Fall 2011 (n=1,822)			
GPA	1.58	2.39	-0.81
Success Rate	46%	69%	-23%

Note: Success rate is the percent of C or better or Pass.

Research Objectives and Methods

The purpose of this study is to identify if student success in POLSCI-2 classes was affected by students' level of English completed.

Research subjects were FCC students who enrolled in POLSCI-2 classes for the most recent four semesters (spring 2010, fall 2010, spring 2011, and fall 2011). A total of 7,427 students were included in this study.

Student data were matched to previous academic records to identify levels of English and Math classes they completed prior to enrolling in POLSCI-2 classes. Data about students' level of first English class was also obtained. Performance data (GPA and successful course completion rate) were compared between students with different levels of English. To determine if the difference in student performance in POLSCI-2 is statistically significant and to identify what factors may influence their performance, one-way ANOVA (analysis of variance), ANCOVA (analysis of co-variance), chi-square, and correlation analysis were utilized.

Results

Among the total 7,427 POLSCI-2 students, 37% of them did not take an English class prior to enrolling in POLSCI-2 (see Table 2). Approximately 36% of them completed transfer level English and 22% of them completed 100 level English (English 125 or 126 & ESL 67 or 68). Moreover, 5% of them only completed 200 level English (English or ESL 200 level classes).

Table 2: Student Level of English Prior to Enrolling in POLSCI-2

Level of English/Math Prior to POLSCI-2	English Cohorts	
Transfer Level - Successfully Completed Transfer Level English	2665	36%
100 Level - Successfully Completed One or More 100 Level English	1640	22%
200 Level Successfully Completed One or More 200 Level English	378	5%
No English Classes	2744	37%
Total	7427	100%

1. Average GPA in POLSCI-2

Average GPA in POLSCI-2 classes is summarized in Table 3. English levels were the levels students completed prior to taking POLSCI-2. One-way ANOVA analyses of student GPAs in POLSCI-2 showed statistically significant differences (p=0.01) between four different English cohorts (see Tables 3&4). Following is a summary of the results:

- Students who successfully completed transfer level English prior to taking POLSCI-2 had a significantly higher GPA in POLSCI-2 than all other groups.
- Students who successfully completed one or more 100 level English classes performed better in POLSCI-2 than those who completed 200 level English.
- Students who completed 200 level English had a significantly lower GPA than other groups.
- It should be noted that even students who completed transfer level English, their average GPA in POLSCI-2 was still below 2.00.

Table 3: One Way ANOVA

GPA in POLSCI-2					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	493.715	3	164.572	104.302	.000
Within Groups	9763.624	6188	1.578		
Total	10257.339	6191			

Table 4: Average GPA of POLSCI-2 by Levels of English

Level of English Prior to POLSCI-2	GPA in POLSCI-2
Transfer Level - Successfully Completed Transfer Level English	1.88
100 Level - Successfully Completed One or More 100 Level English	1.37
200 Level Successfully Completed One or More 200 Level English	0.88
No English Classes	1.38
Total	1.55

2. Success Rate in POLSCI-2

Successful course completion rates are summarized in Table 5. Chi-square testing was performed to determine if there was any significant difference in success rate of POLSCI-2 by students' level of English completed. Data indicated that the success rate is significantly different by the level of English completed. Students who completed transfer level English had a much higher successful course completion rate in POLSCI-2 classes. Students who completed 200 level English had the lowest course success rate in POLSCI-2.

Table 5: Success Rate of POLSCI-2 by Levels of English

Level of English Prior to POLSCI-2	Success Rate in POLSCI-2
Transfer Level- Successfully Completed Transfer Level English	58%
100 Level - Successfully Completed One or More 100 Level English	39%
200 Level Successfully Completed One or More 200 Level English	23%
No English Classes	37%
Total	44%

Note: Success rate is the percent of C or better or Pass.

Chi-square = 346.52, df=3, p=0.000

3. Cumulative GPA

To identify which variables can better predict GPA in POLSCI-2 and control the effects of student's cumulative GPA, ANCOVA was performed using cumulative GPA as a covariate (see Table 6). Students' levels of English prior to taking POLSCI-2 and their levels of first English were entered into the model. The model is statistically significant and it explains 45% of the variance of student GPA in POLSCI-2 (dependent variable). However, the variance in POLSCI-2 GPA is mainly explained by student cumulative GPA (40%). Therefore, the effects of students' levels of English completed on the performance in POLSCI-2 are minimal.

Table 6. ANCOVA Model

Dependent Variable: GPA in POLSCI-2

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2885.850 ^a	6	480.975	555.780	.000	.454
Intercept	545.007	1	545.007	629.771	.000	.136
Cum.GPA.Overall	2291.393	1	2291.393	2647.767	.000	.398
Engl.1st	79.623	2	39.811	46.003	.000	.022
Engl.current	1.155	2	.577	.667	.513	.000
Engl.1st * Engl.current	1.503	1	1.503	1.737	.188	.000
Error	3469.411	4009	.865			
Total	17061.000	4016				
Corrected Total	6355.261	4015				

a. R Squared = .454 (Adjusted R Squared = .453)

4. Class Size and POLSCI-2 GPA

Correlation analysis was conducted to determine if POLSCI-2 class size was related to student performance. Results indicated that the correlation is not significant at 0.05 level; therefore, class size is not related to performance in POLSCI-2 (see Table 7).

Table 7: Correlation between Class Size and GPA

		POLSCI-2 GPA	Class.size
POLSCI-2 GPA	Pearson Correlation	1	-.192
	Sig. (2-tailed)		.154
	N	57	57
Class.size	Pearson Correlation	-.192	1
	Sig. (2-tailed)	.154	
	N	57	57

5. Completed Transfer Level English Prior to POLSCI-2

A total of 2,665 students completed transfer level English prior to POLSCI-2. Among those, three groups were identified: students who started with transfer level English, students who moved up to transfer level from 100 level English, and those who moved up to transfer level from 200 level English. One-way ANOVA was performed to test if there were any significant differences in POLSCI-2 GPA among those students. Results indicated that significant differences existed between the three groups (See Tables 8, 9, & 10). Students who started with transfer level performed the best in POLSCI-2 than those who moved up from lower levels of English (100 or 200 levels). Those who moved up to transfer level from 100 level English earned a significantly higher GPA in POLSCI-2 than those who moved up from 200 level English. Students who advanced through 200 level, 100 level, and then to transfer level English earned the lowest GPA in POLSCI-2.

Table 8: Average POLSCI –2 GPA by Students Who Completed Transfer Level English

Transfer Level English	N	Mean
Started at Transfer	1194	2.12
Moved up from 100 Level	767	1.87
Moved Up from 200 Level	704	1.47
Total	2665	1.88

Table 9. ANOVA

GPA in POLSCI-2					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	164.477	2	82.238	54.838	.000
Within Groups	3542.178	2362	1.500		
Total	3706.655	2364			

Table 10. Post Hoc Tests

GPA Tukey HSD

(I) Engl.1st	(J) Engl.1st	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
200 Level	100 Level	-.40440*	.06859	.000	-.5653	-.2435
	Transfer Level	-.65079*	.06216	.000	-.7966	-.5050
100 Level	200 Level	.40440*	.06859	.000	.2435	.5653
	Transfer Level	-.24639*	.06002	.000	-.3872	-.1056
Transfer Level	200 Level	.65079*	.06216	.000	.5050	.7966
	100 Level	.24639*	.06002	.000	.1056	.3872

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

6. Use English Grades to Predict Success in POLSCI-2

To determine which English courses can better predict success in POLSCI-2 classes, correlational analysis was used to identify relationships between course grades in selected English courses (English-125, English -126, and English-1A) and grades in POLSCI-2. All three correlational analyses are statistically significant at 0.01 level. Pearson’s *r* for three English classes are: English 125 – 0.314, English 126 – 0.277, English 1A – 0.334 (See Table 11). Among the three classes, English-1A is a stronger predictor to predict student success in POLSCI-2.

It should be noted that course grades for English 125 and 126 changed from A, B, C, D, and F scheme to Pass and Not Pass in recent semesters. Therefore, recent grades were excluded from analyses.

Table 11. Correlations Between POLSCI-2 GPA and GPA in English 125, 126, and 1A

		GPA	GPA.ENGL125	GPA.ENGL126	GPA.ENGL1A
GPA.POLSCI-2	Pearson Correlation	1	0.314**	0.277**	0.334**
	Sig. (2-tailed)		.000	.000	.000
	N	6192	1332	808	2302

** Correlation is significant at the 0.01 level (2-tailed).

Summary of Findings

The purpose of this study was to identify if student success in POLSCI-2 classes was affected by students' level of English completed. Students who were enrolled in POLSCI-2 in most recent two years were included in the study (n=7,427).

Statistical analyses showed:

1. Students who completed transfer level English performed better in POLSCI-2 than those who completed lower level of English.
2. Students who only completed 100 or 200 levels English were unlikely to be successful in POLSCI-2.
3. Students who started their first English at transfer level were more likely to be successful in POLSCI-2.
4. Of all the variables examined, student cumulative GPA was the single most important predictor in predicting student success in POLSCI-2.
5. Class size is not related to student performance in POLSCI-2.
6. Of the students who completed transfer level English, those who started with transfer level English performed much better in POLSCI-2 than those who moved up from 100 or 200 level English.
7. Among the three English classes examined (English 125, 126, and 1A), English-1A is a stronger predictor to predict student success in POLSCI-2.

Future Research

Results of the study showed that student cumulative GPA can strongly predict student performance in POLSCI-2. Students who perform well in POLSCI-2 tended to be successful in all other classes. Although there are many factors which may impact student success in college, some key variables about students' self-motivation, their educational objective, study effort and study habits, and their perception and satisfaction about campus environment could be strong predictors of academic success. Therefore, it is recommended to survey students to identify some personal factors which contribute to their success in college.