Police/Criminal Investigation & Justice Assessment Report
Fall 2016

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1 INTRODUCTION

Florida SouthWestern State College's Business Department gathers a multitude of data from various courses as assessment tools in support of the Florida Department of Education Curriculum Framework. These courses included in assessment are CJE 1300 *Police Organization and Administration*, CJE 2600 *Criminal Investigation Techniques*, and CJE 2711 *Criminal Justice Capstone*. The assessment outcomes are intended to provide a baseline and measurement of achievement moving forward as well as investigate the strength and performance of items in the exam. The assessment plan also provides comparisons between dual Enrollment and non-dual enrollment students, online versus traditional students, and by site, where possible. Where data is sufficient, additional analyses are provided including distribution studies and longitudinal studies.

For additional detail or further analysis not provided in this report, please contact Dr. Joseph F. van Gaalen, Director of Academic Assessment, Academic Affairs (jfvangaalen@fsw.edu; x16965).

2 CJE 1300

2.1 LEARNING OBJECTIVES AND DESCRIPTIVE STATISTICS

The FSW Business faculty defined one area of interest for evaluation in support of the state framework. The outcome and the measure of success related to CJE 1300 is:

➢ Outcome 1 – 80% of candidates will earn a grade of 80 or higher on the essay assignments associated with the program outcome "Interpret the police administrative role in law enforcement." during AY 2016-2017.

During the fall 2016 semester, 50 scores were tallied from 3 of 3 sections of CJE 1300. Descriptive statistics for achievement of outcomes are shown in Table 1. The distribution of scores is presented in Table 2 and Figure 1.

Module Essays	% Scoring 80% or Higher	Module Essays	% Scoring 80% or Higher
Module 1 Essay	90%	Module 8 Essay	88%
Module 2 Essay	90%	Module 9 Essay	78%
Module 3 Essay	90%	Module 10 Essay	83%
Module 4 Essay	88%	Module 11 Essay	71%
Module 5 Essay	80%	Module 12 Essay	86%
Module 6 Essay	84%	Module 13 Essay	75%
Module 7 Essay	70%	Module 14 Essay	80%

Table 1. Student achievement level by Essay for CJE 1300.

Essay #	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Maximum score	350	350	350	350	350	350	350	350	350	350	350	350	350	350
n	50	50	51	51	51	49	50	51	49	47	49	49	48	45
Max	350	350	350	350	350	350	350	350	350	350	350	350	350	350
Min	0	247.5	0	0	0	0	0	0	0	0	0	0	0	0
Median	320	313	320	320	322	315	320	320	320	322	310	322	304	320
Mode	320	350	350	350	350	350	320	320	320	350	350	350	320	320
Mean	312.2	312.9	308.0	305.5	296.2	283.7	298.5	295.9	283.8	282.3	257.8	295.3	269.1	267.7
Standard deviation	51.36	28.26	67.68	68.16	91.39	99.78	70.28	90.00	99.35	111.81	126.33	93.08	108.03	127.23
Skewness	-4.82	-0.37	-3.86	-3.69	-2.76	-2.41	-3.22	-2.90	-2.45	-2.10	-1.52	-2.72	-1.96	-1.66
Kurtosis	28.52	-0.80	16.21	15.11	6.81	4.57	11.99	7.39	4.71	2.89	0.59	6.43	2.48	0.93

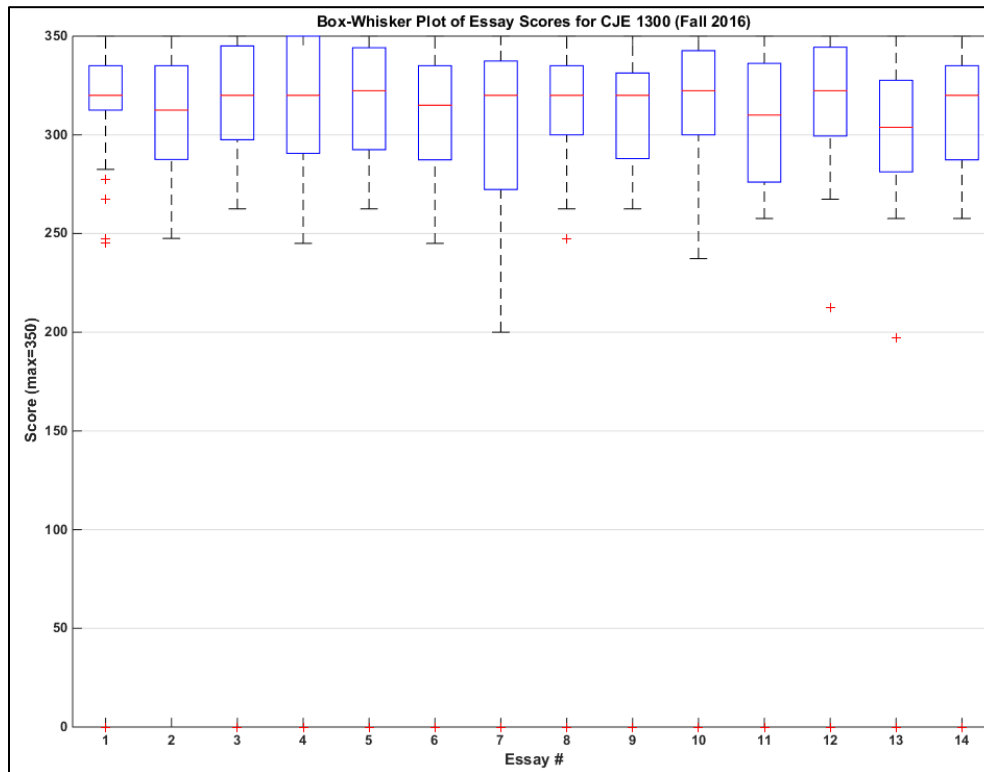*Table 2. Descriptive statistics for CJE 1300 module essays.*

Figure 1. Box-Whisker plot of scores distributed by Essay # for CJE 1300. Red line depicts median score. Upper and lower box boundaries indicate 75% quartile and 25% quartile (box represents central 50% of the scores). Vertical lines represent remaining scores outside central 50% that are not outliers. Red '+'s denote outliers.

2.2   EXPLORATORY ANALYSIS AND SIGNIFICANCE TESTING

Multiple comparisons of artifact scores across varying formats, campuses, and student types were made, where possible, in order to add depth to the causes of the distribution of the artifacts. Each course was divided into the appropriate subgroups to perform the analysis. In cases where a subgroup is not represented in the course comparisons were not conducted and are noted for comprehensiveness.

2.2.1   Dual Enrollment to Non-Dual Enrollment Comparison

No dual enrollment sections of the course were run during fall 2016 so no comparison study between dual enrollment and non-dual enrollment could be completed.

2.2.2 Online to Traditional Comparison

During the fall 2016 semester, 24 total online scores were tallied from CJE 1300 and 26 traditional artifacts were tallied from CJE 1300. A comparison of basic statistics is provided in Table 3. Online artifacts mean scores are higher in 10 of 14 essay assignments while Traditional are higher for the remaining 4 of 14. Differences in the means were tested for significance using a Welch's t-test according to standard methods (Davis, 1973; McDonald, 2009; Wilkinson, 1999). Of the 14 essays, four were found to be statistically significantly different (Essay #s 4, 5, 8, and 13). Therefore, we must reject the null hypothesis that the difference in the means of the online and traditional scores of these essays is equal to 0, and we can conclude this with a 95% confidence that the differences in scores are not solely due to chance. A graphic representation is shown in Figure 2.

Essay #	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Maximum score	*350*	*350*	*350*	*350*	*350*	*350*	*350*	*350*	*350*	*350*	*350*	*350*	*350*	*350*
Traditional														
n	*25*	*26*	*26*	***26***	***25***	*22*	*25*	***26***	*24*	*19*	*19*	*23*	***20***	*16*
Mean	317.9	312.8	313.9	***308.8***	***311.4***	311.9	308.6	***312.5***	313.0	321.2	324.3	329.1	***320.9***	329.4
% above 80	96%	92%	92%	***92%***	***80%***	86%	80%	***96%***	92%	100%	100%	96%	***100%***	100%
Online														
n	24	24	23	***23***	***22***	22	23	***21***	20	22	21	22	***22***	21
Mean	319.3	312.9	328.1	***328.3***	***332.8***	319.9	313.4	***331.7***	319.7	325.8	308.0	313.6	***295.5***	322.6
% above 80	88%	88%	96%	***91%***	***95%***	100%	65%	***95%***	80%	91%	76%	91%	***73%***	95%

Table 3. Comparison of basic statistics for essays of traditional sections and online sections. Statistically significant results denoted in bold/italics.
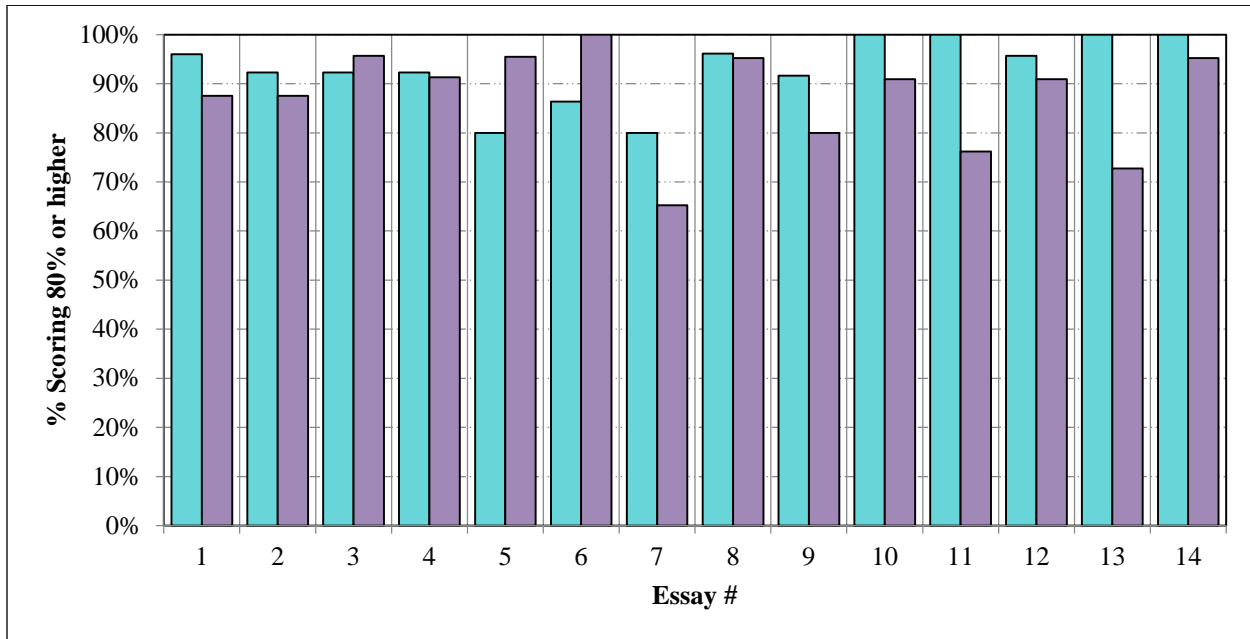

Figure 2. Comparison of percent of scores achieving 80% or higher by modality with Traditional (teal) and Online (purple).

Effect size was calculated using a method devised by Rosenthal and Rosnow (1991) for meta-analytical purposes in potential comparisons with other institutions (Lipsey and Wilson, 1993). The statistically significant results range what Cohen (1988) would consider a small, medium, and large effect sizes. In other words, non-overlap score distribution from online artifacts to traditional artifacts is approximately 4% to 50%.

2.2.3   Comparison by Campus/Site

Of the artifacts collected from CJE 1300, 17 originated from the Thomas Edison campus, 24 from FSW Online, and 10 from the Hendry Glades Center. A comparison of percent scoring 80% or higher by site is shown in Figure 3. Hendry Glades exhibits the highest number of essays achieving 80% or higher (8), although sample size is limited (n=10). Thomas Edison exhibits the second highest (6) followed by FSW Online (3). In some cases, more than one site share the highest achievement percentage, which is why totals add to 17 as opposed to 14.
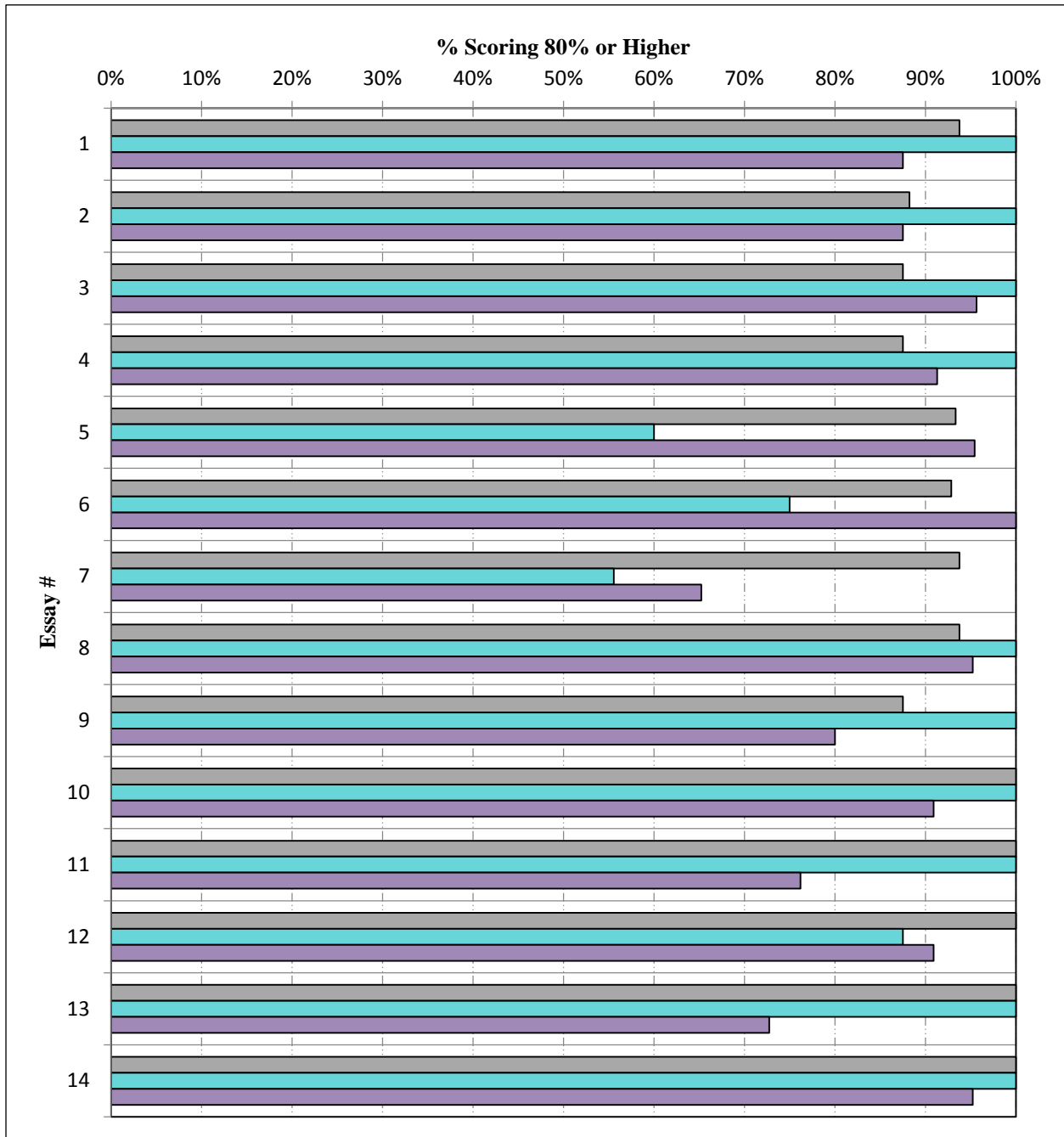

Figure 3. Comparison of percent scoring 80% or higher on module essay assignments for Thomas Edison (gray), Hendry Glades (teal), and FSW Online (purple).

2.3 LONGITUDINAL STUDY

As further data is collected in coming terms, this section will track achievement through time and highlight strengths, weaknesses and any long term trends.

3 CJE 2600

3.1 LEARNING OBJECTIVES AND DESCRIPTIVE STATISTICS

The FSW Business faculty defined one area of interest for evaluation in support of the state framework. The outcome and the measure of success related to CJE 2600 is:

➢ Outcome 1 – 80% of candidates will earn a grade of 80 or higher on the essay assignments associated with the program outcome "Apply knowledge of criminal investigation techniques." during AY 2016-2017.

During the fall 2016 semester, 42 scores were tallied from 2 of 2 sections of CJE 2600. Descriptive statistics for achievement of outcomes are shown in Table 4. The distribution of scores is presented in Table 5 and Figure 4.

Module Essays	% Scoring 80% or Higher	Module Essays	% Scoring 80% or Higher
Module 1 Essay	88%	Module 8 Essay	86%
Module 2 Essay	88%	Module 9 Essay	86%
Module 3 Essay	90%	Module 10 Essay	86%
Module 4 Essay	86%	Module 11 Essay	90%
Module 5 Essay	90%	Module 12 Essay	83%
Module 6 Essay	86%	Module 13 Essay	81%
Module 7 Essay	83%	Module 14 Essay	81%

Table 4. Student achievement level by Essay for CJE 2600.

Essay #	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Maximum score	350	350	350	350	350	350	350	350	350	350	350	350	350	350
n	42	42	42	42	42	42	42	42	42	42	42	42	42	42
Max	350	350	350	350	350	350	350	350	350	350	350	350	350	350
Min	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Median	320	335	335	335	335	328	320	317.5	332	335	320	324	320	324
Mode	350	335	335	335	335	350	335	350	350	335	335	350	335	335
Mean	308.2	300.4	307.7	302.9	301.9	295.2	303.6	286.5	309.5	298.6	300.7	291.8	276.8	273.6
Standard deviation	63.4	90.6	88.2	92.4	87.2	100.7	76.6	102.2	77.29	100.2	87.3	100.4	116.8	124.9
Skewness	-3.49	-2.84	-3.22	-2.76	-3.13	-2.52	-3.28	-2.32	-3.40	-2.66	-3.10	-2.48	-1.95	-1.79
Kurtosis	14.32	7.23	9.32	6.74	8.95	5.15	11.05	4.09	11.65	5.72	8.73	4.91	2.17	1.37

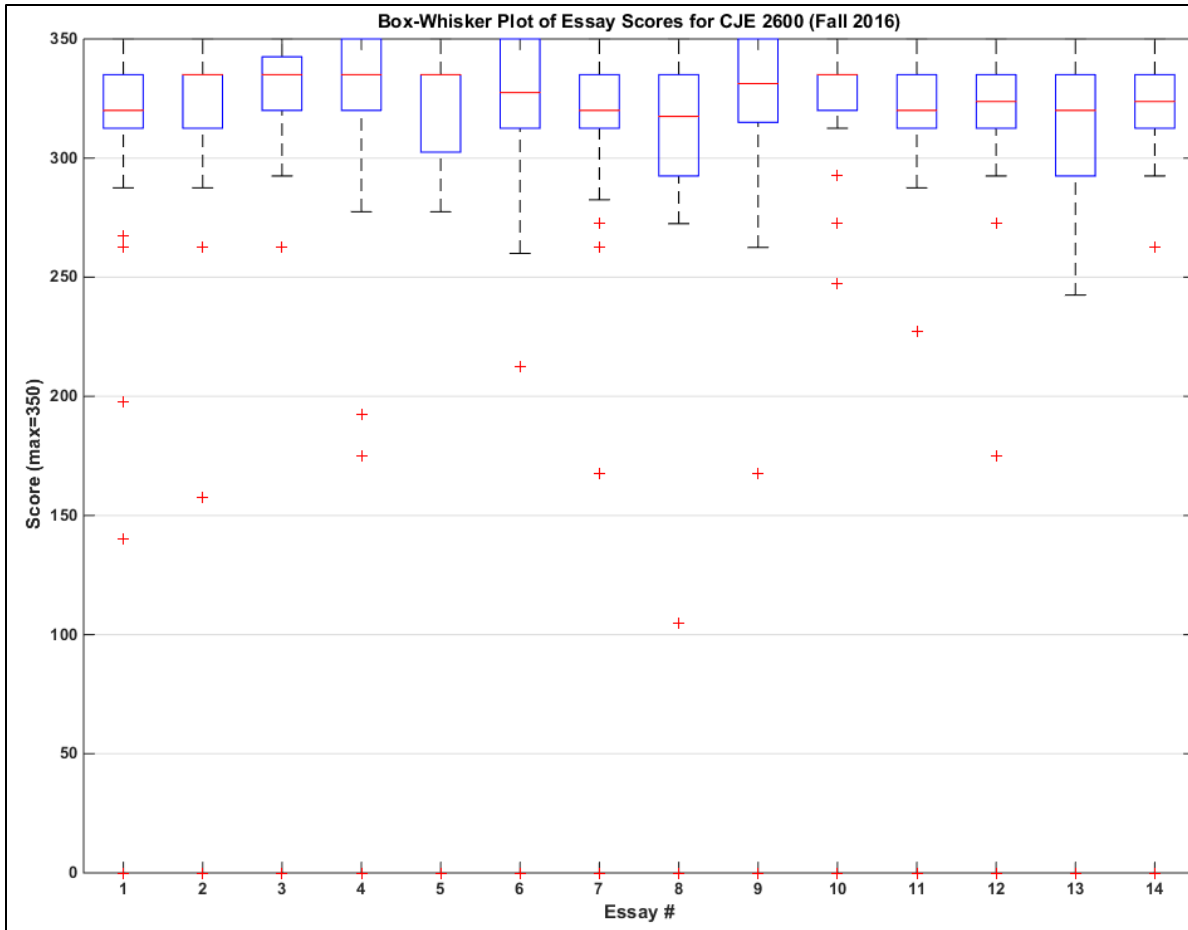Table 5. Descriptive statistics for CJE 2600 module essays.

Figure 4. Box-Whisker plot of scores distributed by Essay # for CJE 2600. Red line depicts median score. Upper and lower box boundaries indicate 75% quartile and 25% quartile (box represents central 50% of the scores). Vertical lines represent remaining scores outside central 50% that are not outliers. Red '+'s denote outliers.

3.2   EXPLORATORY ANALYSIS AND SIGNIFICANCE TESTING

Multiple comparisons of artifact scores across varying formats, campuses, and student types were made, where possible, in order to add depth to the causes of the distribution of the artifacts. Each course was divided into the appropriate subgroups to perform the analysis. In cases where a subgroup is not represented in the course comparisons were not conducted and are noted for comprehensiveness.

3.2.1   Dual Enrollment to Non-Dual Enrollment Comparison

No dual enrollment sections of the course were run during fall 2016 so no comparison study between dual enrollment and non-dual enrollment could be completed.

3.2.2   Online to Traditional Comparison

During the fall 2016 semester, 22 total online scores were tallied from CJE 2600 and 19 traditional artifacts were tallied from CJE 2600. A comparison of basic statistics is provided in Table 6. Online artifacts mean scores are lower for all essay assignments. Differences in the means were tested for significance using a Welch's t-test according to standard methods (Davis, 1973; McDonald, 2009; Wilkinson, 1999). Of the 14 assignments, 13 were found to be statistically significantly different (only

Essay # 10 was not). Therefore, we must reject the null hypothesis that the difference in the means of the online and traditional scores of these essays is equal to 0, and we can conclude this with a 95% confidence that the differences in scores are not solely due to chance.

Essay #	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Maximum score	*350*	*350*	*350*	*350*	*350*	*350*	*350*	*350*	*350*	*350*	*350*	*350*	*350*	*350*
Traditional														
n	*19*	*19*	*19*	*19*	*19*	*19*	*19*	*18*	*19*	19	*19*	*19*	*19*	*17*
Mean	*338.7*	*338.3*	*342.5*	*344.9*	*336.7*	*343.6*	*337.6*	*338.3*	*343.2*	333.4	*332.0*	*338.6*	*338.2*	*334.6*
% above 80	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*	95%	*100%*	*100%*	*100%*	*100%*
Online														
n	*22*	*20*	*20*	*20*	*20*	*19*	*21*	*20*	*21*	19	*20*	*19*	*17*	*18*
Mean	*295.9*	*309.5*	*320.8*	*308.5*	*314.1*	*309.1*	*301.7*	*297.3*	*308.6*	326.6	*316.0*	*306.4*	*306.0*	*322.4*
% above 80	*82%*	*90%*	*95%*	*85%*	*95%*	*89%*	*76%*	*90%*	*81%*	95%	*95%*	*84%*	*88%*	*94%*

Table 6. Comparison of basic statistics for essays of traditional sections and online sections. Statistically significant results denoted in bold/italics.
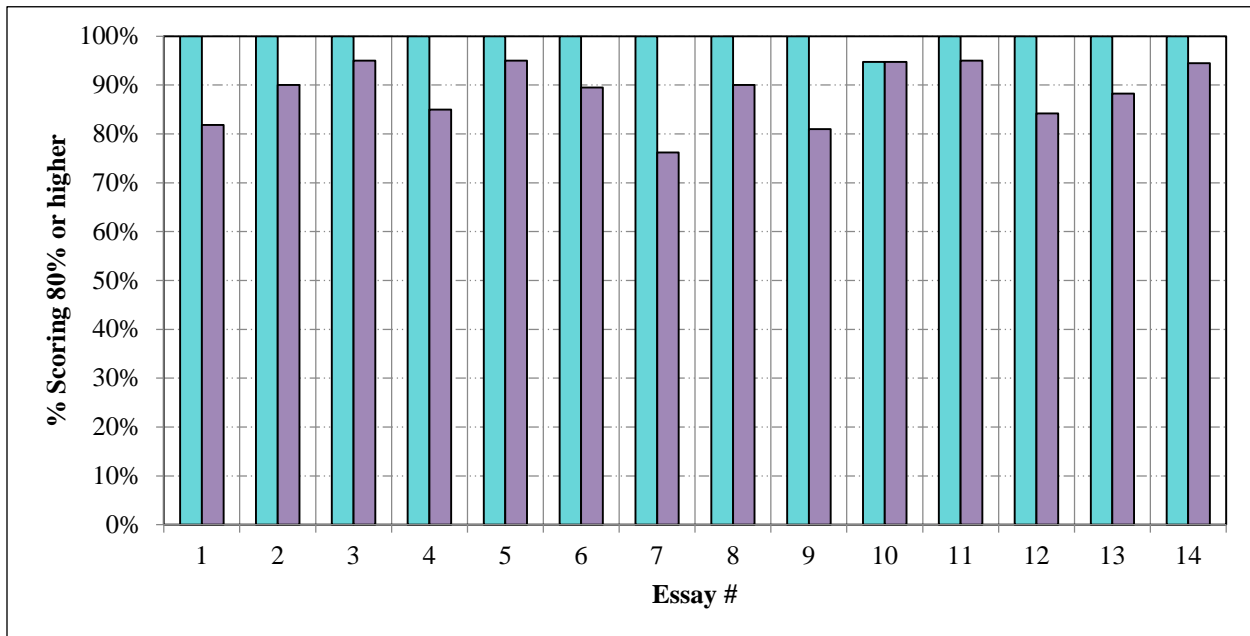

Figure 5. Comparison of percent of scores achieving 80% or higher by modality with Traditional (teal) and Online (purple).

Effect size was calculated using a method devised by Rosenthal and Rosnow (1991) for meta-analytical purposes in potential comparisons with other institutions (Lipsey and Wilson, 1993). The statistically significant results range what Cohen (1988) would consider a medium, and large effect sizes. In other words, non-overlap score distribution from online artifacts to traditional artifacts is approximately 22% to 73%.

3.2.3 Comparison by Campus/Site
Since the only two sites in which courses were offered was Thomas Edison (Lee) and FSW Online, results of this comparison are exhibited in 3.2.2 (see above).

3.3 LONGITUDINAL STUDY

As further data is collected in coming terms, this section will track achievement through time and highlight strengths, weaknesses and any long term trends.

4 CJE 2711

This course was not offered during fall 2016 so no study could be completed.

5 CONCLUSIONS

FSW's Business Department gathers a multitude of data from various courses as assessment tools in support of the Florida Department of Education Curriculum Framework. These courses included in assessment are CJE 1010 *Police Organization and Administration* and CJE 2600 *Criminal Investigation Techniques*. The assessment outcomes are intended to provide a baseline and measurement of achievement moving forward as well as investigate the strength and performance of items in the exam.

5.1 CJE 1300

A drill-down of CJE 1300 results are as follows:
1. In a study of outcome achievement, "80% of candidates will earn a grade of 80 or higher on the essay assignments associated with the program outcome "Interpret the police administrative role in law enforcement." during AY 2016-2017", 10 of 14 essays exhibit 80% or greater scoring 80%.
2. In a study comparing Online with Traditional course sections, Online artifacts mean scores are higher for 10 of 14 essay assignments. Of the 14 essays, four were found to be statistically significantly different (Essay #s 4, 5, 8, and 13).
3. In a cross-campus comparison study, Hendry Glades exhibits the highest number of essays achieving 80% or higher (8), although sample size is limited (n=10). Thomas Edison exhibits the second highest (6) followed by FSW Online (3). In some cases, more than one site share the highest achievement percentage, which is why totals add to 17 as opposed to 14.

5.2 CJE 2600

A drill-down of CJE 2600 results are as follows:
1. In a study of outcome achievement, "80% of candidates will earn a grade of 80 or higher on the essay assignments associated with the program outcome "Apply knowledge of criminal investigation techniques." during AY 2016-2017", 14 of 14 essays exhibit 80% or greater scoring 80%.
2. In a study comparing Online with Traditional course sections, Online artifacts mean scores are lower for all essay assignments. Of the 14 assignments, 13 were found to be statistically significantly different (only Essay # 10 was not).
3. No cross-campus comparison study was completed because only two sites in which courses were offered was Thomas Edison (Lee) and FSW Online, results of this comparison are exhibited in #2 above.

6 REFERENCES

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