

**Office of Academic  
Planning and Assessment**

A Report of the Course-Embedded Texas Government Assessment

Spring 2020

## **Description of the Course Embedded Texas Government Assessment**

Each spring, a locally developed pre-to post-test is administered within sections of POLS 2306: Texas Government. The instrument used in POLS 2306: Texas Government consisted of 10 multiple-choice questions and was administered to students enrolled in those courses at the start and end of the spring 2020 semester. The instrument was developed by the faculty of the Department of Political Science for use as part of their on-going programmatic assessment. As the instrument was locally developed by faculty from the Department of Political Science, it is assumed that instrument has content-related validity (Banta & Palomba, 2015). Additionally, as this test was embedded within the POLS 2306: Texas Government courses, the student scores represent authentic student work (Banta & Palomba, 2015; Kuh et al. 2015).

The student data presented within this report reflects student performance regarding the Texas Higher Education Coordinating Board's Core Learning Objective of Social Responsibility (THECB, 2018). The THECB (2018) defines Social Responsibility as "intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities" (p. 4). Data from this assessment may therefore be used to address one element of the broader concept of Social Responsibility, the element of "knowledge of civic responsibility." These data should therefore be used in conjunction with other data to fully understand student knowledge and ability with regards to this Core Learning Objective.

## **Methodology**

A total of 715 students took the pre-test and a total of 640 students took the post-test for POLS 2306: Texas Government in spring 2020. However, not all student test scores were used for analysis. In order to determine whether student performance increased from pre-to-post, a dependent samples *t*-test was used for analysis. Student SamID's were collected along with student scores in order to identify each student's score on both the pre- and post-test. A total of 493 students provided their SamID's and took both the pre- and post-tests for POLS 2306: Texas Government. All statistical analysis was therefore conducted on only those students for whom both pre- and post-test scores could be identified.

Prior to conducting inferential statistics to determine whether differences were present between the students' pre- to post-test scores, checks were conducted to determine the extent to which these data were normally distributed. All four of the standardized skewness and kurtosis coefficients, (i.e., the skewness and kurtosis values divided by their standard error) were within the limits of normality of +/-3 (Onwuegbuzie & Daniel, 2002) for the POLS 2306: Texas Government data. Therefore, a parametric dependent samples *t*-test was conducted to analyze student performance on this assessment, from pre-to-post. Readers are directed to Table 1 for a breakdown of these results.

Table 1

*Standardized Skewness and Kurtosis Values for Student Pre- and Post-test Scores*

Student Population	Standardized Skewness Coefficient	Standardized Kurtosis Coefficient
Pre-Test	0.74	-1.10
Post-Test	-2.18	-2.44

**Results**

A parametric dependent sample *t*-test revealed a statistically significant difference in the pre- to post-scores for students enrolled in POLS 2306: Texas Government for spring 2020,  $t(492) = -17.28, p < .001$ . This difference represented a large effect size (Cohen's *d*) of 0.94 (Cohen, 1988). The average student score increased from 45.90% on the pre-test to 54.88% on the post-test, for an increase of 8.98% points. This equated to an average increase of 0.90 questions answered correctly from pre-to-post. Readers are directed to Table 2 for the descriptive statistics for student pre- and post-test scores.

Table 2

*Descriptive Statistics for Student Pre- and Post-test Scores on Course-Embedded Assessments in POLS 2306: Texas Government for Spring 2020*

Test Version	<i>M</i>	<i>SD</i>	<i>M</i> %	<i>SD</i> %
Pre-test Scores	4.35	1.46	43.53	14.56
Post-test Scores	5.86	1.73	58.58	17.32

*Note.* The number of students in the sample was 493.

Additional important information regarding student performance can also be gained through an item analysis of student pre- and post-test performance on individual test questions. This item analysis revealed that students scored statistically significantly higher on 7 of the 10 test questions (Questions 1, 3, 4, 5, 6, 7, 10) from pre-to-post. Additionally, students scored statistically significantly lower on 1 of the 10 test questions (Question 2). Readers are directed to Table 3 for a complete breakdown of item analysis data for spring 2020.

Table 3

*Percentage of Students Correctly Answering Pre- and Post-Test Questions for Spring 2020*

	Pre-Test	Post-Test	Mean Difference	Cohen's <i>d</i>
Question 1	61.26%	88.44%	27.18%***	0.65
Question 2	20.69%	12.17%	-8.52%***	-0.24
Question 3	8.32%	39.96%	31.64%***	0.80
Question 4	37.32%	70.99%	33.67%***	0.72
Question 5	30.22%	47.67%	17.45%***	0.37
Question 6	54.77%	70.18%	15.41%***	0.31
Question 7	42.60%	48.28%	5.68%*	0.10
Question 8	92.09%	93.51%	1.42%	
Question 9	63.29%	61.26%	-2.03%	

Question 10	24.75%	53.35%	28.6%***	0.60
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*Note.*  $n = 493$ . \* significant at  $p \leq 0.05$ ; \*\* significant at  $p \leq 0.01$ ; \*\*\* significant at  $p \leq 0.001$ . Cohen's  $d$  from 0.2 – 0.49 indicate a small effect size, 0.50-0.79 indicate a moderate effect size, and 0.80 and higher indicate a large effect size (Cohen, 1988).

### References

- Banta, T. W., & Palomba, C. A. (2015). *Assessment essentials: Planning, implementing, and improving assessment in higher education* (2nd ed.). San Francisco, CA: Jossey-Bass.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.
- Kuh, G. D., Ikenberry, S. O., Jankowski, N. A., Cain, T. R., Ewell, P. T., Hutchings, P., Kinzie, J. (2015). *Using evidence of student learning to improve higher education*. San Francisco, CA: Jossey-Bass.
- Onwuegbuzie, A. J., & Daniel, L. G. (2002). Uses and misuses of the correlation coefficient. *Research in the Schools*, 9(1), 73-90.
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