



Office of Assessment  
SAM HOUSTON STATE UNIVERSITY

A Report of the Course-Embedded Contemporary Moral Issues Assessment

PHIL 2306

Fall 2023-Spring 2024

## 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, 2024). The THECB (2024) 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 137 students took the pretest, and a total of 50 students took the posttest for all sections of PHIL 2306: Contemporary Moral Issues for the 2023-2024 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 43 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	-1.02	0.42
Posttest	-1.45	1.94
Online Students		
Pretest	0.22	0.73
Posttest	-0.99	0.52
All Students		
Pretest	-0.18	-0.67
Posttest	-1.06	0.61

**Results**

A parametric dependent samples *t*-test revealed a statistically significant difference at the  $p \leq .01$  level between students' pre- to posttest scores for students enrolled in face-to-face sections of PHIL 2306: Contemporary Moral Issues for the 2023-2024 academic year,  $t(18) = -2.97, p = .008$ . This difference represented a moderate effect size (Cohen's *d*) of 0.61 (Cohen, 1988). The average student score increased from 69.47% to 79.74%, for an increase of 10.27%. This equated to an average increase of 2.06 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 2023-2024 (Face-to-Face)*

Test Version	<i>M</i>	<i>SD</i>	<i>M</i> %	<i>SD</i> %
Pretest Scores	13.89	3.62	69.47	18.10
Posttest Scores	15.95	3.14	79.74	15.68

*Note.* The number of students was 19.

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 2023-2024 academic year,  $t(23) = -5.19, p < .001$ . This difference represented a large effect size (Cohen's *d*) of 1.13 (Cohen, 1988). The average student score increased from 50.83% to 70.42%, for an increase of 19.59%. This equated to an average increase of 3.91 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 2023-2024 (Online)*

Test Version	<i>M</i>	<i>SD</i>	<i>M</i> %	<i>SD</i> %
Pretest Scores	10.17	3.51	50.83	17.55
Posttest Scores	14.08	3.41	70.42	17.06

*Note.* The number of students was 24.

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 2023-2024 academic year,  $t(42) = -5.80$ ,  $p < .001$ . This difference represented a large effect size (Cohen's *d*) of 0.84 (Cohen, 1988). The average student score increased from 59.07% to 74.53%, for an increase of 15.46%. This equated to an average increase of 3.10 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 2023-2024 (All Students)*

Test Version	<i>M</i>	<i>SD</i>	<i>M</i> %	<i>SD</i> %
Pretest Scores	11.81	3.98	59.07	19.92
Posttest Scores	14.91	3.39	74.53	16.93

*Note.* The number of students was 43.

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 3 of the 20 test questions (Questions 2, 9, and 19) 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 2023-2024*

	Pretest %	Posttest %	Mean Difference	<i>p</i>	Cohen's <i>d</i>
Question 1	58	79	21	0.163	
Question 2	68	100	32	0.010**	0.95
Question 3	95	100	5	0.331	
Question 4	68	74	6	0.667	
Question 5	79	74	(5)	0.716	
Question 6	68	63	(5)	0.716	
Question 7	79	89	10	0.429	
Question 8	84	95	11	0.331	
Question 9	37	68	31	0.030*	0.64
Question 10	26	21	(5)	0.716	
Question 11	58	74	16	0.187	
Question 12	95	89	(6)	0.578	
Question 13	79	84	5	0.578	
Question 14	95	95	0	1.000	
Question 15	68	68	0	1.000	
Question 16	84	95	11	0.331	
Question 17	68	79	11	0.429	
Question 18	79	95	16	0.187	

Question 19	26	84	58	<.001***	1.40
Question 20	74	68	(6)	0.667	

Note.  $n = 19$ . (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 8 of the 20 test questions (Questions 2, 4, 9, 10, 11, 12, 14, 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 2023-2024*

	Pretest %	Posttest %	Mean Difference	$p$	Cohen's $d$
Question 1	54	71	17	0.162	
Question 2	54	83	29	0.016*	0.35
Question 3	75	75	0	1.000	
Question 4	50	96	46	<.001***	1.18
Question 5	63	75	12	0.266	
Question 6	38	58	20	0.170	
Question 7	38	58	20	0.135	
Question 8	54	63	9	0.539	
Question 9	29	63	34	0.017*	0.71
Question 10	13	58	45	<.001***	1.05
Question 11	38	67	29	0.050*	0.59
Question 12	54	88	34	0.008**	0.79
Question 13	54	58	4	0.747	
Question 14	71	92	21	0.022*	0.55
Question 15	46	58	12	0.417	
Question 16	54	67	13	0.377	
Question 17	58	58	0	1.000	
Question 18	75	71	(4)	0.747	
Question 19	42	83	41	<.001***	0.92
Question 20	58	67	9	0.426	

Note.  $n = 24$ . (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 1, 2, 4, 9, 10, 11, 14, and 19), and approached significance on Question 12 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 2023-2024*

	Pretest %	Posttest %	Mean Difference	<i>p</i>	Cohen's <i>d</i>
Question 1	56	74	18	0.044*	0.38
Question 2	60	91	31	<.001***	0.76
Question 3	84	84	2	0.743	
Question 4	58	86	28	0.003**	0.65
Question 5	70	74	4	0.599	
Question 6	51	60	9	0.377	
Question 7	56	72	16	0.090	
Question 8	67	77	10	0.290	
Question 9	33	65	32	0.001***	0.67
Question 10	19	42	23	0.017*	0.51
Question 11	47	70	23	0.017*	0.47
Question 12	72	88	16	0.051	
Question 13	65	70	5	0.570	
Question 14	81	93	12	0.024*	0.36
Question 15	56	63	7	0.498	
Question 16	67	79	12	0.200	
Question 17	63	67	4	0.599	
Question 18	77	81	4	0.599	
Question 19	35	84	49	<.001***	1.14
Question 20	65	67	2	0.767	

*Note.*  $n = 43$ . (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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