



Office of Assessment
SAM HOUSTON STATE UNIVERSITY

A Report of the Course-Embedded Contemporary Moral Issues Assessment

PHIL 2306

Fall 2022-Spring 2023

Description of the Course-Embedded Contemporary Moral Issues Assessment

Beginning in fall 2022, a new locally developed pretest to posttest assessment was administered within sections of PHIL 2306: Contemporary Moral Issues. The instrument consisted of 20 multiple choice questions and was administered at the beginning and at the end of the fall and spring semesters. The instrument was developed by Philosophy faculty for use as part of their ongoing programmatic assessment as well as for Core Learning assessment. Because the instrument was developed by faculty with expertise in teaching these concepts, it is assumed that the instrument has content-related validity (Banta & Palomba, 2015). Additionally, as this test was embedded within normal sections of PHIL 2306, the student scores represent authentic student work (Banta & Palomba, 2015; Kuh et al., 2015).

The student data presented within this report reflect student performance regarding the Texas Higher Education Coordinating Board's Core Learning Objectives of Social Responsibility and Personal Responsibility (THECB, 2023). The THECB (2023) defines these concepts as follows:

- Social Responsibility: intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities
- Personal Responsibility: ability to connect choices, actions, and consequences to ethical decision-making

These data should therefore be used in conjunction with other data to fully understand student knowledge and ability with regards to these Core Learning Objectives.

Methodology

A total of 176 students took the pretest, and a total of 106 students took the posttest for all sections of PHIL 2306: Contemporary Moral Issues for the 2022-2023 academic year; however, not all student test scores were used for analysis. To determine whether student performance increased from pretest to posttest, a dependent samples *t*-test was used for analysis. Student identification numbers were collected along with student scores to identify each student's score on both the pretest and posttest. A total of 78 students could be identified as taking both the pre- and posttests. All statistical analysis was therefore conducted on only those students for whom both pre- and posttest scores could be identified.

Prior to conducting inferential statistics to determine whether differences were present between the students' pre- to posttest scores, checks were conducted to determine the extent to which these data were normally distributed. All four of the standardized skewness and kurtosis coefficients were within the limits of normality of +/-3 (Onwuegbuzie & Daniel, 2002) for the face-to-face, online, and combined student populations. Therefore, a parametric dependent samples *t*-test was used to analyze the student performance data for the combined populations. A complete breakdown of the standardized skewness and kurtosis coefficients is in Table 1.

Table 1*Standardized Skewness and Kurtosis Values for Student Pre- and Posttest Scores*

Student Population	Standardized Skewness Coefficient	Standardized Kurtosis Coefficient
Face-to-Face Students		
Pretest	-0.21	-0.80
Posttest	-0.44	0.08
Online Students		
Pretest	0.10	-0.59
Posttest	-0.44	0.08
All Students		
Pretest	-0.00	-0.65
Posttest	-0.48	0.18

Results

A parametric dependent samples *t*-test revealed a statistically significant difference at the $p \leq .001$ level between students' pre- to posttest scores for students enrolled in face-to-face sections of PHIL 2306: Contemporary Moral Issues for the 2022-2023 academic year, $t(33) = -5.38, p < .001$. This difference represented a large effect size (Cohen's *d*) of 0.83 (Cohen, 1988). The average student score increased from 58.38% to 70.88%, for an increase of 12.50%. This equated to an average increase of 2.50 questions answered correctly from pre- to posttest. Readers are directed to Table 2 for a breakdown of these results.

Table 2*Descriptive Statistics for Student Pre- and Posttest Scores on Course-Embedded Test in PHIL 2306: Contemporary Moral Issues for 2022-2023 (Face-to-Face)*

Test Version	<i>M</i>	<i>SD</i>	<i>M</i> %	<i>SD</i> %
Pretest Scores	11.68	3.14	58.38	15.70
Posttest Scores	14.18	2.87	70.88	14.33

Note. The number of students was 34.

A parametric dependent samples *t*-test revealed a statistically significant difference at the $p \leq .001$ level between students' pre- to posttest scores for students enrolled in online sections of PHIL 2306: Contemporary Moral Issues for the 2022-2023 academic year, $t(43) = -4.17, p < .001$. This difference represented a moderate effect size (Cohen's *d*) of 0.57 (Cohen, 1988). The average student score increased from 58.64% to 68.86%, for an increase of 10.23%. This equated to an average increase of 2.04 questions answered correctly from pre- to posttest. Readers are directed to Table 3 for a breakdown of these results.

Table 3*Descriptive Statistics for Student Pre- and Posttest Scores on Course-Embedded Test in PHIL 2306: Contemporary Moral Issues for 2022-2023 (Online)*

Test Version	<i>M</i>	<i>SD</i>	<i>M</i> %	<i>SD</i> %
Pretest Scores	11.73	3.54	58.64	17.70
Posttest Scores	13.77	3.58	68.86	17.88

Note. The number of students was 44.

A parametric dependent samples *t*-test revealed a statistically significant difference at the $p \leq .001$ level between students' pre- to posttest scores for students enrolled in all sections of PHIL 2306: Contemporary Moral Issues for the 2022-2023 academic year, $t(77) = -6.56$, $p < .001$. This difference represented a moderate effect size (Cohen's *d*) of 0.68 (Cohen, 1988). The average student score increased from 58.53% to 69.74%, for an increase of 11.22%. This equated to an average increase of 2.24 questions answered correctly from pre- to posttest. Readers are directed to Table 4 for a breakdown of these results.

Table 4

Descriptive Statistics for Student Pre- and Posttest Scores on Course-Embedded Test in PHIL 2306: Contemporary Moral Issues for 2022-2023 (All Students)

Test Version	<i>M</i>	<i>SD</i>	<i>M %</i>	<i>SD %</i>
Pretest Scores	11.71	3.35	58.53	16.75
Posttest Scores	13.95	3.27	69.74	16.35

Note. The number of students was 78.

Additional important information regarding student performance can also be gained through an item analysis of student pre- and posttest performance on individual test questions for each of the examined student populations. This item analysis revealed that students in face-to-face sections scored statistically significantly higher on 6 of the 20 test questions (Questions 7, 8, 9, 10, 15, and 18) from pre- to posttest. Readers are directed to Table 5 for a complete breakdown of item analysis data for face-to-face students.

Table 5

Percentage of Face-to-Face Students Correctly Answering Pre- and Posttest Questions for 2022-2023

	Pretest %	Posttest %	Mean Difference	<i>p</i>	Cohen's <i>d</i>
Question 1	65	71	6	0.571	
Question 2	76	82	6	0.325	
Question 3	85	85	0	1.000	
Question 4	35	50	15	0.096	
Question 5	68	59	(9)	0.475	
Question 6	26	38	12	0.254	
Question 7	38	65	27	0.018*	0.55
Question 8	76	94	18	0.012*	0.52
Question 9	29	88	59	<.001***	1.47
Question 10	24	62	38	0.005**	0.82
Question 11	53	71	18	0.056	
Question 12	76	85	9	0.374	
Question 13	65	59	(6)	0.571	
Question 14	94	100	6	0.160	
Question 15	38	65	27	0.005**	0.55
Question 16	74	76	2	0.661	
Question 17	56	62	6	0.624	
Question 18	68	88	20	0.017*	0.49

Question 19	47	41	(6)	0.571
Question 20	74	76	2	0.768

Note. $n = 34$. (Decrease in score from pretest to posttest); * 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 indicates a small effect size, 0.50–0.79 indicates a moderate effect size, and 0.80 and higher indicates a large effect size (Cohen, 1988).

An item analysis for students in online sections revealed that they scored statistically significantly higher on 6 of the 20 test questions (Questions 4, 7, 8, 10, 12, and 19) from pre- to posttest. Readers are directed to Table 6 for a complete breakdown of item analysis data for face-to-face students.

Table 6

Percentage of Online Students Correctly Answering Pre- and Posttest Questions for 2022-2023

	Pretest %	Posttest %	Mean Difference	p	Cohen's d
Question 1	64	77	13	0.160	
Question 2	70	70	0	n/a	
Question 3	84	80	(4)	0.533	
Question 4	61	84	23	0.003**	0.53
Question 5	82	84	2	0.743	
Question 6	32	36	4	0.599	
Question 7	36	64	28	0.013*	0.58
Question 8	66	84	18	0.044*	0.42
Question 9	41	61	20	0.060	
Question 10	23	55	32	0.001***	0.69
Question 11	48	61	13	0.183	
Question 12	73	91	18	0.019*	0.47
Question 13	61	66	5	0.623	
Question 14	86	75	(11)	0.168	
Question 15	59	73	14	0.183	
Question 16	68	77	9	0.290	
Question 17	48	45	(3)	0.830	
Question 18	82	75	(7)	0.262	
Question 19	34	64	30	0.005**	0.62
Question 20	55	55	0	n/a	

Note. $n = 44$. (Decrease in score from pretest to posttest); * 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 indicates a small effect size, 0.50–0.79 indicates a moderate effect size, and 0.80 and higher indicates a large effect size (Cohen, 1988).

An item analysis for students in all sections combined revealed that face-to-face and online students scored statistically significantly higher on 8 of the 20 test questions (Questions 4, 7, 8, 9, 10, 11, 12, and 15) from pre- to posttest. Readers are directed to Table 7 for a complete breakdown of item analysis data for all students.

Table 7

Percentage of All Students Correctly Answering Pre- and Posttest Questions for 2022-2023

	Pretest %	Posttest %	Mean Difference	<i>p</i>	Cohen's <i>d</i>
Question 1	64	74	10	0.145	
Question 2	73	76	3	0.640	
Question 3	85	82	(3)	0.620	
Question 4	50	69	19	<.001***	0.39
Question 5	76	73	(3)	0.698	
Question 6	29	37	8	0.242	
Question 7	37	64	27	<.001***	0.56
Question 8	71	88	17	0.002**	0.43
Question 9	36	73	37	<.001***	0.80
Question 10	23	58	35	<.001***	0.76
Question 11	50	65	15	0.028*	0.31
Question 12	74	88	14	0.021*	0.36
Question 13	63	63	0	1.000	
Question 14	90	86	(4)	0.442	
Question 15	50	69	19	0.006**	0.39
Question 16	71	77	6	0.254	
Question 17	51	53	2	0.871	
Question 18	76	81	5	0.320	
Question 19	40	54	14	0.063	
Question 20	63	64	1	0.854	

Note. $n = 78$. (Decrease in score from pretest to posttest); * 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 indicates a small effect size, 0.50–0.79 indicates a moderate effect size, and 0.80 and higher indicates a large effect size (Cohen, 1988).

References

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