Developmental Achievement & Student Satisfaction Reports Fall 2016

Author: Joseph F. van Gaalen, Ph.D., Director, Academic Affairs Assessment

Florida SouthWestern State College's assessment measures for the Developmental Accountability plan include a collection of achievement data to determine the efficacy of the developmental options and to inform course and program improvement. Additionally, FSW tracks satisfaction of current developmental courses through a survey administered at the end of each term. The data is in support of assessment measures for the Developmental Accountability plan to determine efficacy of developmental options and to inform course and program improvement. What follows is the assembly of achievement and student satisfaction reports for each of the developmental courses (ENC 0022, REA 0019, MAT 0057, and MAT 0058).

The faculty for ENC 0022 *Writing for College Success* reviewed achievement to determine if there is any significant difference across developmental strategies (Compressed and Modularized).

The faculty for MAT 0057 *Mathematics for College Success* reviewed achievement to determine if there is any significant difference across developmental strategies (Compressed and Modularized).

The faculty for MAT 0058 *Mathematics for College Success* reviewed achievement to determine if there is any significant difference across developmental strategies (Compressed and Modularized).

The faculty for REA 0019 *Reading for College Success* use a defined course outcome in AY 2016-2017 that students will read at a post-secondary level that correlates with college success by the completion of the Developmental Reading sequence. Faculty established 1) a goal of the mean score difference (pre-/post) test of the course mastery exam will improve significantly college wide, 2) a goal of the mean score difference (pre-/post) of the course mastery exam will improve significantly across developmental strategies (Compressed, Contextualized, and Modularized), and 3) that 80% of REA 0019 completers will pass the course mastery exam for reading and complete the course with a 'C' or better.

Section 1

English Assessment Report
Fall 2016

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1 INTRODUCTION

Fall 2014 marked the beginning of a new assessment plan for the English Department of Florida SouthWestern State College (FSW) in three courses: ENC 0022 *Writing for College Success*, ENC 1101 *Composition I*, and ENC 1102 *Composition II*. The planned assessment practice continues in fall 2016 in which instructors use a common rubric with seven identified rubric dimensions in the case of ENC 0022, and five dimensions for both ENC 1101 and ENC 1102. The assessment plan uses a random sample of 30% of all course sections offered in ENC 1101 and ENC 1102. In the case of ENC 0022, because it is a course being assessed by assessment plans in addition to the English Department (Developmental Accountability Plan) all course sections for ENC 0022 are assessed.

The standard assessment plan highlighted above is designed to evaluate each course and inform faculty on Student Learning Objectives (SLOs) for future assessment plans. Additionally, the plan provides information on achievement levels of Dual Enrollment artifacts compared with non-Dual Enrollment, as well as online artifacts compared with traditional artifacts. Other analyses such as comparison by term length (standard vs. mini-term) and longitudinal studies are included.

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 ENC 0022

2.1 LEARNING OBJECTIVES & DESCRIPTIVE STATISTICS

Using common rubric criterion as an assessment method, the FSW English faculty defined multiple areas of interest for evaluation based on core outcomes for the course. Those outcomes include:

- Plan and write paragraphs and essays reflecting styles and tones appropriate for their audience and use adequate support, coherence, and unity that demonstrate understanding of content for expository and persuasive purposes.
- Establish a substantive claim, link claims to relevant evidence, and acknowledge competing arguments, gather information needed, and accurately incorporate source material into their own writing to avoid plagiarism.
- Identify and correctly use proper conventions for sentence grammar and avoid illogical shifts in pronouns and verbs in their own writing and on tests.
- Identify and use proper conventions for spelling, capitalization, and punctuation in their own writing and on tests.
- Identify and correctly use the conventions of a variety of sentence structures and will be able to avoid sentence fragments, comma splices, and fused sentences in their own writing and on tests.

- Identify and write effective topic sentences and thesis statements that address task and audience and use logical structure, support, and transitional devices for expository and persuasive purposes.

2.1.1 Learning Objectives

ENC 0022 is scored using a rubric with seven dimensions: Introductory Paragraph, Support Paragraphs, Organization, Concluding Paragraph, Grammar, Mechanics, and Research. Each dimension is scored on a scale of 1 to 4 (1-Unacceptable, 2-Needs work, 3-Average, 4-Above average), with 0s if the baseline of 'Unacceptable' is not met. The English department has identified a target statistic for measurement purposes (SLO1) of measuring the percentage of artifacts scoring a 2 or greater.

For the fall 2016 assessment, 152 artifacts were collected for ENC 0022 from 10 of 10 course sections. The lowest scoring rubric dimension for percentage of artifacts scoring a 2 or greater is Research at 80%. All other dimensions exhibit percentage of 97% or higher (Table 1). For a visual comparison of scores by dimension, see Figure 1.

Rubric Score	Introductory Paragraph	Support Paragraphs	Organization	Concluding Paragraph	Grammar	Mechanics	Research
Developing or higher	99%	99%	99%	98%	98%	97%	80%
4	38%	34%	41%	32%	23%	14%	8%
3	42%	51%	43%	52%	57%	55%	30%
2	18%	14%	14%	14%	18%	27%	42%
1	1%	0%	0%	1%	1%	2%	10%
0	1%	1%	1%	1%	1%	1%	10%

Table 1. Percentage of student achievement level by rubric dimension (includes percentage of students scoring in developmental level or higher as per SLO) for ENC 0022.

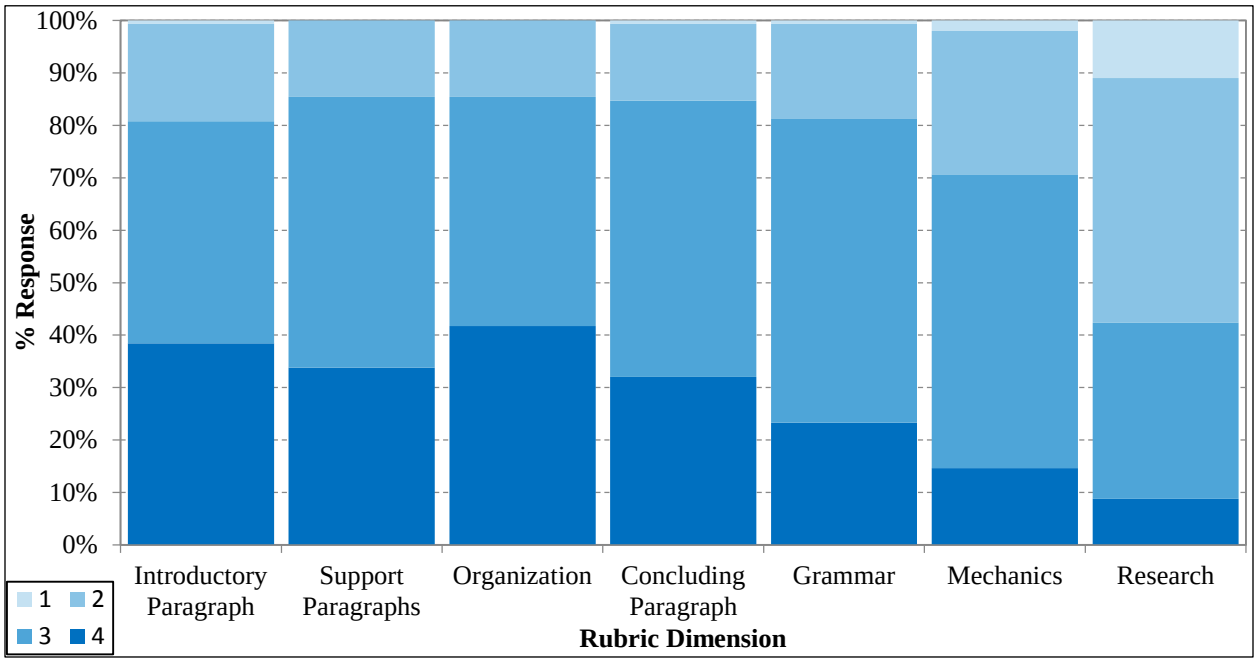

Figure 1. ENC 0022 distribution of rubric scores by dimension.

2.1.2 Descriptive Statistics & Longitudinal Studies

Descriptive statistics for ENC 0022 artifacts can be found in Table 2. A histogram of artifact scores for all 152 artifacts is shown in Figure 2. Distribution of artifact scores is bimodal centered on 20/28 and 27/28, and is moderately negatively skewed, meaning scores are shifted towards the higher range. To describe the behavior of the rubric dimensions based on overall achievement a color map, or binary raster image was created by calculating the mean scores for each dimension as a function of combined score (Figure 3). To create this image the rubric scores (4, 3, 2, 1, or 0) for each artifact was grouped based on combined raw rubric score (7 dimensions x maximum rubric level of 4 = 28 overall points). The color represents the mean rubric score achieved in each dimension based on the combined score as shown in the x-axis.

	Introductory Paragraph	Support Paragraphs	Organization	Concluding Paragraph	Grammar	Mechanics	Research	TOTAL
n	152	152	152	152	152	152	152	**152**
Max	4	4	4	4	4	4	4	**28**
Min	0	0	0	0	0	0	0	**2**
Median	3	3	3	3	3	3	2	**20**
Mode	3	3	3	3	3	3	2	**20**
Mean	3.2	3.2	3.3	3.1	3.0	2.8	2.2	**20.7**
Standard deviation	0.79	0.72	0.75	0.77	0.75	0.76	1.04	**4.23**
Skewness	-0.71	-0.70	-0.83	-1.00	-0.87	-0.66	-0.44	**-0.65**
Kurtosis	0.46	1.29	1.02	2.24	2.28	1.46	-0.08	**1.57**

Table 2. Descriptive statistics for ENC 0022 common course assessment.

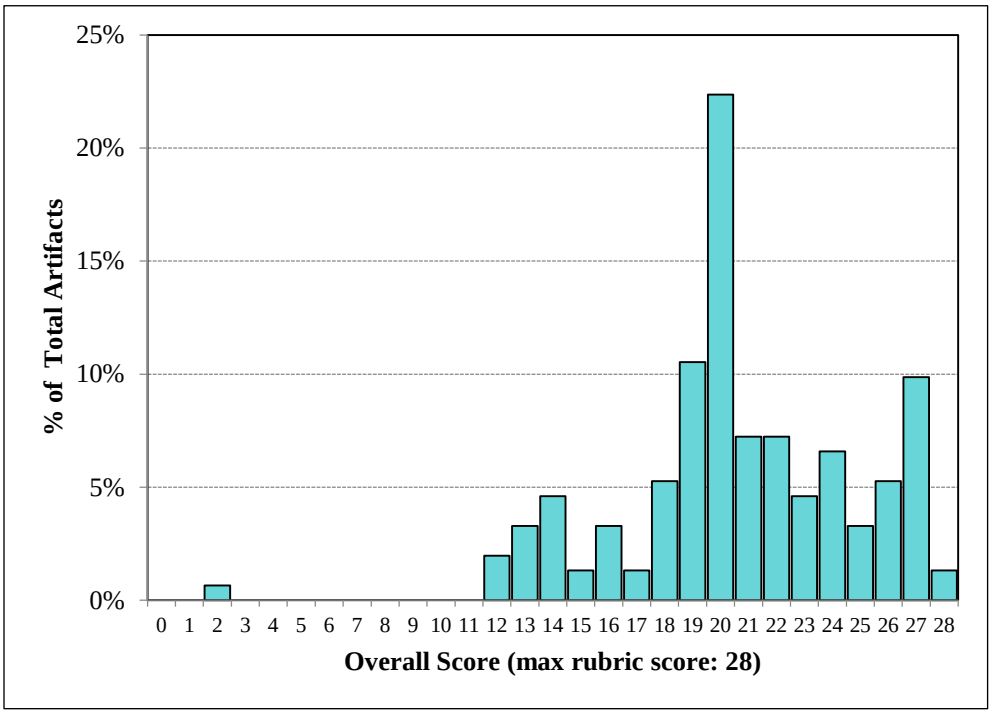

Figure 2. Overall score distribution for ENC 0022 artifacts (fall 2016 term).

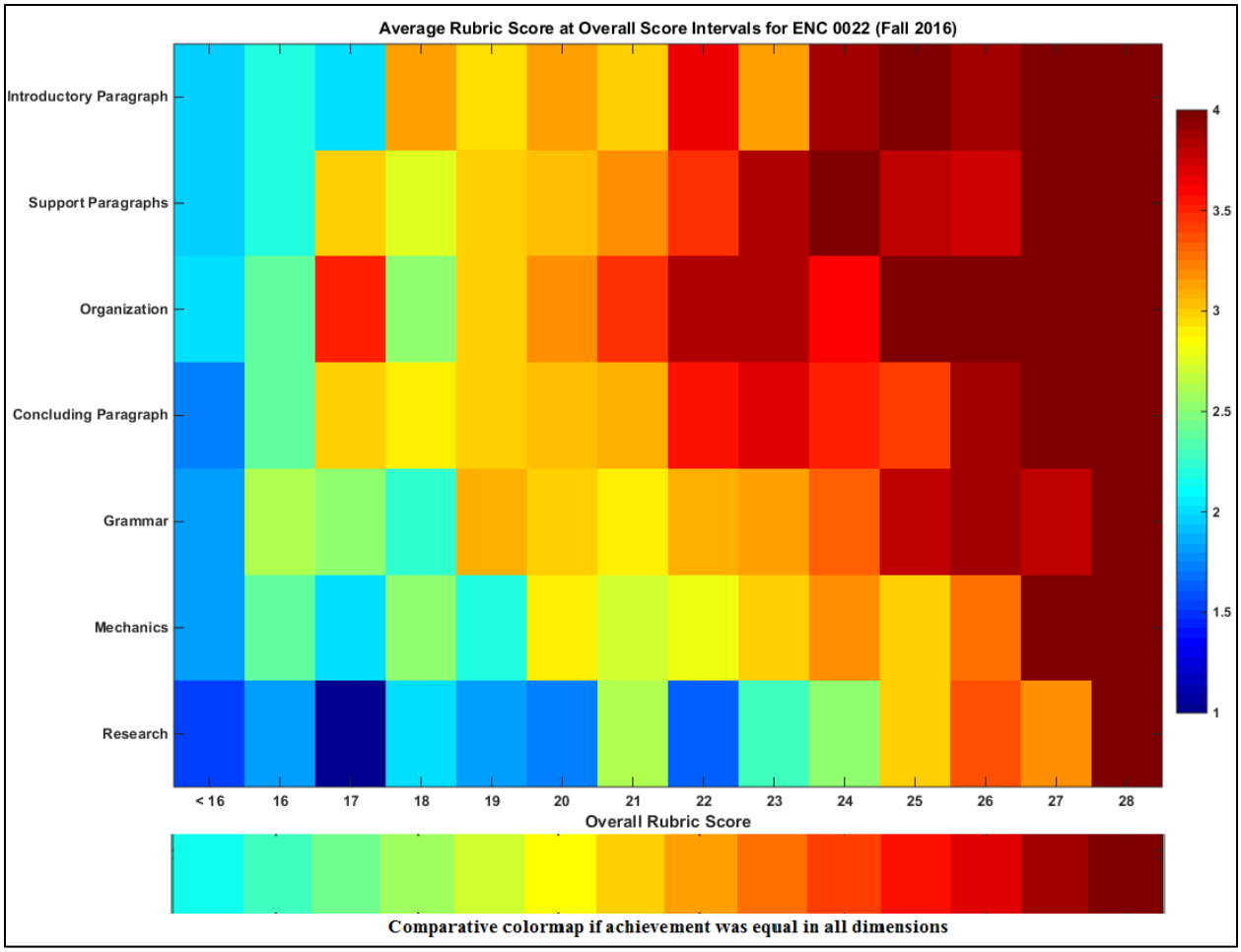

Figure 3. (Top) Colormap of mean scores for each rubric dimension (range: 0-4) based on overall rubric score (combined rubric score of all dimensions, max=28) for ENC 0022. (Bottom) Comparison rubric dimension if dimension score is the same as overall (i.e. artifact overall score is equally distributed across all sections). A rubric dimension with hotter colors (reds/yellows) means that dimension achievement exceeds the overall score and is an area of strength. An exam section with colder colors (blues/greens) means that section achievement is lower than the overall score and is therefore an area of weakness.

A review of the colormap in Figure 3 above shows that Research achievement consistently lags behind all other dimensions when overall scores are 16/28 or higher. For example, at 19/28, the Research mean score is 1.8/4 while others range from 2.2/4 to 3.0/4. Similarly, at 24/28, the Research mean score is 2.5/4 while others range from 3.2/4 to 4/4. From a student performance perspective, all students are weak in the Research dimension compared with others.

The colormap also exhibits strong Organization scores compared with other dimensions at higher overall scores (20/28 or higher). For example, at 22/28, the Organization dimension mean score is 3.8/4 while others range from 1.6/4 to 3.6/4. From a student performance perspective, high moderate-to-high achieving students are strongest in Organization compared with other dimensions. This is also the case, but to a lesser extent, with Supporting Paragraphs and Concluding Paragraphs.

A comparison of fall 2016 results with past results is shown in Figure 4 below. Results exhibit consistency across all areas except for Research, which exhibits a sharp decline in the most recent term. Fall 2016 data do exhibit an extensive percentage of 0s reported for Research (10%) compared with

previous years (0% for fall 2015 and 0% for fall 2014). And while one course section does exhibit 0s universally for all reported scores in Research, 0s are reported in other sections as well, so it does appear to be a real, if less substantial, characteristic of the data.

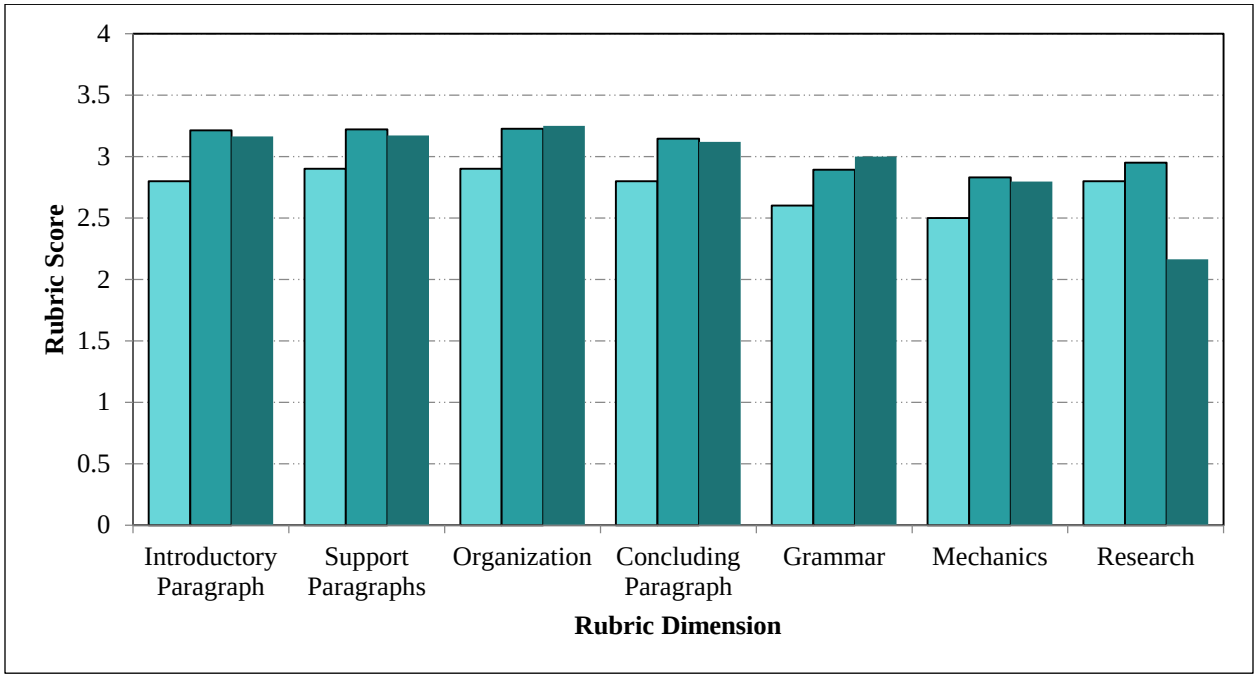

Figure 4. Comparison of mean scores for ENC 0022 through time for fall 2014 (teal), fall 2015 (darker teal), and fall 2016 (darkest teal).

2.2 Comparisons by Site, Format, and Student Type

2.2.1 Dual Enrollment to non-Dual Enrollment Comparison

ENC 0022 is not offered as a dual enrollment (offsite) course nor is it offered to dual enrollment students onsite and so no comparison study between dual enrollment artifacts and traditional artifacts can be made.

2.2.2 Online to Traditional Comparison

ENC 0022 is not offered as an online course and so no comparison study between online artifacts and traditional artifacts can be made.

2.2.3 Comparison by Site/Campus

Of the 152 artifacts collected from ENC 0022, 13 originated from the Charlotte campus, 13 from the Collier campus, 4 from the Hendry Glades Center, and 122 from the Thomas Edison (Lee) campus. Scores by rubric dimension varied greatly across campuses. A comparison of mean scores by rubric dimension is provided in Table 3.

	Introductory Paragraph	Support Paragraphs	Organization	Concluding Paragraph	Grammar	Mechanics	Research
Charlotte	2.8	2.9	2.6	2.9	2.5	2.6	2.6
Collier	**3.9**	**3.5**	3.7	**3.8**	2.8	**3.1**	0.0
Hendry Glades	3.3	3.0	**3.8**	3.3	3.0	2.8	**3.5**
Thomas Edison (Lee)	3.1	3.2	3.3	3.1	**3.1**	2.8	2.3

Table 3. Comparison of mean scores by site for ENC 0022. Bold denotes highest mean score in that dimension among all sites.

No site is consistently higher compared to other sites, however, the Charlotte campus is the lowest in 6 of 7 dimensions. Collier campus exhibits the highest scores in 4 of 7 dimensions. Hendry Glades exhibits the highest scores in 2 of 7 dimensions, and Thomas Edison (Lee) exhibits the highest scores in 1 of 7 dimensions. A plot comparing descriptive statistics of the combined (overall) scores by site is presented in Figure 5. There is extensive overlap between sites with both Collier and Hendry-Glades exhibiting a smaller range of scores. Recall that Hendry Glades data includes only four records.

A one-way analysis of variance was used to compare means of the combined rubric scores at each site. Results of the ANOVA exhibit no statistically significant difference between sites (see Table 4). Therefore, we cannot reject the null hypothesis that the mean rubric scores at each site are equal to each other and we cannot conclude with a 95% confidence that the differences in scores are not solely due to chance.

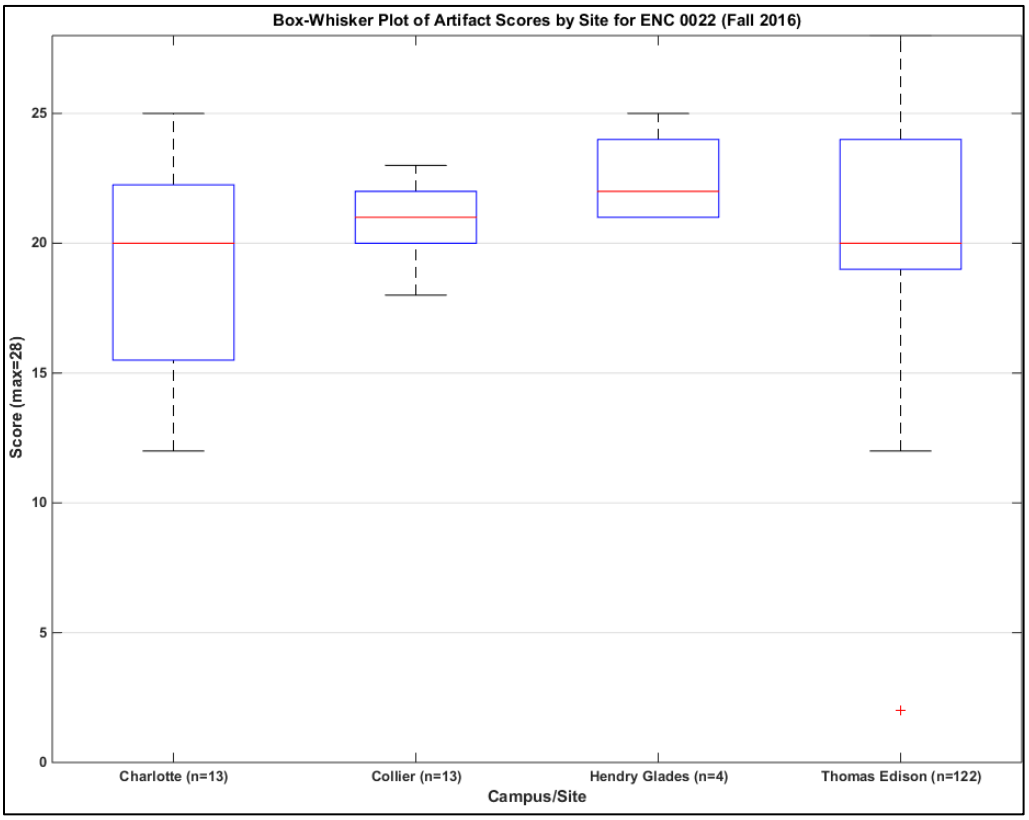

Figure 5. Box-Whisker plot of scores distributed by site for ENC 0022. Red line depicts median score. Upper and lower box boundaries indicate 75% quartile and 25% quartile (box represents central 50% of the scores). Vertical lines represent remaining scores outside central 50% that are not outliers. Red '+'s denote outliers.

Source of Variation	Sum of squared differences	df	Mean Squares	F_{obs}	p-value	F_{crit}
Between Sites	54.9	3	18.3	1.03	0.383	2.67
Within Sites	2641.0	148	17.8			
Total	2695.9	151				

Table 4. Results of one-way ANOVA of combined rubric scores at each site for ENC 0022.

2.2.4 Mini-term to Full-term Comparison

ENC 0022 was not offered as a mini-term course and so no comparison study between mini-term artifacts and full-term artifacts can be made.

3 ENC 1101

3.1 Learning Objectives & Descriptive Statistics

Using common rubric criterion revised based on assessment results of AY 2015-16 as an assessment method, the FSW English faculty defined multiple areas of interest for evaluation based on core outcomes for the course. Those outcomes include:

- SLO 1: Students must demonstrate the ability to write essays following various rhetorical modes, strategies, and purposes.
- SLO 2 & 3: Students must demonstrate effective research skills, and incorporate documented direct quotations and paraphrases from a variety of sources, using MLA format.

3.1.1 Learning Objectives

ENC 1101 is scored using a rubric with five dimensions: Thesis, Evidence, Organization / Style, Grammar / Mechanics, and Documentation. Each scored on a scale of 1 to 4 (1-Does not meet standards, 2-Approaching standards, 3-Meets standards, 4-Exceeds standards), with 0s if the benchmark is not met. The English department has identified a target statistic for measurement purposes of measuring the percentage of artifacts scoring a 2 or greater.

For the fall 2016 assessment, 891 artifacts were collected for ENC 1101 from 46 of 59 course sections sampled from 160 course sections offered. The remaining 13 course sections did not report data. The resultant sample represents 23.4% of the population. The lowest scoring rubric dimension by percentage of artifacts scoring a 2 or greater is Documentation at 89% (Table 5). For a visual comparison of scores by dimension, see Figure 6.

Rubric Score	Thesis	Evidence	Organization / Style	Grammar / Mechanics	Documentation
Developing or higher	95%	94%	94%	94%	89%
4	41%	38%	38%	23%	28%
3	40%	38%	41%	52%	40%
2	14%	19%	16%	19%	21%
1	5%	6%	5%	6%	11%
0	0%	0%	0%	0%	0%

Table 5. Percentage of student achievement level by rubric dimension (includes percentage of students scoring in developmental level or higher as per SLO) for ENC 1101.

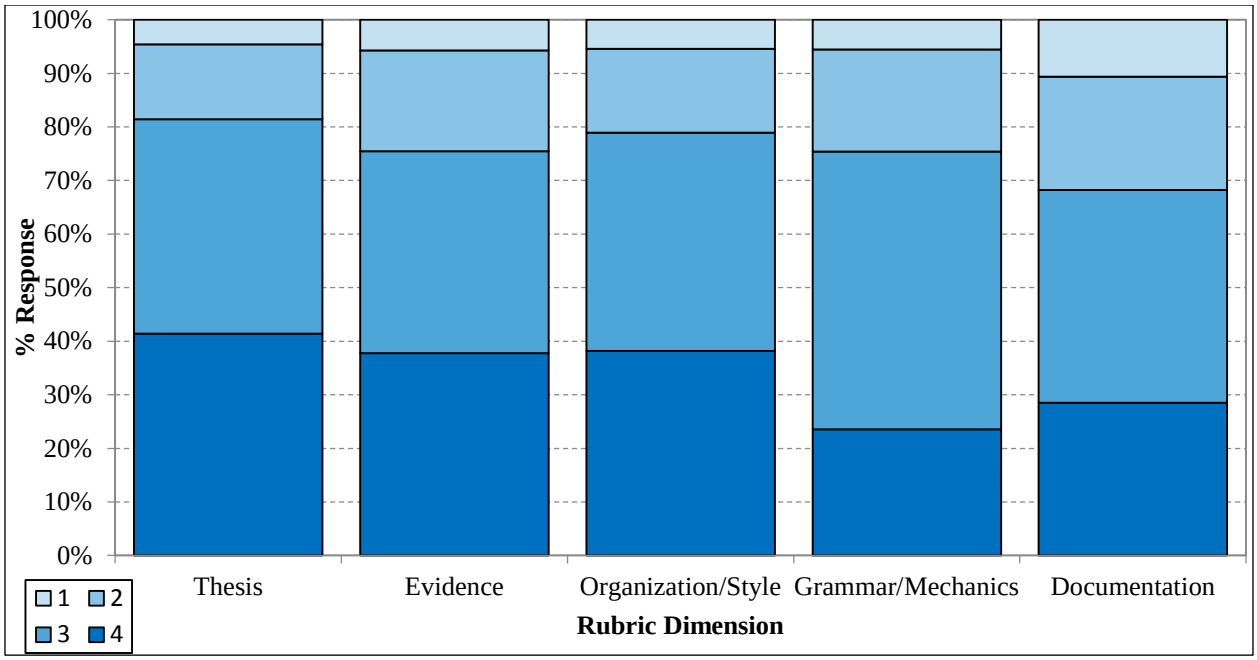

Figure 6. ENC 1101 distribution of rubric scores by dimension.

3.1.2 Descriptive Statistics

Descriptive statistics for ENC 1101 artifacts can be found in Table 6. A histogram of artifact scores for all 891 artifacts is shown in Figure 7. Distribution of artifact scores is centered on 15/20 and is moderately negatively skewed, meaning scores are shifted towards the higher range. To describe the behavior of the rubric dimensions based on overall achievement a color map, or binary raster image was created by calculating the mean scores for each dimension as a function of combined score (Figure 8). To create this image the rubric scores (4, 3, 2, 1, or 0) for each artifact was grouped based on combined raw rubric score (5 dimensions x maximum rubric level of 4 = 20 overall points). The color represents the mean rubric score achieved in each dimension based on the combined score as shown in the x-axis.

	Thesis	Evidence	Organization / Style	Grammar / Mechanics	Documentation	TOTAL
n	891	891	890	890	891	891
Max	4	4	4	4	4	20
Min	0	0	0	0	0	1
Median	3	3	3	3	3	16
Mode	4	4	3	3	3	15
Mean	3.2	3.1	3.1	2.9	2.8	15.1
Standard deviation	0.85	0.90	0.87	0.82	0.97	3.72
Skewness	-0.88	-0.68	-0.78	-0.61	-0.51	-0.90
Kurtosis	0.26	-0.28	0.04	0.25	-0.55	0.56

Table 6. Descriptive statistics for ENC 1101 common course assessment.

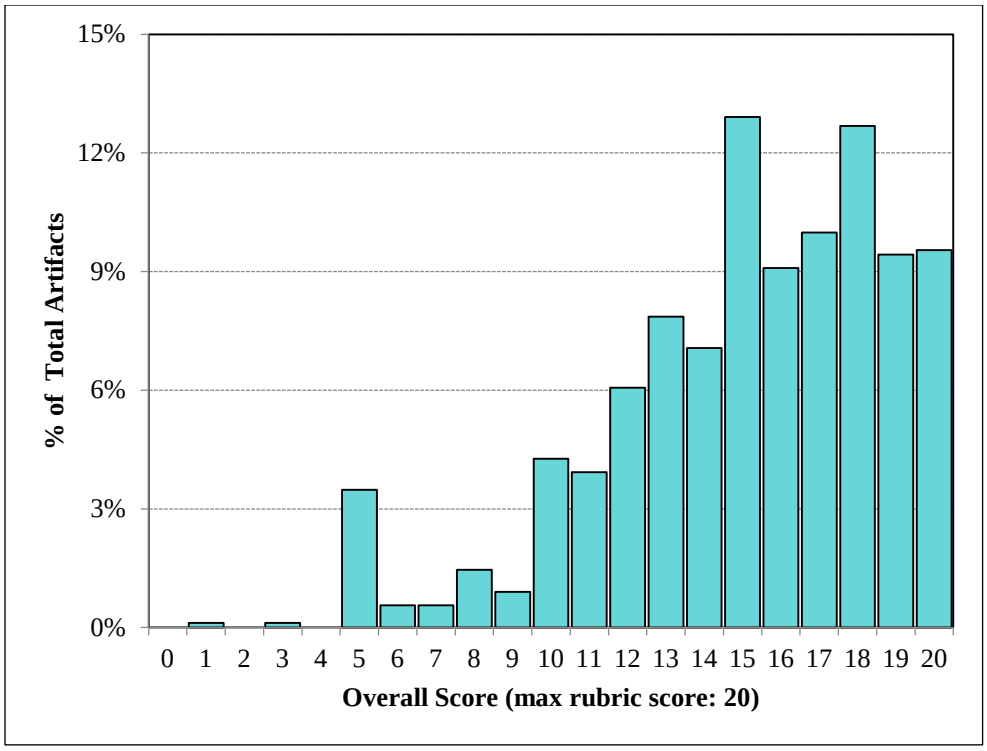

Figure 7. Overall score distribution for ENC 1101 artifacts (fall 2016 term).

A review of the colormap in Figure 8 shows that around 15/20 (approximately 75% overall score) all dimensions fair relatively equally (hot/cool colors fairly evenly distributed). When overall rubric scores range 16/20 or above (above 75%) achievement, the Grammar / Mechanics dimension lags slightly behind all other dimensions. For example, at an overall score of 18/20, Grammar / Mechanics exhibits average scores of 3.3/4 while the other four dimensions range from 3.5/4 to 3.8/4. From a student performance perspective, average achieving students tend to be equal in all dimensions while over achieving students never extend above average students in the Grammar / Mechanics dimension.

Additionally, at low range scores (12/20 and lower), the Documentation dimension lags behind all others. For example, at an overall score of 10/20, Documentation exhibits average scores of 1.6/4 while the other four dimensions range from 2.0/4 to 2.2/4. From a student performance perspective, under achieving students tend to struggle with Documentation above all other areas.

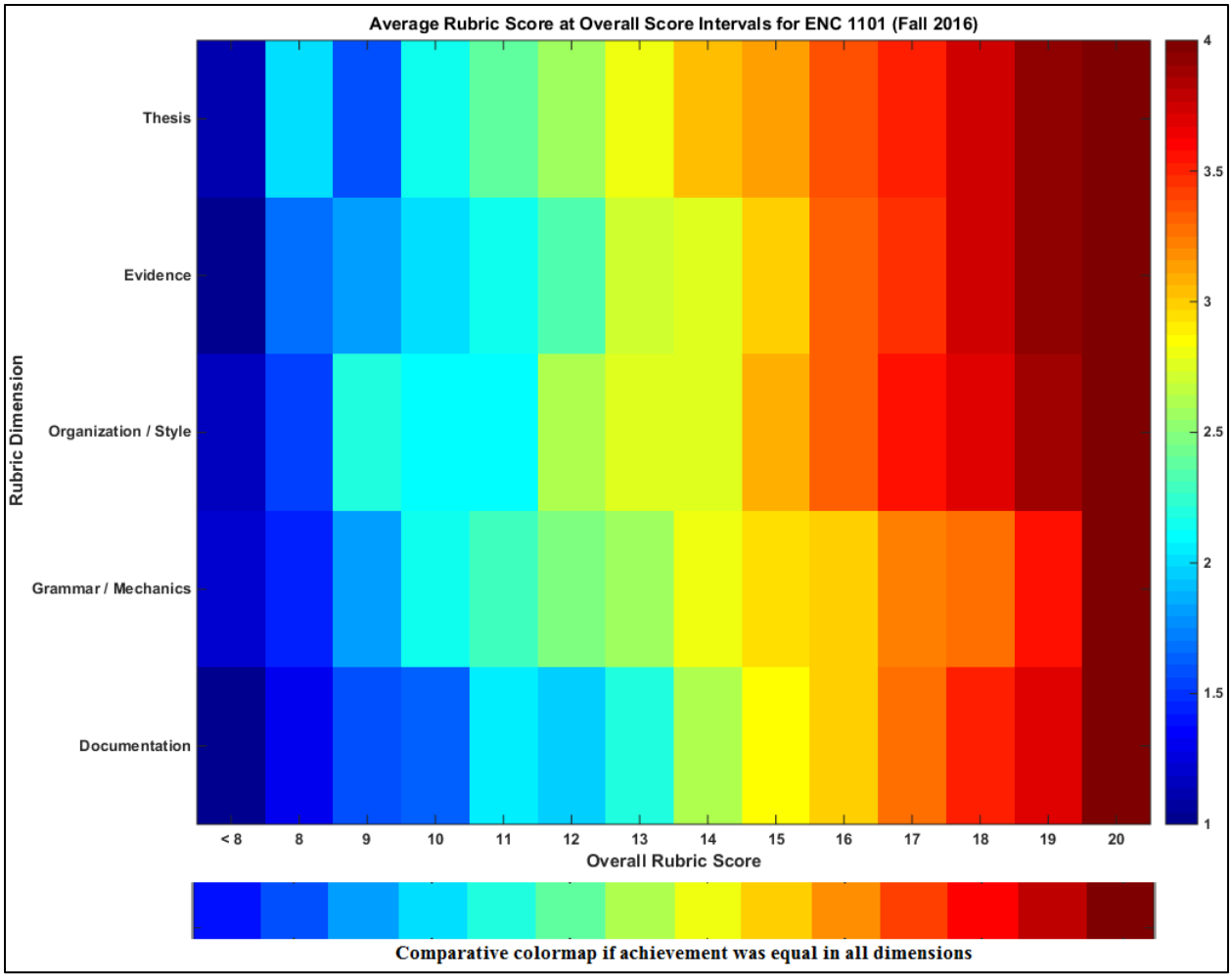

Figure 8. (Top) Colormap of mean scores for each rubric dimension (range: 0-4) based on overall rubric score (combined rubric score of all dimensions, max=20) for ENC 1101. (Bottom) Comparison rubric dimension if dimension score is the same as overall (i.e. artifact overall score is equally distributed across all sections). A rubric dimension with hotter colors (reds/yellows) means that dimension achievement exceeds the overall score and is an area of strength. An exam section with colder colors (blues/greens) means that section achievement is lower than the overall score and is therefore an area of weakness.

A comparison of achievement by rubric of fall 2016 results with past results is shown in Figure 9. Results exhibit consistency across all areas over time. The Thesis dimension continues to be the dimension with the highest mean score with a mean score of 3.2/4 in all years. The Grammar/Mechanics and Documentation dimensions continue to be the lowest scoring in all years (2.9/4).

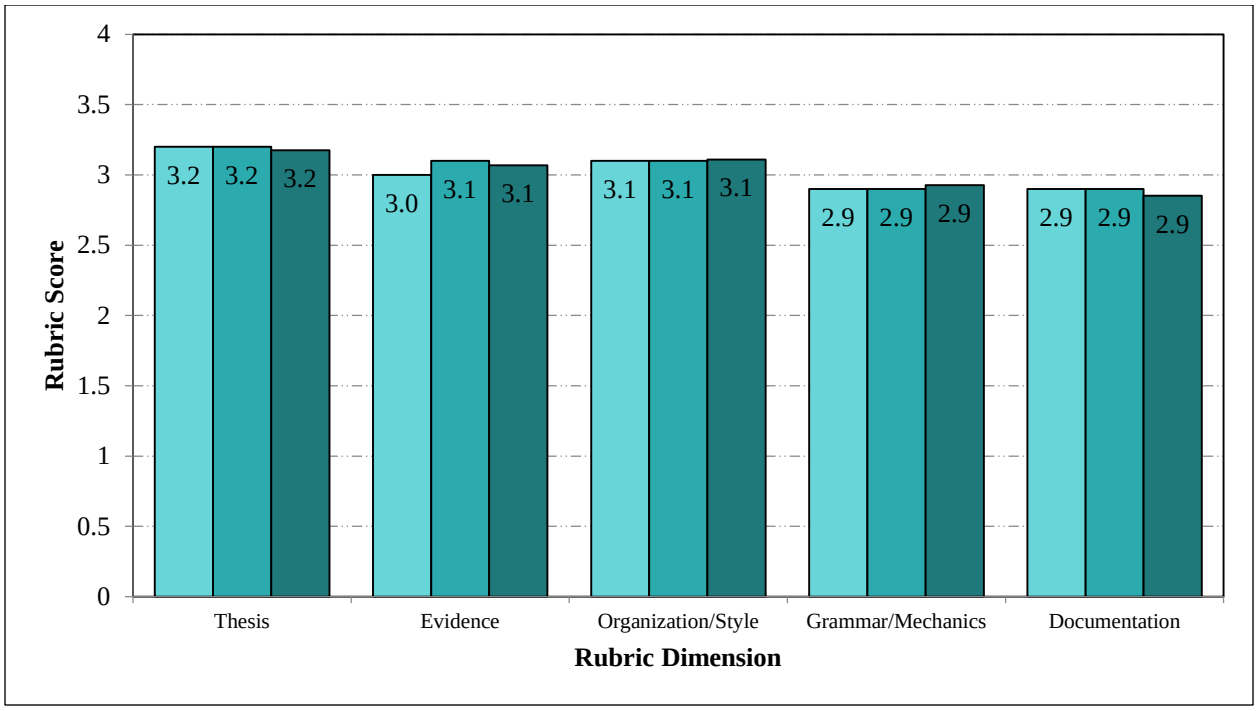

Figure 9. Comparison of mean scores for ENC 1101 through time for fall 2014 (teal),fall 2015 (darker teal), and fall 2016 (darkest teal).

3.2 Comparisons by Site, Format, and Student Type

3.2.1 Dual Enrollment to non-Dual Enrollment Comparison

During the fall 2016 semester, 109 dual enrollment artifacts were collected in ENC 1101 and 782 traditional (non-online) artifacts were collected in ENC 1101. A comparison of mean scores is provided in Table 7. The dual enrollment mean score is 1.0 higher than traditional artifacts. The difference in the means was tested for significance using a Welch's t-test according to standard methods (Davis, 1973; McDonald, 2009; Wilkinson, 1999) and were found to be statistically significantly different. Therefore, we can reject the null hypothesis that the difference in the mean scores of dual enrollment and traditional artifacts can be a result of chance.

df = 889	
Dual enrollment mean	16.0
Dual enrollment standard deviation	3.56
Traditional mean	15.0
Traditional standard deviation	3.73
Effect size	-0.18
p-value	0.008

Table 7. Comparison of mean scores for dual enrollment and traditional artifacts. Positive effect sizes indicate a higher mean score for traditional artifacts.

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 exhibit what Cohen (1988) would consider a small effect size. In other words, non-

overlap score distribution from online artifacts to traditional artifacts is approximately 12%. For a graphical representation of this see Figure 10.

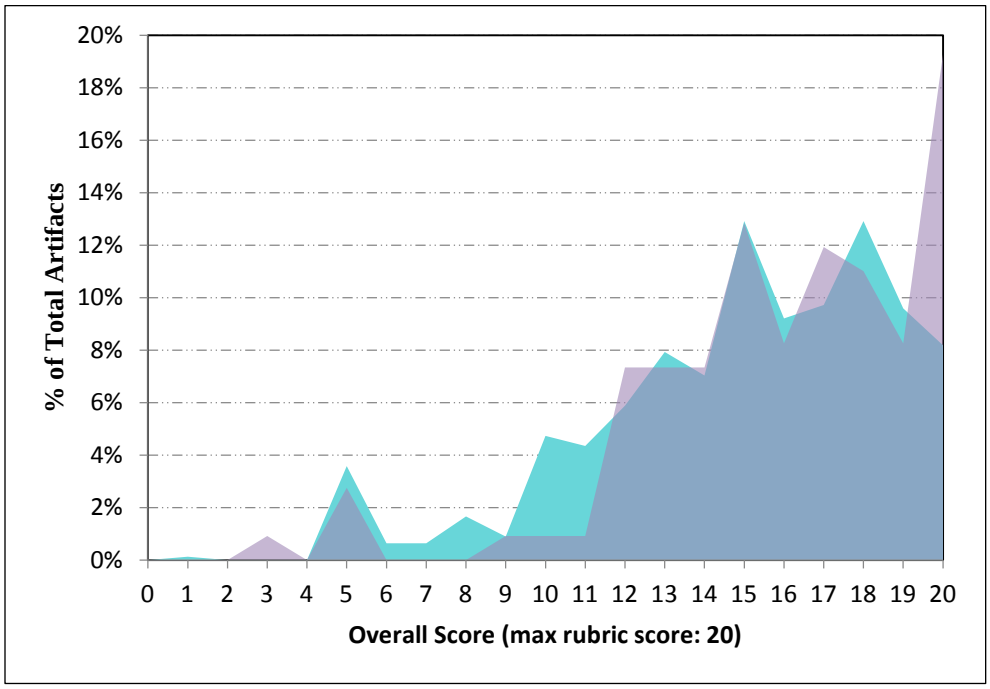

Figure 10. Score distribution for dual enrollment (purple) and traditional (teal) artifacts for ENC 1101.

3.2.2 Online to Traditional Comparison

During the fall 2016 semester, 91 total online artifacts were collected in ENC 1101 and 782 traditional artifacts were collected in ENC 1101. A comparison of mean scores is provided in Table 8. The online artifact mean score is 0.8 higher than traditional artifacts. The difference in the means was tested for significance using a Welch's t-test according to standard methods (Davis, 1973; McDonald, 2009; Wilkinson, 1999) and was found to be statistically significantly different. Therefore, we can reject the null hypothesis that the difference in the mean scores of online and traditional artifacts can be a result of chance. However, based on the work of Johnson (2013), there is a 17-25% chance that the marginally significant result (p = 0.043) may be false positives (i.e. Type I errors).

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 exhibit what Cohen (1988) would consider a small effect size. In other words, non-overlap score distribution from online artifacts to traditional artifacts is approximately 10%. For a graphical representation of this see Figure 11.

df = 871	
Online mean	15.8
Online standard deviation	3.70
Traditional mean	15.0
Traditional standard deviation	3.73
Effect size	-0.14
p-value	0.043

Table 8. Comparison of mean scores for online and traditional artifacts. Positive effect sizes indicate a higher mean score for traditional artifacts.

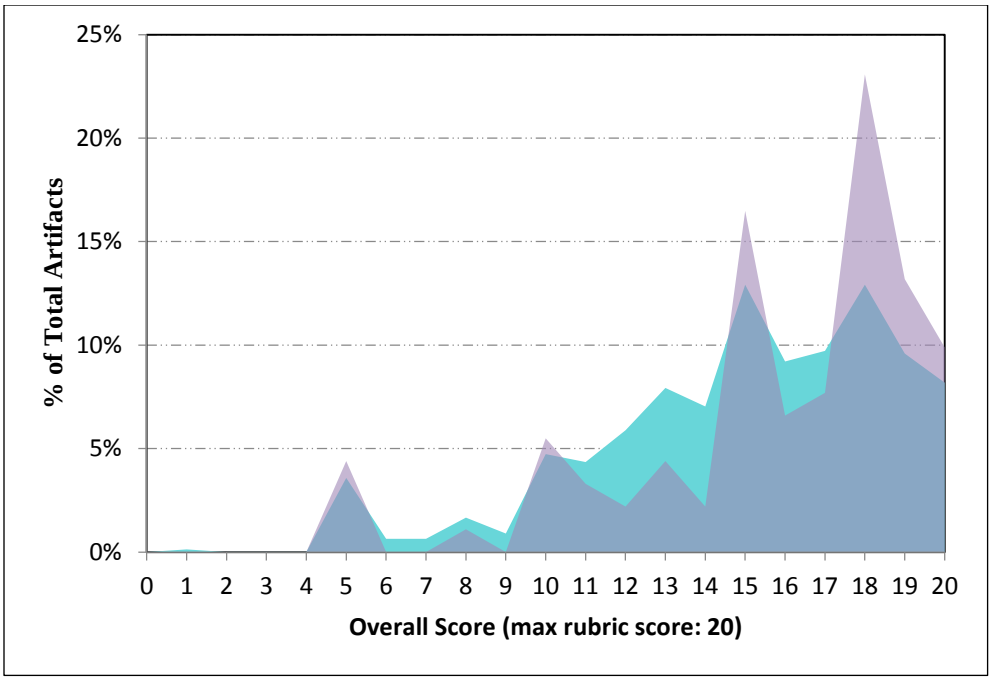

Figure 11. Score distribution for online (purple) and traditional (teal) artifacts of ENC 1101.

3.2.3 Comparison by Site/Campus

Of the 891 artifacts collected from ENC 1101, 31 originated from the Charlotte campus, 219 from the Collier campus, 91 from FSW Online, 24 from the Hendry Glades Center, 417 from the Thomas Edison (Lee) campus, and 109 from offsite (dual enrollment). Scores by rubric dimension varied greatly across campuses. A comparison of mean scores by rubric dimension is provided in Table 9.

	Thesis	Evidence	Organization / Style	Grammar / Mechanics	Documentation
Charlotte	**3.8**	**3.7**	**3.7**	3.0	**3.2**
Collier	3.3	3.1	3.1	3.0	2.9
FSW Online	3.3	3.2	3.3	3.0	3.1
Hendry-Glades	2.9	2.8	3.1	2.9	2.8
Thomas Edison (Lee)	3.0	2.9	3.0	2.8	2.7
Offsite	3.3	3.4	3.3	**3.1**	2.9

Table 9. Comparison of mean scores by site for ENC 1101. Bold denotes highest mean score in that dimension among all sites.

Charlotte is consistently the highest exhibiting the highest mean score in four of five dimensions. A plot comparing descriptive statistics of the combined (overall) scores by site is presented in Figure 12. There is extensive overlap across multiple sites although overlap of the central 50% is not shared by all sites. For example, Charlotte exhibits overlap of the central 50% of data with Collier, FSW Online, and offsite, but not with Hendry Glades or Thomas Edison.

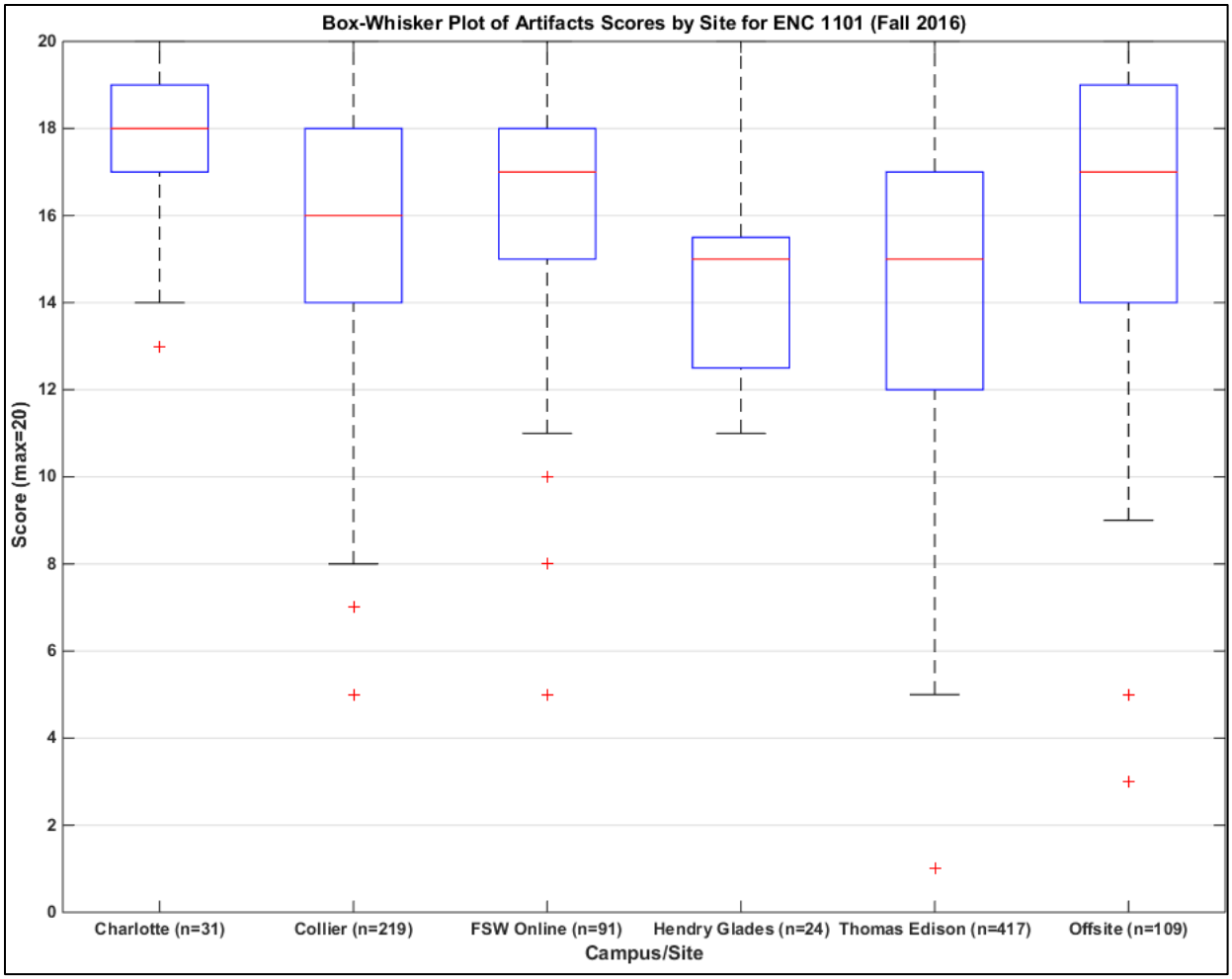

Figure 12. Box-Whisker plot of scores distributed by site for ENC 1101. Red line depicts median score. Upper and lower box boundaries indicate 75% quartile and 25% quartile (box represents central 50% of the scores). Vertical lines represent remaining scores outside central 50% that are not outliers. Red '+'s denote outliers.

A one-way analysis of variance was used to compare means of the combined rubric scores at each site. Results of the ANOVA exhibit a statistically significant difference between sites (see Table 10). Therefore, we can reject the null hypothesis that the mean rubric scores at each site are equal to each other and we can conclude with a 95% confidence that the differences in scores are not solely due to chance.

Source of Variation	Sum of squared differences	df	Mean Squares	F_{obs}	p-value	F_{crit}
Between Sites	511.8	5	102.4	7.66	4.64×10^{-7}	2.22
Within Sites	11,828.1	885	13.4			
Total	12,339.9	890				

Table 10. Results of one-way ANOVA of combined rubric scores at each site for ENC 1101.

3.2.4 Mini-term to Full-term Comparison

During the fall 2016 semester, 58 total mini-term artifacts were collected in ENC 1101 and 831 full-term artifacts were collected in ENC 1101. A comparison of mean scores is provided in Table 11. The mini-term artifact mean score is 0.5 higher than full-term artifacts. The difference in the means was tested

for significance using a Welch's t-test according to standard methods (Davis, 1973; McDonald, 2009; Wilkinson, 1999) and was found to not be statistically significantly different. Therefore, we cannot reject the null hypothesis that the difference in the mean scores of mini-term and full-term artifacts can be a result of chance.

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 exhibit what Cohen (1988) would consider a small effect size. In other words, non-overlap score distribution from mini-term artifacts to full-term artifacts is approximately 5%. For a graphical representation of this see Figure 13.

df = 838	
Mini-term mean	15.6
Mini-term standard deviation	3.76
Full-term mean	15.1
Full-term standard deviation	3.72
Effect size	-0.07
p-value	0.279

Table 11. Comparison of mean scores for mini-term and full-term artifacts. Positive effect sizes indicate a higher mean score for full-term artifacts.

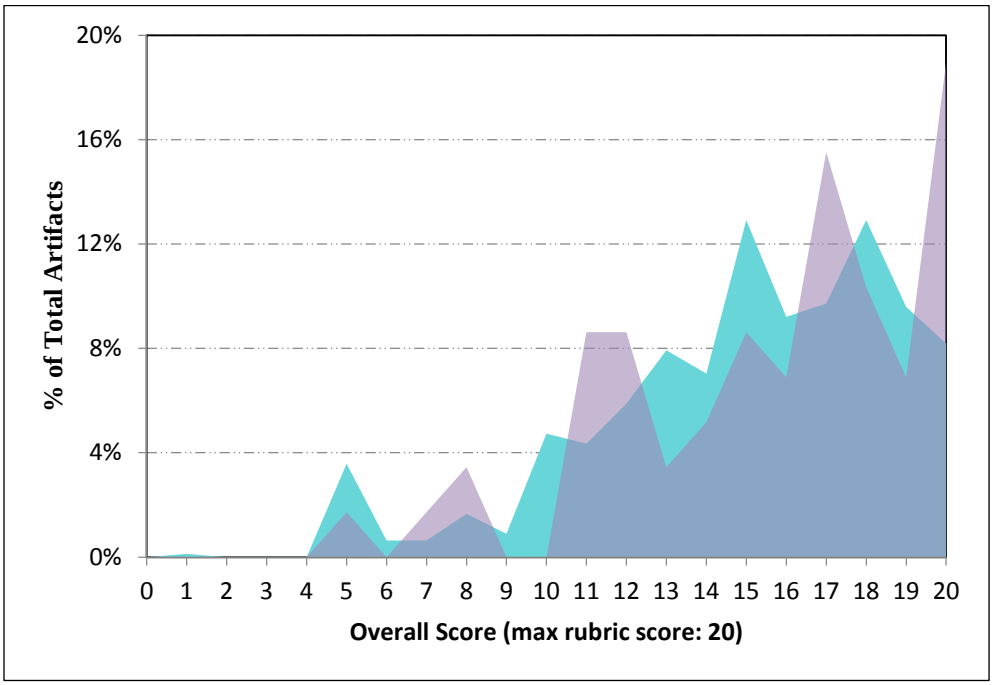

Figure 13. Score distribution for mini-term (purple) and full-term (teal) artifacts of ENC 1101.

4 ENC 1102

4.1 Learning Objectives & Descriptive Statistics

Using common rubric criterion revised based on assessment results of AY 2015-16 as an assessment method, the FSW English faculty defined multiple areas of interest for evaluation based on core outcomes for the course. Those outcomes include:

- SLO 1: Students must demonstrate the ability to write essays following various rhetorical modes, strategies, and purposes.
- SLO 2 & 3: Students must demonstrate effective research skills, and incorporate documented direct quotations and paraphrases from a variety of sources, using MLA format.

4.1.1 Learning Objectives

ENC 1102 is scored using a rubric with five dimensions: Thesis, Evidence, Organization / Style, Grammar / Mechanics, and Documentation. Each scored on a scale of 1 to 4 (1-Does not meet standards, 2-Approaching standards, 3-Meets standards, 4-Exceeds standards), with 0s if the benchmark is not met. The English department has identified a target statistic for measurement purposes of measuring the percentage of artifacts scoring a 2 or greater.

For the fall 2016 assessment, 275 artifacts were collected for ENC 1102 from 16 of 19 course sections sampled from 53 course sections offered. One course section did not score all rubric dimensions and so data was excluded as it was unclear if the same rubric was used while the other two sections did not report data. The resultant sample represents 22.5% of the population. The lowest scoring rubric dimension for percentage of artifacts scoring a 2 or greater is Documentation at 91% (Table 12). For a visual comparison of scores by dimension see Figure 14.

Rubric Score	Thesis	Evidence	Organization / Style	Grammar / Mechanics	Documentation
Developing or higher	97%	96%	98%	98%	91%
4	55%	41%	48%	28%	29%
3	33%	37%	35%	55%	45%
2	9%	17%	15%	16%	17%
1	2%	3%	1%	1%	8%
0	1%	1%	1%	1%	1%

Table 12. Percentage of student achievement level by rubric dimension (includes percentage of students scoring in developmental level or higher as per SLO) for ENC 1102.

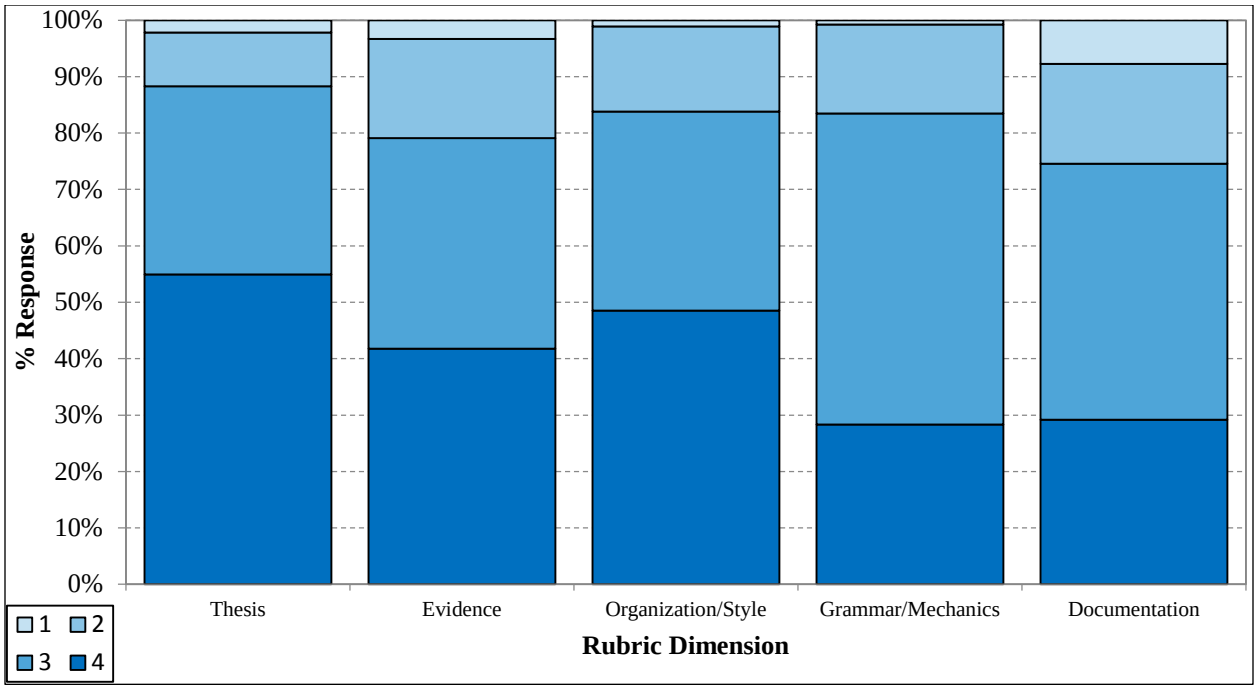

Figure 14. ENC 1102 distribution of rubric scores by dimension.

4.1.2 Descriptive Statistics & Longitudinal Studies

Descriptive statistics for ENC 1102 artifacts can be found in Table 13. A histogram of artifact scores for all 275 artifacts is shown in Figure 15. Distribution of artifact scores is centered on 17/20 and is moderately negatively skewed, meaning scores are shifted towards the higher range. To describe the behavior of the rubric dimensions based on overall achievement a color map, or binary raster image was created by calculating the mean scores for each dimension as a function of combined score (Figure 16). To create this image the rubric scores (4, 3, 2, 1, or 0) for each artifact was grouped based on combined raw rubric score (5 dimensions x maximum rubric level of 4 = 20 overall points). The color represents the mean rubric score achieved in each dimension based on the combined score as shown in the x-axis.

	Thesis	Evidence	Organization / Style	Grammar / Mechanics	Documentation	TOTAL
n	275	275	275	275	275	275
Max	4	4	4	4	4	20
Min	0	0	0	0	0	3
Median	4	3	3	3	3	17
Mode	4	4	4	3	3	17
Mean	3.4	3.2	3.3	3.1	2.9	15.8
Standard deviation	0.80	0.87	0.83	0.75	0.95	3.30
Skewness	-1.40	-0.86	-1.13	-0.86	-0.80	-0.85
Kurtosis	2.11	0.37	1.36	1.96	0.30	0.68

Table 13. Descriptive statistics for ENC 1102 common course assessment.

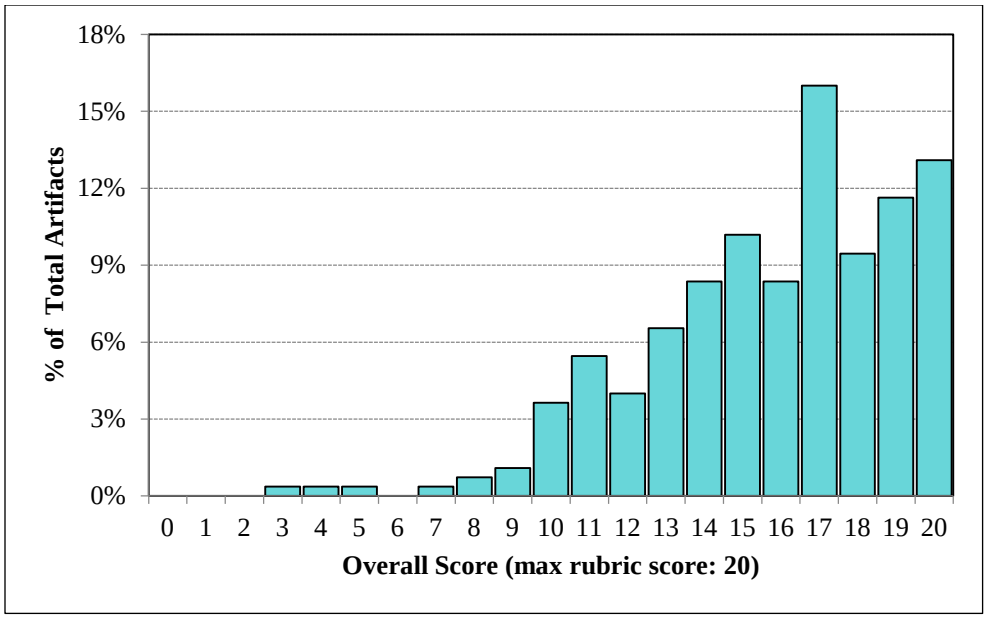

Figure 15. Overall score distribution for ENC 1102 artifacts (fall 2016 term).

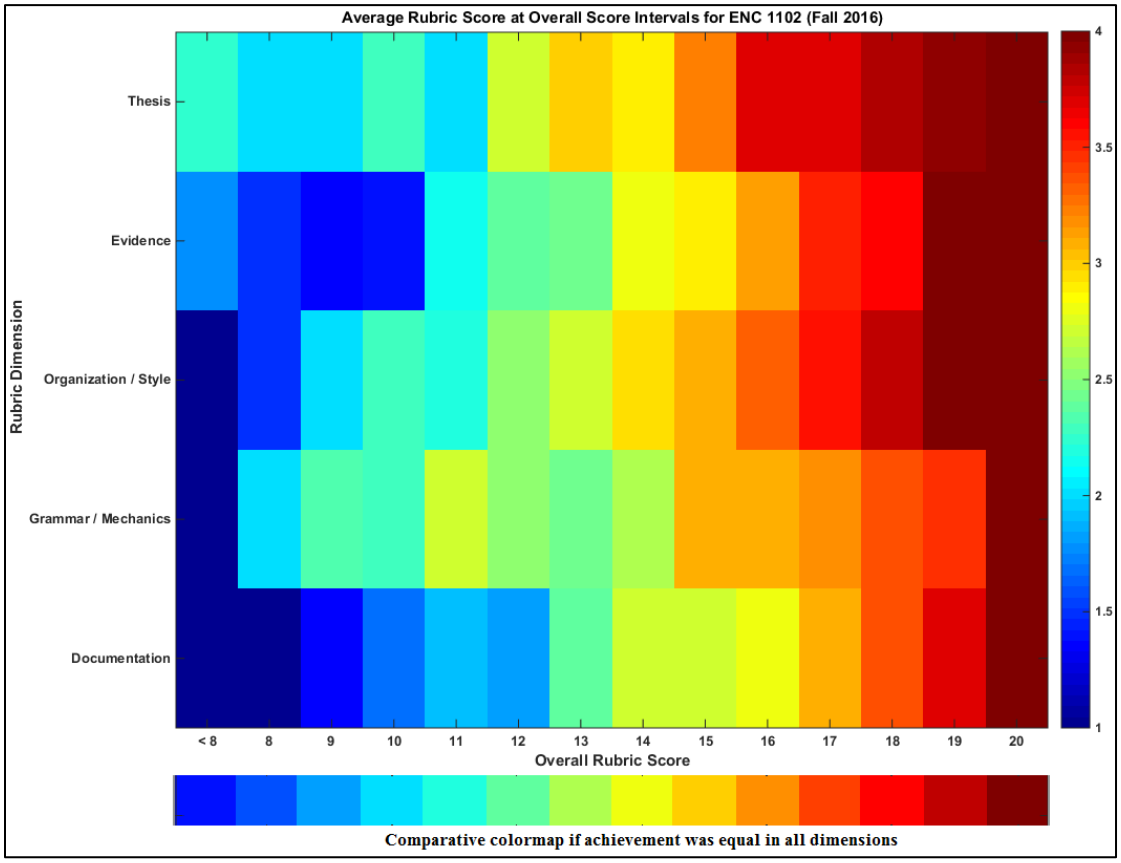

Figure 16. (Top) Colormap of mean scores for each rubric dimension (range: 0-4) based on overall rubric score (combined rubric score of all dimensions, max=20) for ENC 1102. (Bottom) Comparison rubric dimension if dimension score is the same as overall (i.e. artifact overall score is equally distributed across all sections). A rubric dimension with hotter colors (reds/yellows) means that dimension achievement exceeds the overall score and is an area of strength. An exam section with colder colors (blues/greens) means that section achievement is lower than the overall score and is therefore an area of weakness.

A review of the colormap in Figure 15 shows that the Grammar / Mechanics dimension as the narrowest range of scores. Between 8/20 and 19/20, the Grammar / Mechanics dimension range is 2.0/4 to 3.4/4, a range of 1.4. By comparison, the ranges of other dimensions from 8/20 to 19/20 span from 1.9 to 2.7. At an overall score of 10/20, Thesis dimension is exceptionally strong even at low overall scores. From a student performance perspective, both high achieving and low achieving students exhibit more similar capabilities in Grammar / Mechanics when compared with other dimensions across that range. Whether a student scores a 10/20 or an 18/20, the Grammar / Mechanics dimension would typically be a 2/4 or 3/4, respectively, whereas other dimensions are more likely to be a 1/4 or 4/4, respectively.

The Documentation dimension also exhibits unique characteristics when compared with other dimensions. In mid-to-low range overall scores the Documentation tends to lag behind other dimensions. For example, at an overall score of 12/20, the Documentation dimension exhibits a mean score of 1.8/4. By comparison, at that same overall score other dimensions range from 2.4/4 to 2.7/4. From a student performance perspective, under achieving students tend to struggle most with Documentation.

A comparison of fall 2016 results with past results is shown in Figure 17 below. Results exhibit large increases compared with the last two years of data. Fall 2016 included a substantially larger sample compared to previous years. As a result, sample size includes a more appropriate diversity in courses represented and may be a more appropriate representation of the actual. The Thesis dimension continues to be the dimension with the highest mean score with a mean score in all years. Further, the fall 2016 term is the first in which the Grammar/Mechanics dimension is not the lowest scoring. For fall 2016, the Documentation dimension exhibits the lowest mean score.

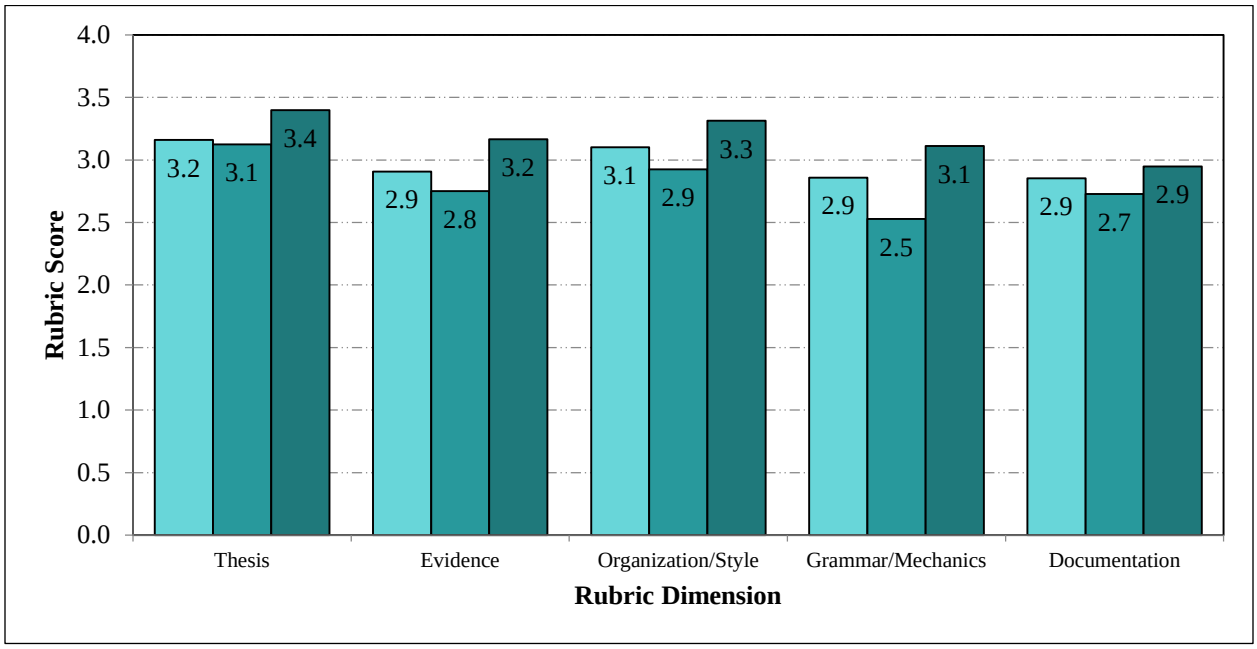

Figure 17. Comparison of mean scores for ENC 1102 through time for fall 2014 (teal), fall 2015 (dark teal), and fall 2016 (darkest teal).

4.2 Comparison by Site, Format, and Student Type

4.2.1 Dual Enrollment to non-Dual Enrollment Comparison

During the fall 2016 semester, 23 dual enrollment artifacts were collected in ENC 1102 and 252 traditional (non-online) artifacts were collected in ENC 1102. A comparison of mean scores is provided in Table 14. The dual enrollment mean score is 2.4 higher than traditional artifacts. The difference in the means was tested for significance using a Welch's t-test according to standard methods (Davis, 1973; McDonald, 2009; Wilkinson, 1999) and were found to be statistically significantly different. Therefore, we can reject the null hypothesis that the difference in the mean scores of dual enrollment and traditional artifacts can be a result of chance.

df = 273	
Dual enrollment mean	18.0
Dual enrollment standard deviation	2.68
Traditional mean	15.6
Traditional standard deviation	3.28
Effect size	-0.49
p-value	3.95×10^{-4}

Table 14. Comparison of mean scores for dual enrollment and traditional artifacts. Positive effect sizes indicate a higher mean score for traditional artifacts.

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 exhibit what Cohen (1988) would consider a medium effect size. In other words, non-overlap score distribution from online artifacts to traditional artifacts is approximately 32%. For a graphical representation of this see Figure 18.

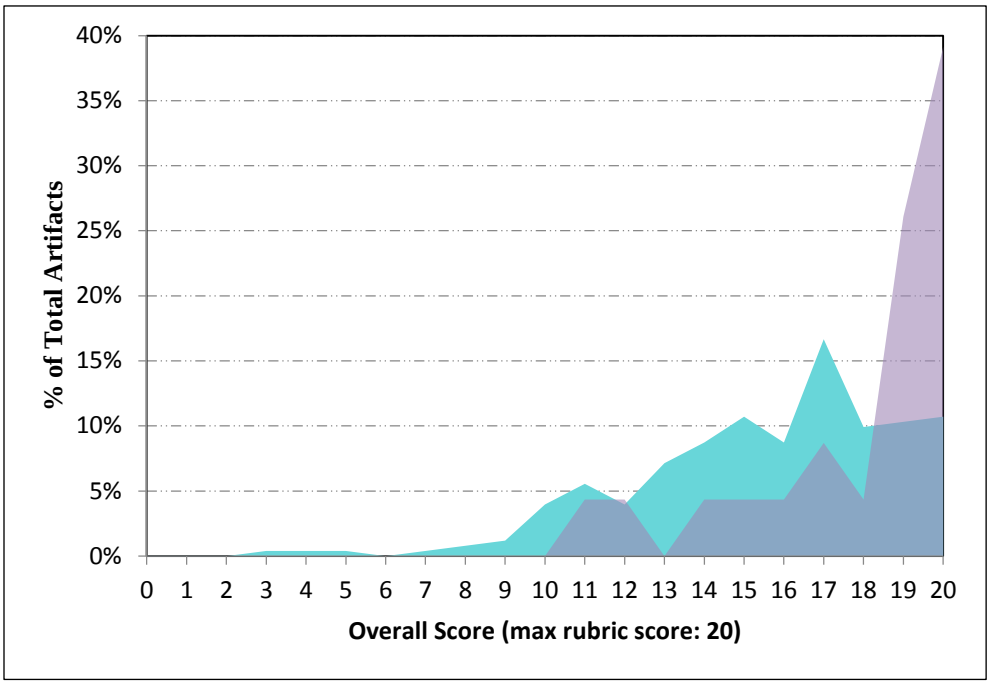

Figure 18. Score distribution for dual enrollment (purple) and traditional (teal) artifacts for ENC 1102.

4.2.2 Online to Traditional Comparison

During the fall 2016 semester, 16 total online artifacts were collected in ENC 1102 and 252 traditional artifacts were collected in ENC 1102. A comparison of mean scores is provided in Table 13. The online artifact mean score is 1.3 higher than traditional artifacts. The difference in the means was tested for significance using a Welch's t-test according to standard methods (Davis, 1973; McDonald, 2009; Wilkinson, 1999) and was found to be statistically significantly different. Therefore, we can reject the null hypothesis that the difference in the mean scores of online and traditional artifacts can be a result of chance. However, based on the work of Johnson (2013), there is a 17-25% chance that the marginally significant result (p = 0.024) may be false positives (i.e. Type I errors).

df = 266	
Online mean	16.9
Online standard deviation	2.02
Traditional mean	15.6
Traditional standard deviation	3.28
Effect size	-0.30
p-value	0.024

Table 15. Comparison of mean scores for online and traditional artifacts. Positive effect sizes indicate a higher mean score for traditional artifacts.

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 exhibit what Cohen (1988) would consider a small-to-medium effect size. In other words, non-overlap score distribution from online artifacts to traditional artifacts is approximately 21%. For a graphical representation of this see Figure 19.

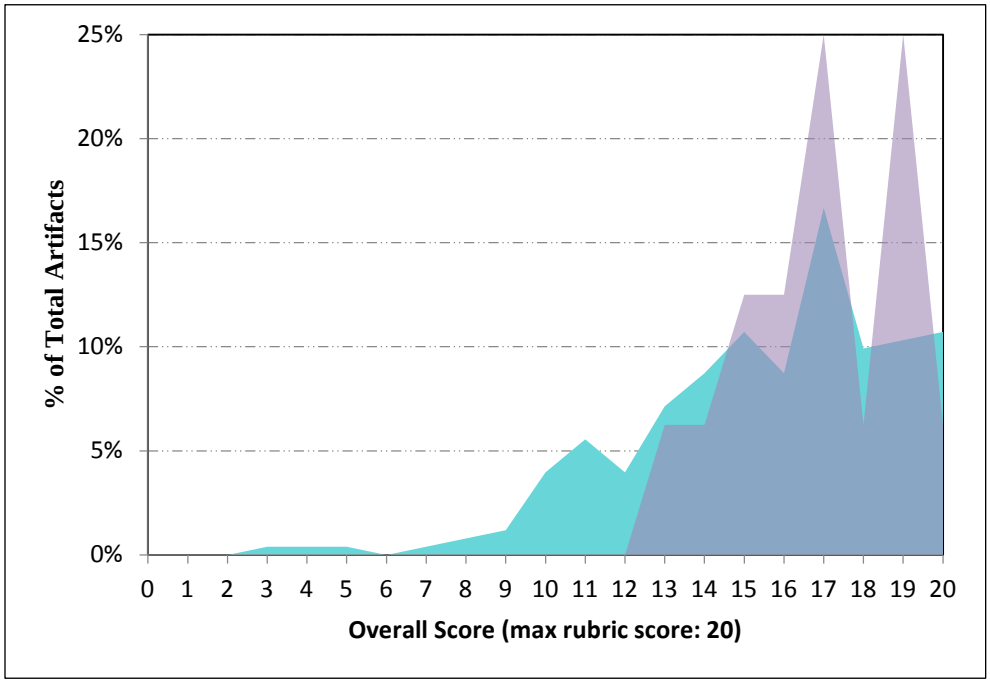

Figure 19. Score distribution for online (purple) and traditional (teal) artifacts of ENC 1102.

4.2.3 Comparison by Site/Campus

Of the 275 artifacts collected from ENC 1102, 42 originated from the Charlotte campus, 44 from the Collier campus, 16 from FSW Online, 11 from the Hendry Glades Center, 139 from the Thomas Edison (Lee) campus, and 23 from offsite (dual enrollment). Mean scores across sites are quite variable. Offsite (dual enrollment) exhibits the highest mean score in two of five dimensions. Collier and FSW Online each exhibit the highest in two others (the sites share the highest for Documentation). A comparison of mean scores by rubric dimension is provided in Table 16. A plot comparing descriptive statistics of the combined (overall) scores by site is presented in Figure 20. There is extensive overlap between sites.

	Thesis	Evidence	Organization / Style	Grammar / Mechanics	Documentation
Charlotte	3.3	3.3	3.1	3.0	3.1
Collier	**3.8**	3.4	3.6	3.4	**3.3**
FSW Online	3.7	3.3	**3.8**	3.0	**3.3**
Hendry Glades	3.2	3.2	3.4	2.9	3.2
Thomas Edison (Lee)	3.2	2.9	3.1	2.9	2.6
Offsite	3.8	**3.7**	3.7	**3.7**	3.2

Table 16. Comparison of mean scores by site for ENC 1102. Bold denotes highest mean score in that dimension among all sites.

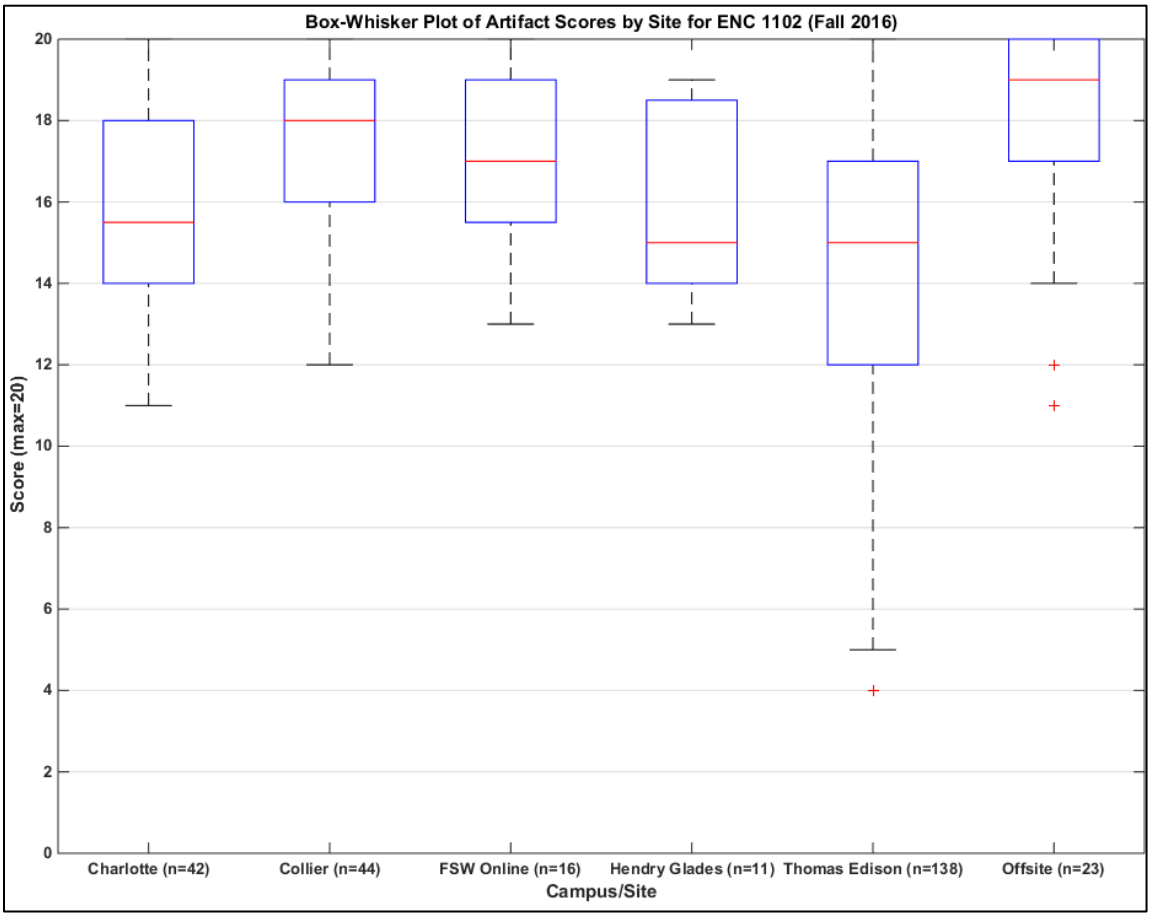

Figure 20. Box-Whisker plot of scores distributed by site for ENC 1102. Red line depicts median score. Upper and lower box boundaries indicate 75% quartile and 25% quartile (box represents central 50% of the scores). Vertical lines represent remaining scores outside central 50% that are not outliers. Red '+'s denote outliers.

A one-way analysis of variance was used to compare means of the combined rubric scores at each site. Results of the ANOVA exhibit a statistically significant difference between sites (see Table 17). Therefore, we can reject the null hypothesis that the mean rubric scores at each site are equal to each other and we can conclude with a 95% confidence that the differences in scores are not solely due to chance.

Source of Variation	Sum of squared differences	df	Mean Squares	F_{obs}	p-value	F_{crit}
Between Sites	379.4	5	75.9	8.33	$2.45x10^{-7}$	2.25
Within Sites	2440.8	268	9.1			
Total	2820.2	273				

Table 17. Results of one-way ANOVA of combined rubric scores at each site for ENC 1102.

4.2.4 Mini-term to Full-term Comparison

During the fall 2016 semester, 29 total mini-term artifacts were collected in ENC 1102 and 246 full-term artifacts were collected in ENC 1102. A comparison of mean scores is provided in Table 18. The mini-term artifact mean score is 0.6 higher than full-term artifacts. The difference in the means was tested for significance using a Welch's t-test according to standard methods (Davis, 1973; McDonald, 2009; Wilkinson, 1999) and was found to not be statistically significantly different. Therefore, we cannot reject the null hypothesis that the difference in the mean scores of mini-term and full-term artifacts can be a result of chance.

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 exhibit what Cohen (1988) would consider a small effect size. In other words, non-overlap score distribution from mini-term artifacts to full-term artifacts is approximately 15%. For a graphical representation of this see Figure 21.

df = 273	
Mini-term mean	15.9
Mini-term standard deviation	4.85
Full-term mean	15.8
Full-term standard deviation	3.08
Effect size	-0.02
p-value	0.882

Table 18. Comparison of mean scores for mini-term and full-term artifacts. Positive effect sizes indicate a higher mean score for full-term artifacts.

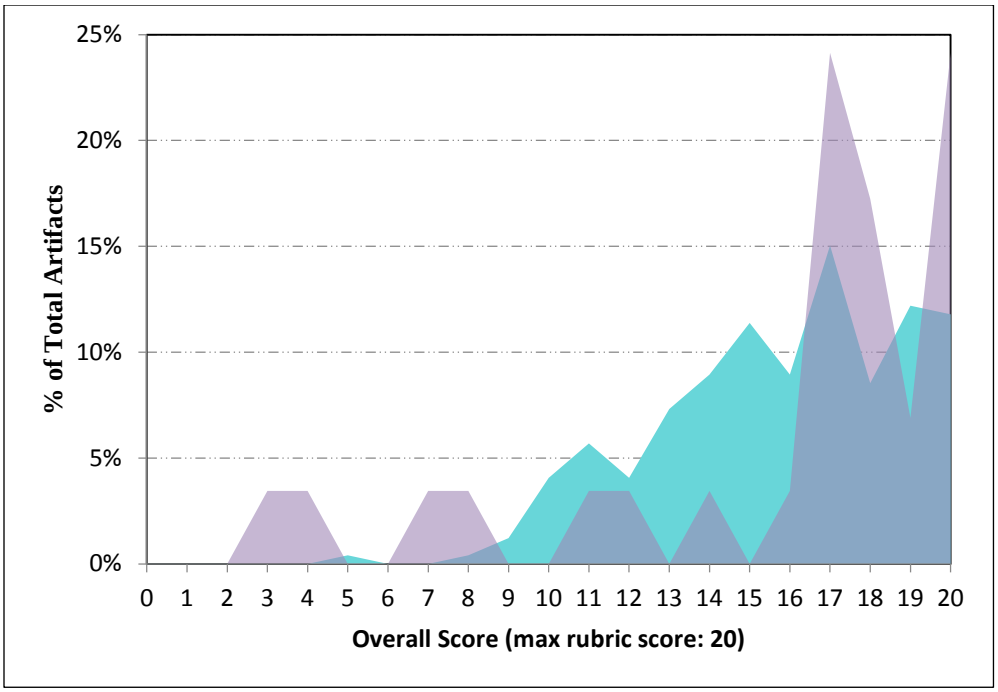

Figure 21. Score distribution for mini-term (purple) and full-term (teal) artifacts of ENC 1102.

5 CONCLUSIONS

FSW's English Department assessment plan includes three courses: ENC 0022 *Writing for College Success*, ENC 1101 *Composition I*, and ENC 1102 *Composition II*. Instructors use a common rubric with seven identified rubric dimensions in the case of ENC 0022, and an updated rubric in response to the fall 2015 pilot study with five dimensions for both ENC 1101 and ENC 1102. The assessment plan uses a random sample of 30% of all course sections offered in ENC 1101 and ENC 1102 and a 100% collection of ENC 0022 courses. The department has historically used a benchmark of percentage of students scoring 2 or higher in rubric dimensions as a means to measure achievement in the courses.

A drilldown of ENC 0022 results are as follows:

1. All seven rubric dimensions had ≥ 80% achievement at level 2 or higher. The lowest dimension was Research while all other dimensions exceeded 96%.
2. Distribution of artifact scores is bimodal centered on 20/28 and 27/28, and is moderately negatively skewed, meaning scores are shifted towards the higher range.
3. In a study comparing rubric achievement based on overall score, all students are weak in the Research dimension compared with others and high moderate-to-high achieving students are strongest in Organization compared with other dimensions.
4. In a longitudinal study, consistency across all areas except for Research, which exhibits a sharp decline in the most recent term. Fall 2016 data do exhibit an extensive percentage of 0s reported for Research (10%) compared with previous years (0% for fall 2015 and 0% for fall 2014). And while one course section does exhibit 0s universally for all reported scores in Research, 0s are reported in other sections as well, so it does appear to be a real, if less substantial, characteristic of the data.

5. No comparison of dual enrollment to traditional artifacts was completed because no dual enrollment sections of the course were offered.
6. No comparison of online to traditional artifacts was completed because no online sections of the course were offered.
7. In a cross-campus comparison, scores varied greatly across rubric dimensions. No site is consistently higher compared to other sites, however, the Charlotte campus is the lowest in 6 of 7 dimensions. Collier campus exhibits the highest scores in 4 of 7 dimensions.
8. No comparison of mini-term artifacts and full-term artifacts was completed because no mini-term sections of the course were offered.

A drilldown of ENC 1101 results are as follows:

1. All five rubric dimensions had > 89% achievement at level 2 or higher. The lowest dimension was Documentation.
2. Distribution of artifact scores is centered on 15/20 and is moderately negatively skewed, meaning scores are shifted towards the higher range.
3. In a study comparing rubric achievement based on overall score, average achieving students tend to be equal in all dimensions while over achieving students never extend above average students in the Grammar / Mechanics dimension. Additionally, under achieving students tend to struggle with Documentation above all other areas
4. In a longitudinal study, results exhibit consistency across all areas over time. The Thesis dimension continues to be the dimension with the highest mean score with a mean score of 3.2/4 in all years. The Grammar/Mechanics and Documentation dimensions continue to be the lowest scoring in all years (2.9/4).
5. In a study comparing dual enrollment to traditional (non-online) artifacts, the dual enrollment mean score is 1.0 higher than traditional artifacts and results are statistically significant.
6. In a study comparing online to traditional artifacts, the online artifact mean score is 0.8 higher than traditional artifacts and was statistically significant.
7. In a cross-campus comparison, scores varied greatly across rubric dimensions. Charlotte is consistently the highest exhibiting the highest mean score in four of five dimensions.
8. In a comparison of mini-term courses to full-term courses, the mini-term courses artifact mean score is 0.5 higher than full-term artifacts although results are not statistically significantly different.

A drilldown of ENC 1102 results are as follows:

1. All seven rubric dimensions had > 90% achievement at level 2 or higher. The lowest dimension was Documentation.
2. Distribution of artifact scores is centered on 17/20 and is moderately negatively skewed, meaning scores are shifted towards the higher range.
3. In a study comparing rubric achievement based on overall score, both high achieving and low achieving students exhibit more similar capabilities in Grammar / Mechanics when compared with other dimensions across that range. Whether a student scores a 10/20 or an 18/20, the Grammar / Mechanics dimension would typically be a 2/4 or 3/4, respectively, whereas other dimensions are more likely to be a 1/4 or 4/4, respectively. Also, under achieving students tend to struggle most with Documentation.

4. In a longitudinal study, results exhibit large increases compared with the last two years of data. Fall 2016 included a substantially larger sample compared to previous years. As a result, sample size includes a more appropriate diversity in courses represented and may be a more appropriate representation of the actual.
5. In a study comparing dual enrollment to traditional (non-online) artifacts, the dual enrollment artifact mean score is 2.4 higher than traditional artifact and was found to be statistically significantly different.
6. In a study comparing online to traditional artifacts, the online artifact mean score is 1.3 higher than traditional artifacts and was found to be statistically significant.
7. In a cross-campus comparison, scores varied greatly across rubric dimensions. Offsite (dual enrollment) exhibits the highest mean score in two of five dimensions. Collier and FSW Online each exhibit the highest in two others (the sites share the highest for Documentation). Results of the ANOVA exhibit a statistically significant difference between sites
8. In a comparison of mini-term courses to full-term courses, the mini-term courses artifact mean score is 0.6 higher than full-term artifacts although results are not statistically significantly different.

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Section 2

ENC 0022 Final Exam Assessment Report – Fall 2016

Author: Joseph F. van Gaalen, Ph.D., Director, Academic Affairs Assessment

Florida SouthWestern State College's assessment plan includes collection of achievement data to determine the efficacy of the developmental options and to inform course and program improvement. The FSW English Department uses a two-section final exam (written and objective) to test mastery of the subject in ENC 0022 *Writing for College Success*. The following report details the results for the final exam for ENC 0022 for the fall 2016 term.

The written section of the ENC 0022 final exam, worth 50% of the overall exam grade, is comprised of six rubric dimensions. They are Main Idea / Topic Sentence, Organization, Detail Sentences, Grammar, Mechanics / Spelling, and Concluding Sentence. Each is scored on a 4-point rubric (4-Above Average, 3-Average, 2-Needs Work, 1-Unacceptable). Artifacts from 154 students were reported for fall 2016 with 9 of 10 sections reporting objective sections and 10 of 10 reporting written sections. The mean scores for each rubric dimension are shown in Figure 1. A percentage of artifacts scoring a 3 or better is shown in Figure 2.

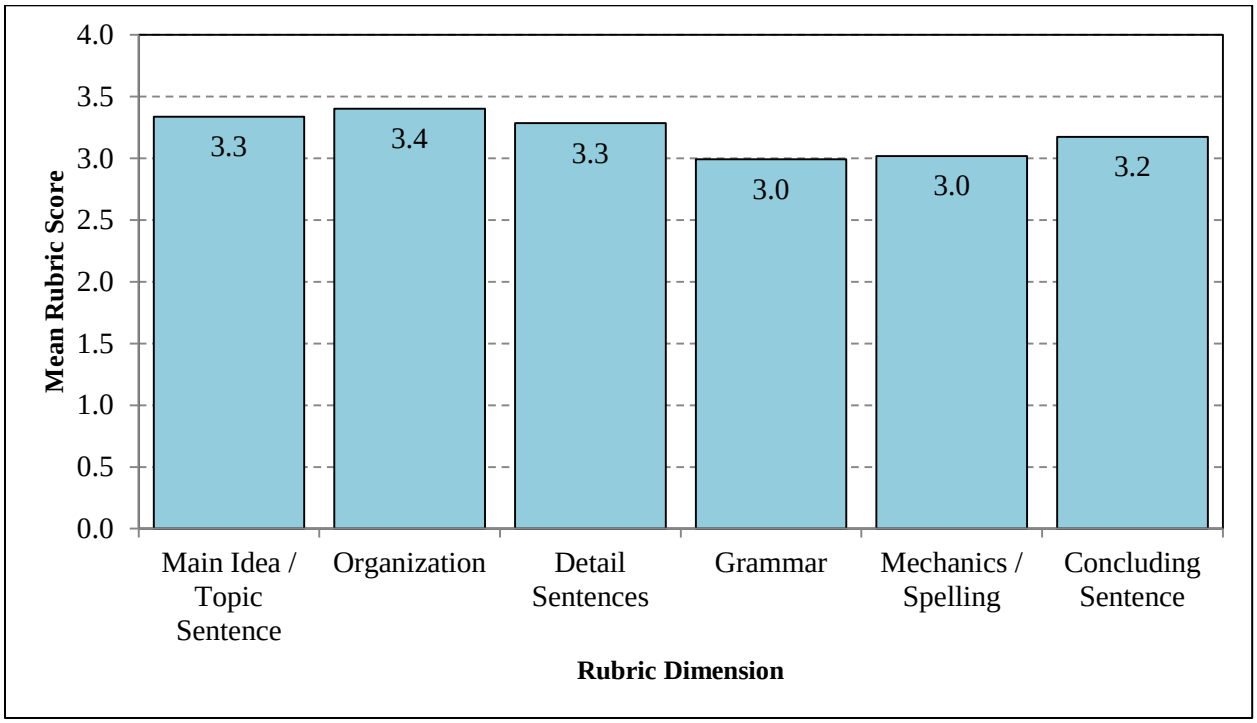

Figure 1. ENC 0022 Final Exam written section mean rubric scores for fall 2016.

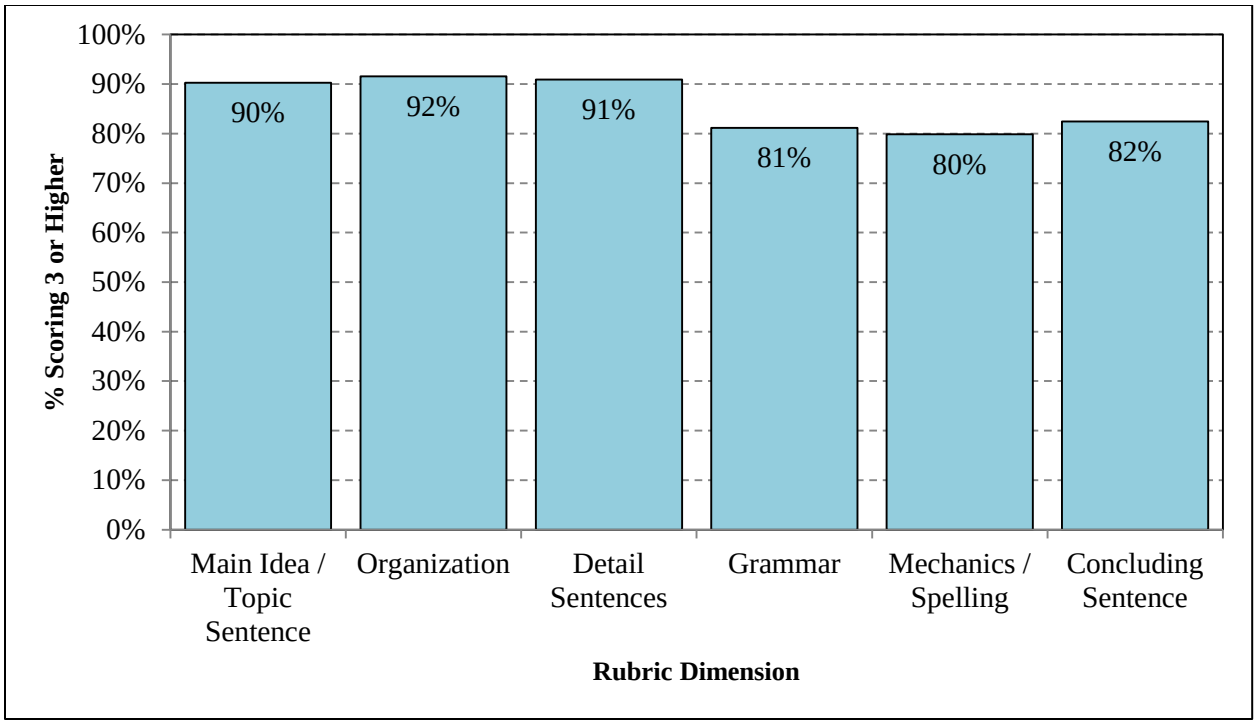

Figure 2. Percentage of fall 2016 artifacts scored 3 or higher on written section of ENC 0022 final exam.

While 154 artifacts were reported for the written section of the exam, 151 were reported for the objective section. The mean scores for each are reported in Figure 3. Differences in the means between written section and the objective section were tested for significance using a Welch's t-test according to standard methods[1,2,3,4] and were found to be statistically significantly different ($t(303) = -7.26$, $p = 3.47 \times 10^{-12}$). Therefore we can reject the null hypothesis that the difference in the means of the written and objective sections of the exam is equal to 0, and we can conclude with 95% confidence that the differences in scores are not solely due to chance.

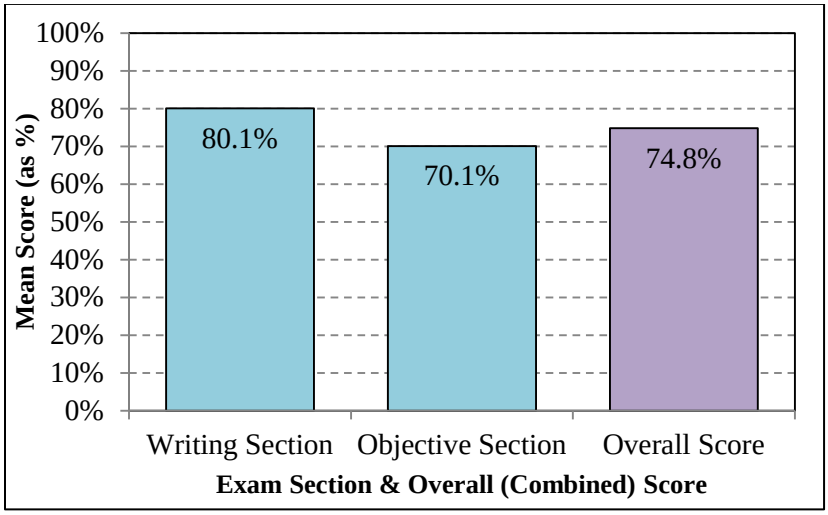

Figure 3. Mean scores by exam section and overall score for the fall 2016 ENC 0022 final exam.

Of the 154 artifacts collected from the final exam, 136 originate from the compressed learning strategy version of the course while 18 originate from the modularized learning strategy of the course. A comparison of mean scores by learning strategy is shown in Figure 4. Differences in the means between compressed and modularized learning strategy overall scores were tested for significance using a Welch's t-test according to standard methods[1,2,3,4] and were found to be statistically significantly different ($t(145) = 3.41$, $p = 0.003$). Therefore we can reject the null hypothesis that the difference in the means of the written and objective sections of the exam is equal to 0, and we can conclude with 95% confidence that the differences in scores are not solely due to chance.

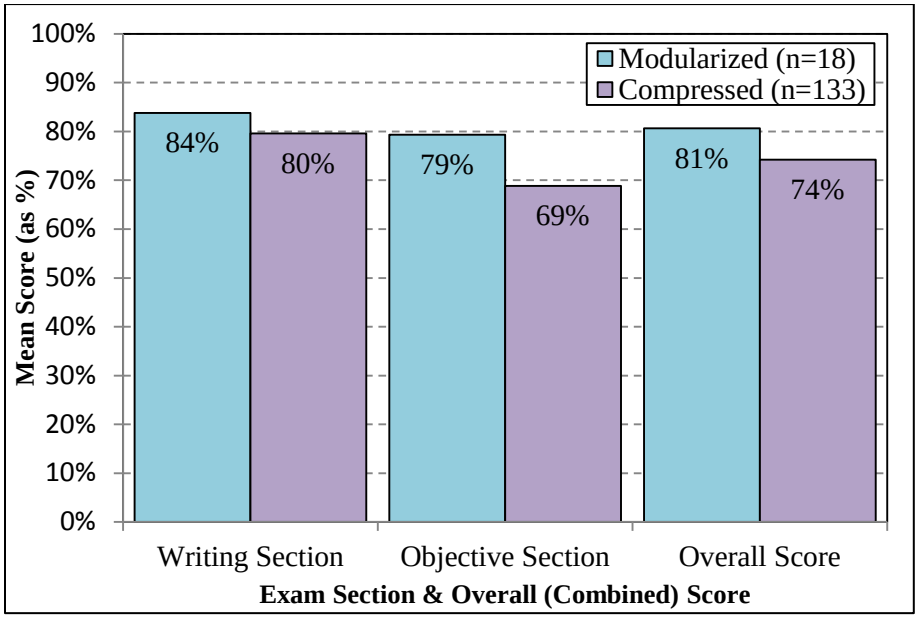

Figure 4. Comparison of fall 2016 exam section and overall scores by learning strategy.

Success rates based on achievement at the 70% level by learning strategy were compiled and are shown in Figure 5. The percentage of artifacts scoring 70% or better on the final exam originating from modularized sections is 83%, with sample size of n=18. The percentage of artifacts scored 70% or better on the final exam originating from compressed sections is 50%, with sample size of n=133.

A longitudinal study exhibits a consistent level of achievement overall with the exception of the summer 2015 term. This trend is also evident among compressed learning strategy sections as modularized enrollment remains low enough to be fairly inconsequential in influencing overall rates. Fall 2016 exhibits a continued decline in like terms (fall-to-fall) beginning 2014.

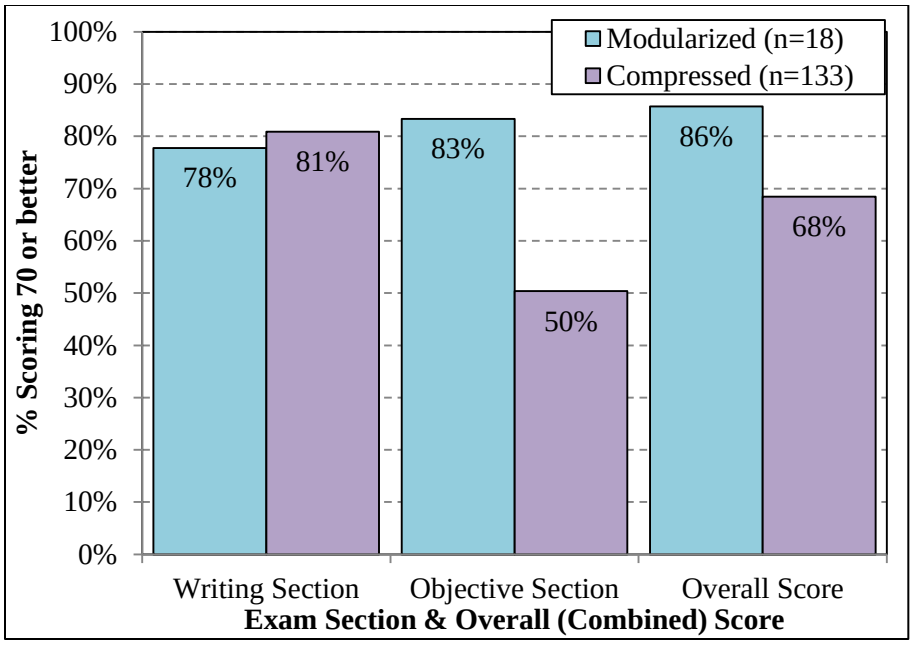

Figure 5. Fall 2016 ENC 0022 final exam success rate (≥70%) by section and learning strategy.

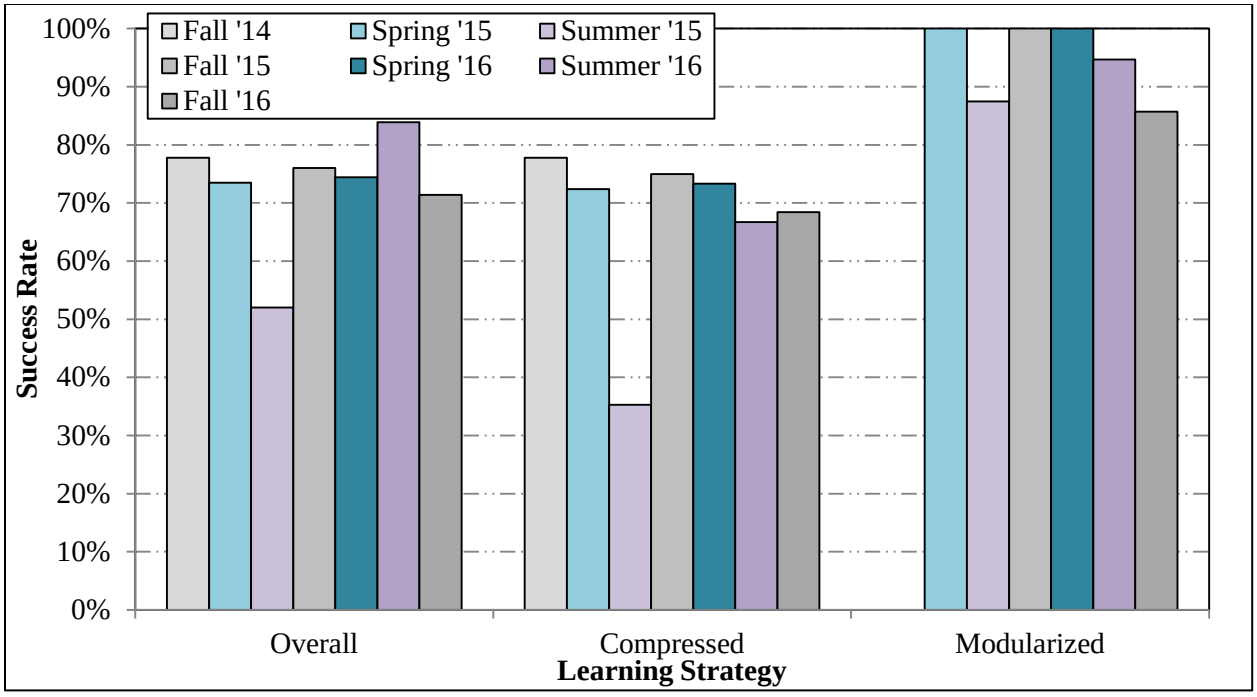

Figure 6. Comparison of ENC 0022 final exam success rates over time. Success rate is achievement at 70% or higher.

[1]Davis, J.C. 1973. Statistics and Data Analysis in Geology. John Wiley & Sons, New York, New York, 564 pp.
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Section 3

ENC 0022 Survey Report – Fall 2016

Author: Joseph F. van Gaalen, Ph.D., Director, Academic Affairs Assessment

Florida SouthWestern State College tracks satisfaction of current developmental courses through a survey administered at the end of each term. The data is in support of assessment measures for the developmental accountability plan to determine efficacy of developmental options and to inform course and program improvement. The following are the results for the fall 2016 term.

Of the 193 students enrolled in ENC 0022 during fall 2016, 27 responded to the survey for a response rate of 14%, the same as spring 2016. Of the 27 respondents, 89% were enrolled in the traditional (compressed) classroom learning strategy, while 11% were enrolled in the computer assisted (modularized) learning strategy (Figure 1).

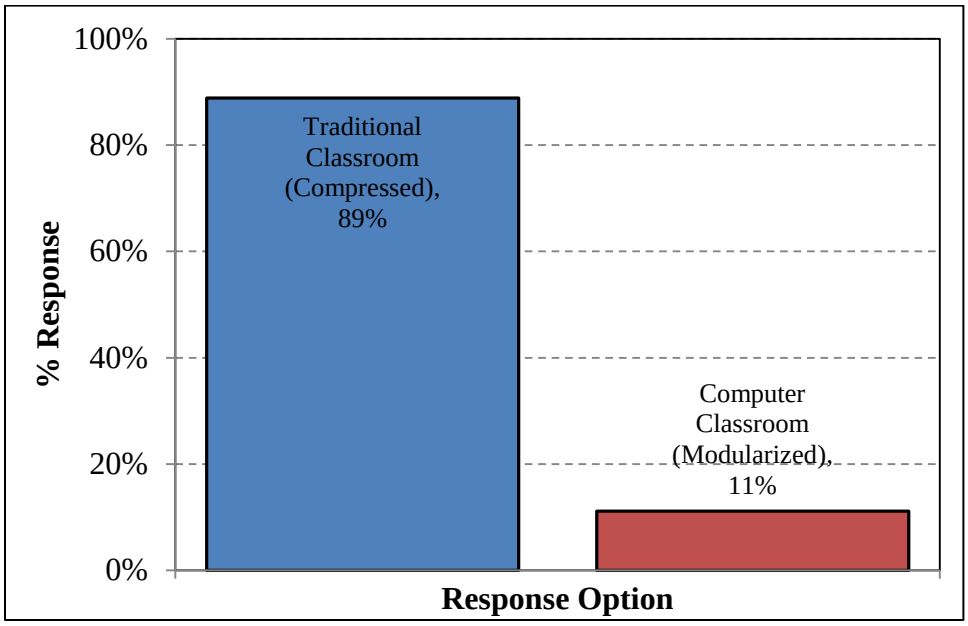

Figure 1. Response rate by learning strategy.

Questions 1 – 6 of the survey establish general statistics of the survey respondent such as class meeting times, gender, age group, etc. Questions 7 – 10 are Likert scale questions describing student perception of learning and achievement in various areas. The below are the prompts for Question #7 followed by the results in Figure 2.

> *Q7: I believe I have improved in the following areas since taking this English class.*
>
> 1. *English Grammar*
> 2. *Punctuation*
> 3. *Sentence skills*
> 4. *Essay writing*
> 5. *Vocabulary*
> 6. *Spelling*

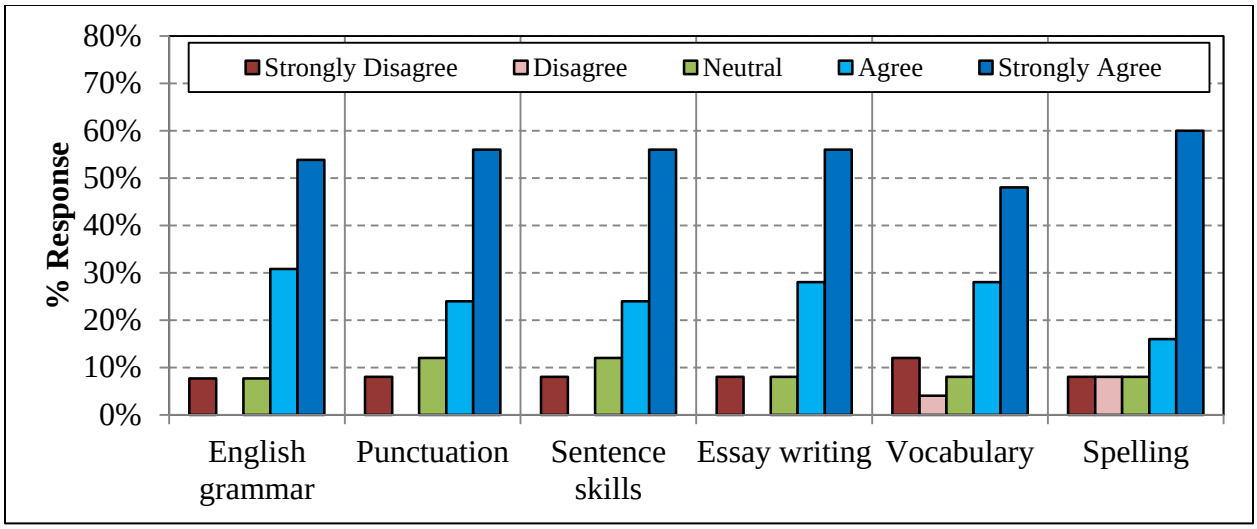

Figure 2. Responses to Question #7 " I believe I have improved in the following areas since taking this English class."

All six areas exhibit positive responses (Agree or Strongly Agree) of 70% or higher. Questions 7-1 through 7-4 exhibit response rates of 80%. No question exhibits a negative response rates greater than 16% (Disagree or Strongly Disagree).

The below are the prompts for Question #8 followed by the results in Figure 3.

Q8: I believe I have benefited from the following aspects of the Academic Support Writing Center this semester.

1. *The resources available in the Writing Center*
2. *The instructional assistants*
3. *The access to computers*
4. *The programs on the computers*
5. *The hours the Writing Center was open and available to me*
6. *The required Writing Center hours for my English class*

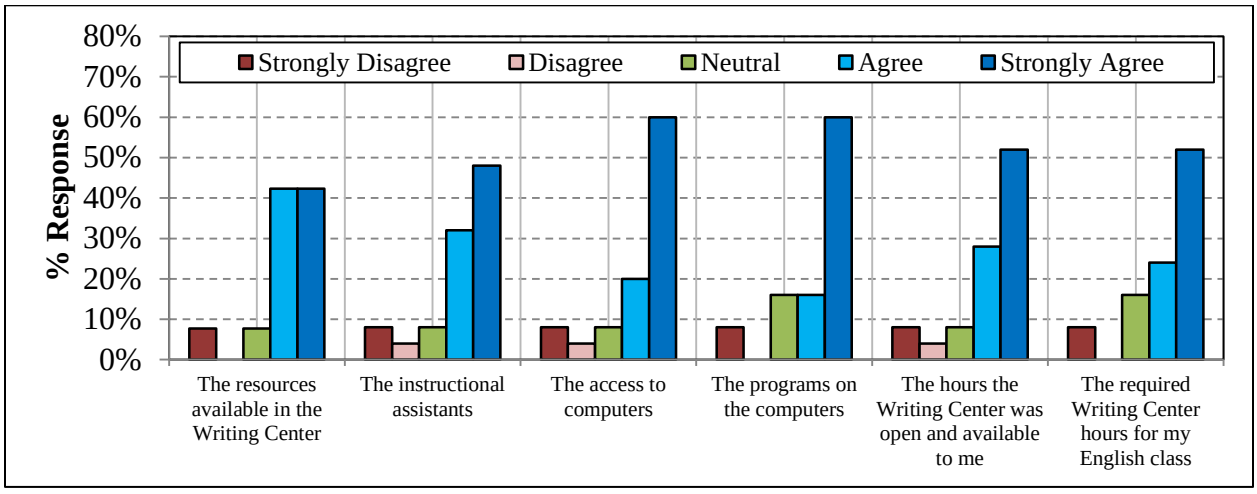

Figure 3. Responses to Question #8 "I believe I benefited from the following aspects of the Academic Support Writing Center this semester."

All six areas exhibit positive responses (Agree or Strongly Agree) of 70% or better. Q8-1, Q8-3, Q8-4 and Q8-5 exhibit positive response rates of greater than 80%. The largest negative response rate (Disagree or Strongly Disagree) is for Q8-2, Q8-3, and Q8-5, at 12%, down from the highest in spring 2016 of 16%.

The below are the prompts for Question #9 followed by the results in Figure 4.

Q9: I was satisfied with the following aspects of my English class this semester.

1. *The information on the course syllabus*
2. *The content of the course textbook*
3. *The McGraw-Hill Connect computer component*
4. *The amount of homework assigned*
5. *The number of tests*
6. *The number of written assignments*
7. *The length of time in class*
8. *The frequency of class meetings*
9. *The pace of the course*

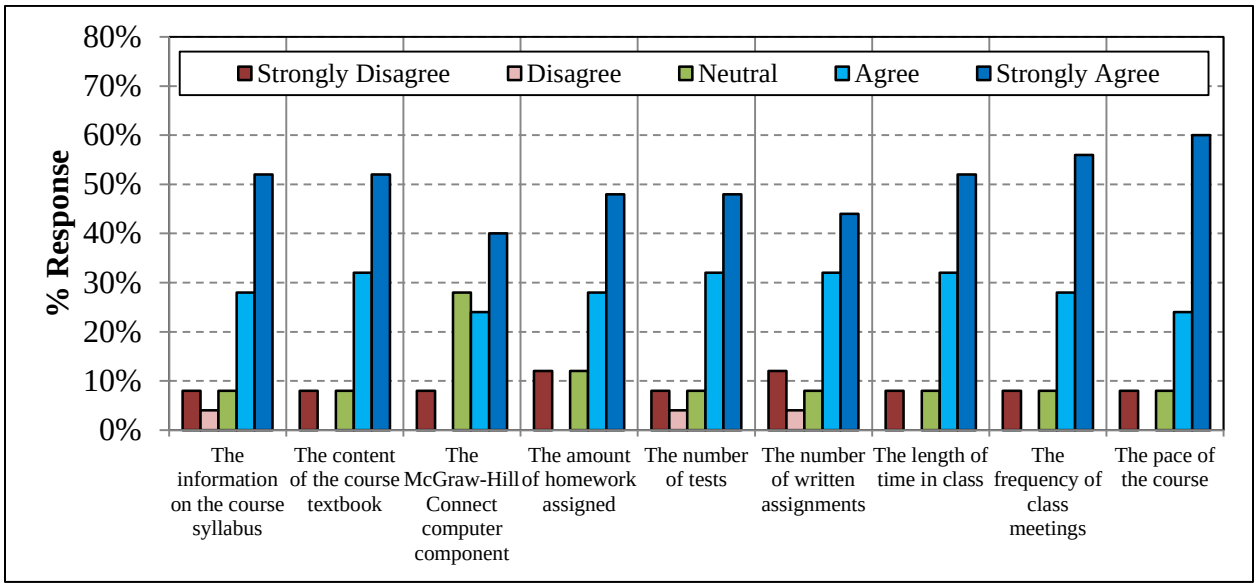

Figure 4. Responses to Question #9 "I was satisfied with the following aspects of my English class this semester."

All nine areas exhibit positive responses (Agree or Strongly Agree) of 60% or better. Questions 9-8 and 9-9 exhibit positive responses of greater than 80%. Only Q9-3 and Q9-4 exhibit response rates lower than 80% with Q9-3 at 50% and Q9-4 at 60%.

The below are the prompts for Question #10 followed by the results in Figure 5.

Q10: This English course prepared me for:

1. *The writing I will do in college*
2. *The expectations of college courses*
3. *The time management I must have in college*
4. *The skills I need to take tests in college*
5. *The use of technology in college classes*

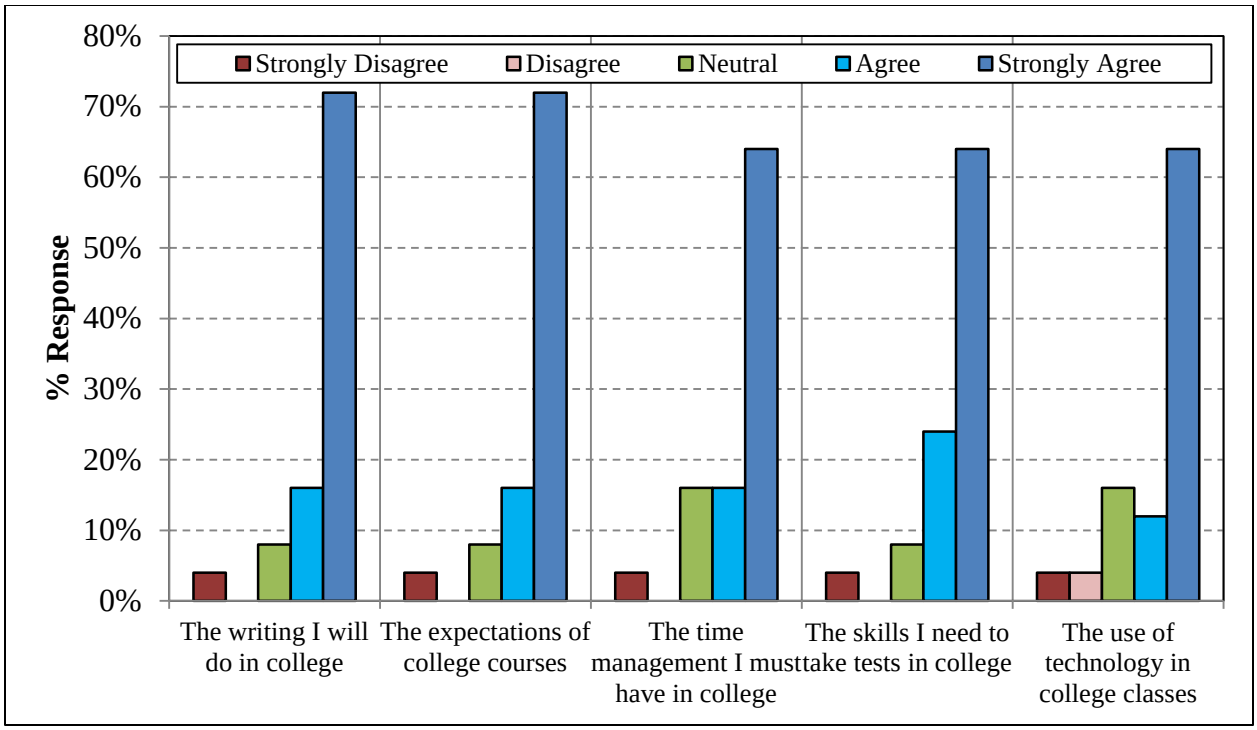

Figure 5. Responses to Question #10 "This English course prepared me for:"

All five areas exhibit positive responses (Agree or Strongly Agree) of 80% or better. Questions 10-1 and 10-2 exhibit the highest positive response rates at 88%.

A tabulation of positive responses (Strongly Agree or Agree) is included below based on learning strategy (Table 1). However, note that of the 27 responses, 24 reported from compressed sections while only three reported from modularized sections. As a result, statistical significance tests yield limited accuracy (de Winter, 2013) and so were not conducted.

	Traditional (Compressed)	Modularized		Traditional (Compressed)	Modularized
Q7-1	87%	67%	**Q9-1**	82%	67%
Q7-2	82%	67%	**Q9-2**	86%	67%
Q7-3	82%	67%	**Q9-3**	64%	67%
Q7-4	86%	67%	**Q9-4**	82%	33%
Q7-5	77%	67%	**Q9-5**	82%	67%
Q7-6	77%	67%	**Q9-6**	82%	33%
Q8-1	87%	67%	**Q9-7**	86%	67%
Q8-2	82%	67%	**Q9-8**	86%	67%
Q8-3	82%	67%	**Q9-9**	86%	67%
Q8-4	77%	67%	**Q10-1**	86%	100%
Q8-5	82%	67%	**Q10-2**	86%	100%
Q8-6	77%	67%	**Q10-3**	77%	100%
			Q10-4	86%	100%
			Q10-5	73%	100%

Table 1. Positive survey response (Strongly Agree or Agree) by learning strategy. Shaded cells denote higher of the two learning strategies. Statistical significance tests were not completed due to low sample size.

Table 2 shows positive response rates (Agree or Strongly Agree) for each of the survey prompts over time beginning fall 2014 through fall 2016. Note that comparison from fall-to-spring is less useful as assessment reports across multiple course level and program level assessments at FSW typically exhibit substantial differences from fall to spring term and are better interpreted from fall-to-fall and spring-to-spring (see http://www.fsw.edu/facultystaff/assessment/history for further details). Of the 26 questions, 9 exhibit increases, 14 exhibit decreases, and 3 remained the same from fall-to-fall.

	Fall 2014 n=65	Spring 2015 n=35	Summer 2015 n=11	Fall 2015 n=36	Spring 2016 n=19	Summer 2016 n=10	Fall 2016 (n=27)
Question 7 – Prompt: I believe I have improved in the following areas since taking this English class.							
English grammar	69%	94%	55%	85%	100%	80%	85%
Punctuation	75%	91%	45%	85%	95%	80%	**80%**
Sentence skills	77%	97%	45%	85%	100%	80%	**80%**
Essay writing	75%	97%	55%	91%	100%	80%	**84%**
Vocabulary	65%	88%	55%	76%	100%	70%	76%
Spelling	67%	81%	45%	85%	95%	70%	**76%**
Question 8 – Prompt: I benefited from the following aspects of the Academic Support Writing Center this semester.							
The resources available in the Writing Center	75%	78%	91%	80%	84%	60%	**85%**
The instructional assistants	80%	81%	91%	77%	89%	70%	**80%**
The access to computers	80%	91%	91%	74%	89%	70%	**80%**
The programs on the computers	74%	75%	55%	77%	74%	60%	**76%**
The hours the Writing Center was open and available to me	86%	94%	91%	83%	95%	80%	**80%**
The required Writing Center hours for my English class	85%	84%	82%	81%	74%	80%	**76%**
Question 9 – Prompt: I was satisfied with the following aspects of my English class this semester.							
The information on the course syllabus	78%	88%	55%	83%	100%	70%	**80%**
The content of the course textbook	67%	91%	64%	75%	100%	70%	**84%**
The McGraw-Hill Connect computer component	52%	75%	40%	64%	84%	50%	64%
The amount of homework assigned	75%	88%	55%	83%	100%	60%	**76%**
The number of tests	75%	91%	64%	83%	95%	80%	**80%**
The number of written assignments	75%	91%	82%	85%	100%	90%	**76%**
The length of time in class	74%	91%	64%	86%	95%	80%	**84%**
The frequency of class meetings	77%	91%	70%	86%	89%	80%	**84%**
The pace of the course	72%	91%	70%	75%	100%	80%	**84%**
Question 10 – Prompt: This English course prepared me for:							
The writing I will do in college	77%	94%	55%	81%	89%	90%	**88%**
The expectations of college courses	77%	88%	55%	81%	100%	90%	**88%**
The time management I must have in college	77%	91%	73%	81%	100%	70%	**80%**
The skills I need to take tests in college	75%	84%	73%	83%	95%	90%	**88%**
The use of technology in college classes	67%	88%	55%	72%	95%	80%	**76%**

Table 2. Positive (Agree or Strongly agree) response rates over time. Increases from summer-to-summer noted in green text, declines in red.

References:

de Winter, J.C.F. 2013. Using the Student's T-Test with Extremely Small Sample Sizes. Practical Assessment, Research, and Evaluation, 18(10), 1-12.

Section 4

MAT 0057 Final Exam Assessment Report – Fall 2016

Author: Joseph F. van Gaalen, Ph.D., Director, Academic Affairs Assessment

Florida SouthWestern State College's assessment plan includes collection of achievement data to determine the efficacy of the developmental options and to inform course and program improvement. The FSW Math Department uses a 45-question final exam to test mastery of the subject in MAT 0057 *Mathematics for College Success*. The following report details the results for the final exam for MAT 0057 for the fall 2016 term.

During fall 2016, 25 course sections were offered. Of those, 20 sections submitted verified results. In the 20 reporting sections, 248 artifacts from the final exam were collected with 29 originating from the compressed learning strategy version of the course and 219 originating from the modularized learning strategy version of the course. A distribution of the artifact scores can be found in Figure 1. The data exhibit a mode centered on 38/45, although a smaller peak is noticeable at 34/45. The smaller peak is associated with score distribution from the largest represented site, Thomas Edison (Lee) campus.

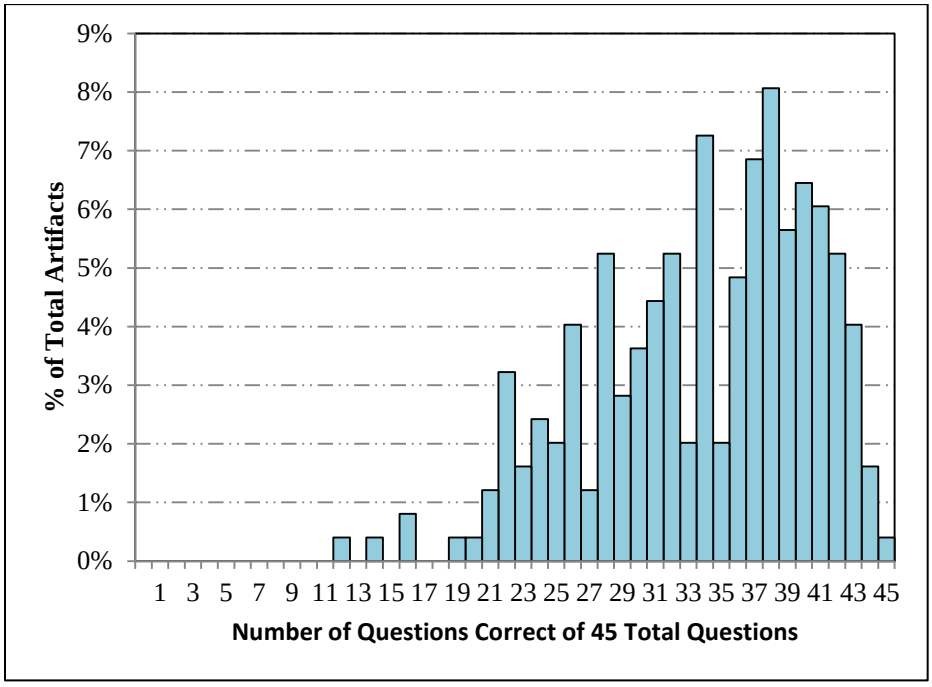

Figure 1. MAT 0057 final exam score distribution for fall 2016.

A comparison of mean scores by learning strategy is shown in Figure 2. Differences in the means between compressed and modularized learning strategy were tested for significance using a Welch's t-test according to standard methods[1,2,3,4] and were found to be statistically significantly different ($t(246)=3.138$, $p=0.003$). Therefore we can reject the null hypothesis that the difference in the means of the compressed and modularized course sections is equal to 0, and we can conclude with 95% confidence that the differences in scores are not solely due to chance.

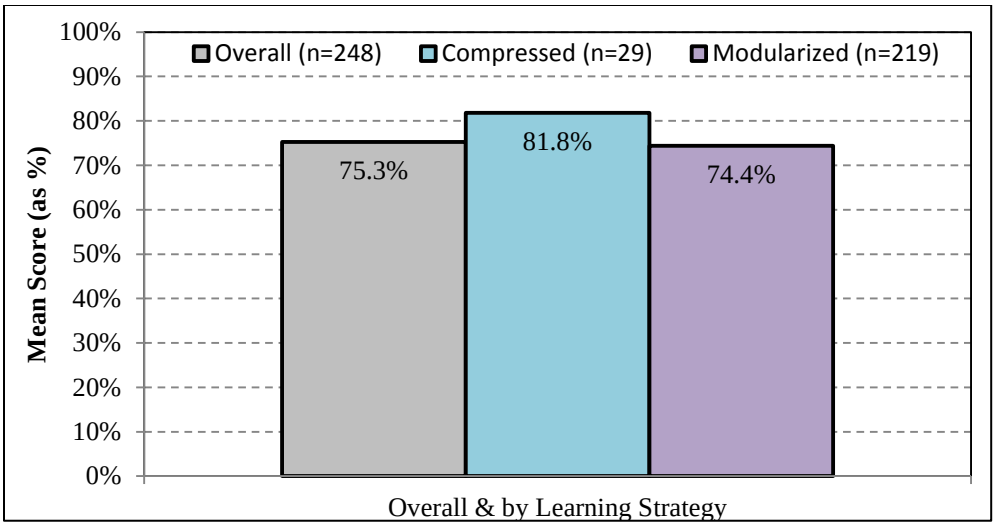

Figure 2. Comparison of MAT 0057 Final exam (mastery exam) mean scores for overall (gray), Compressed (teal), and modularized (purple) for fall 2016.

Success rates based on achievement at the 50%, 70%, and 90% level were compiled (Figure 3). The percentage of artifacts scored 50% or better on the final exam is 100% for those originating from compressed sections (up from 97% in fall 2015), and 92% for those originating from modularized sections (down from 93% in the fall 2015), with an overall rate of 93%. The percentage of artifacts scored 70% or better on the final exam is 83% for those originating from compressed sections (up from 65% in fall 2015) and 63% for those originating from modularized sections (down from 65% in fall 2015) with an overall rate of 66% (up from 65% in fall 2015). The percentage of artifacts scored 90% or better on the final exam is 31% for those originating from compressed sections (up from 11% in fall 2015) and 16% for those originating from modularized sections (up from 12% in fall 2015) with an overall rate of 17% (up from 12% in fall 2015).

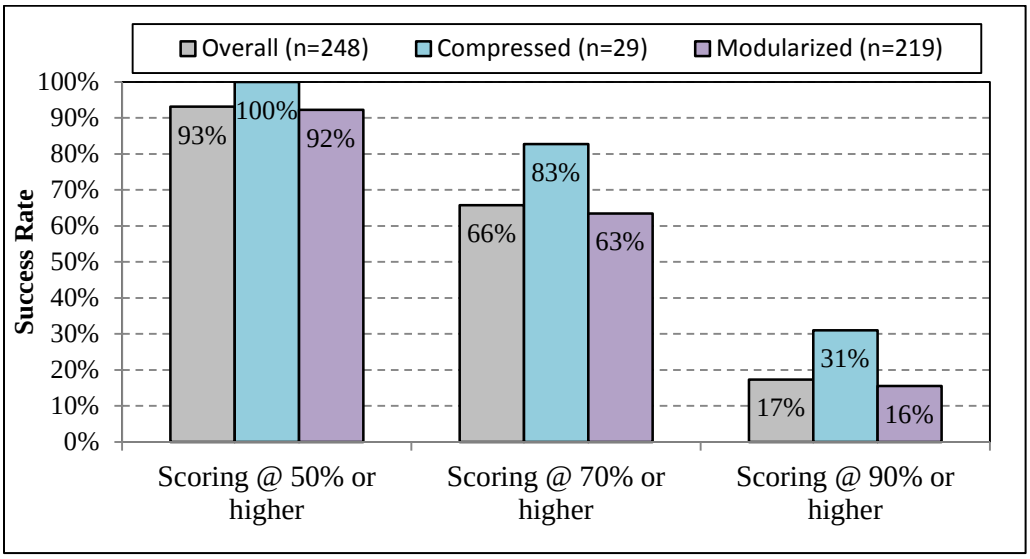

Figure 3. Comparison of MAT 0057 final exam success rates at scores of 50% or higher, 70% or higher, and 90% or higher.

Of the 248 artifacts from the final exam, 13 originated from the Charlotte campus, 62 from the Collier campus, 0 from the Hendry-Glades Center, and 173 from the Thomas Edison (Lee) campus. A comparison of mean scores by campus is shown in Figure 4. Results of the ANOVA exhibit not statistically significant difference between sites [F(2, 245) = 2.33, p=0.100]. Therefore, we cannot reject the null hypothesis that the mean combined rubric scores at each site are equal to each other and we cannot conclude with a 95% confidence that the differences in scores are not solely due to chance.

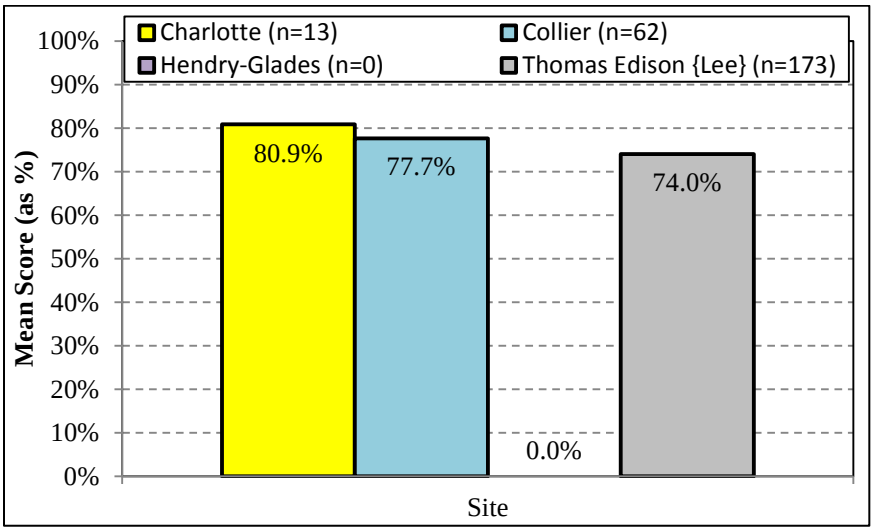

Figure 4. Comparison of MAT 0057 Final exam (mastery exam) scores for Charlotte (yellow), Collier (teal), Hendry-Glades (purple), and Thomas Edison {Lee} (gray) campuses for fall 2016.

A longitudinal study exhibits a general positive trend in overall success rates that appears to have plateaued at approximately 66% in fall 2016 (Figure 5). Any trends by learning strategy, if existing, are less clear. There is also no consistent pattern to success by learning strategy either, as both compressed and modularized strategies exhibit the higher of the two in some the five terms.

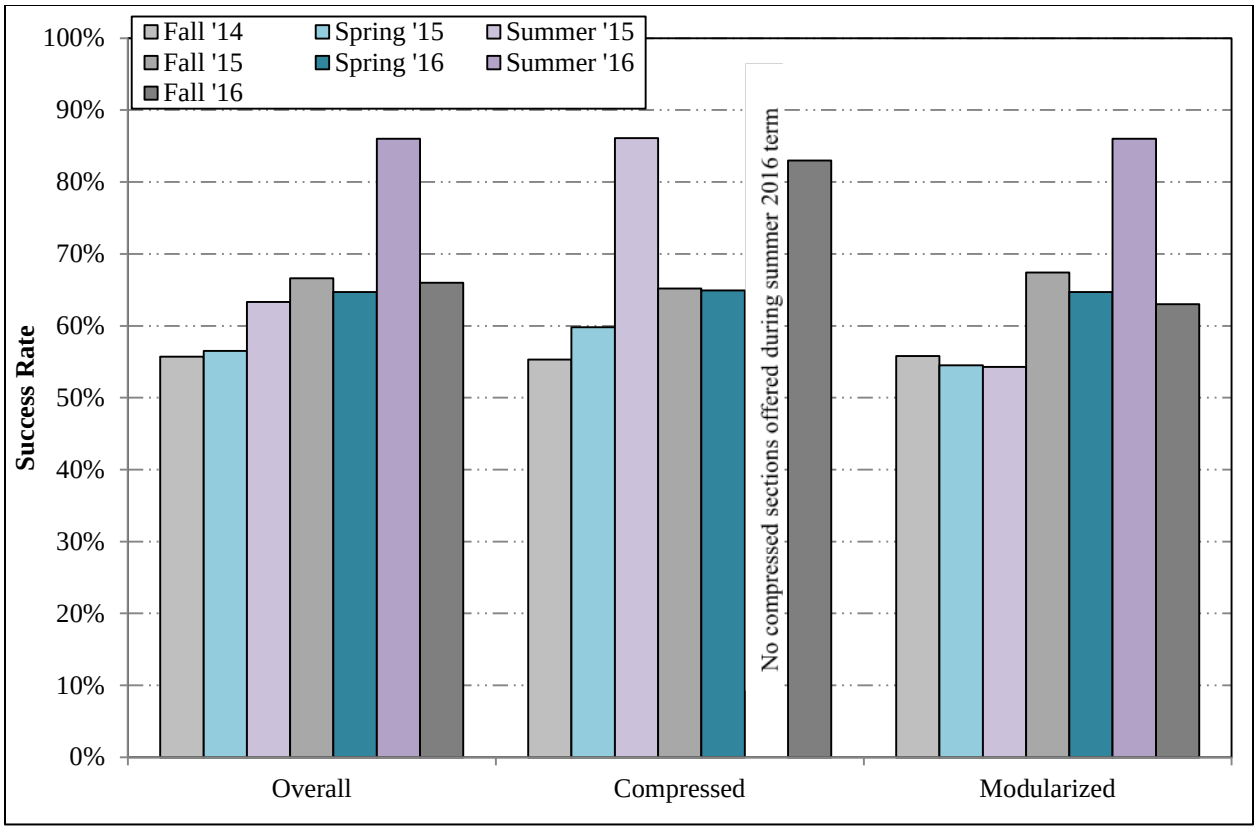

Figure 5. Comparison of MAT 0057 final exam success rates over time. Success rate is achievement at 70% or higher.

[1]Davis, J.C. 1973. Statistics and Data Analysis in Geology. John Wiley & Sons, New York, New York, 564 pp.
[2]McDonald, J.H. 2009. Handbook of Biological Statistics (2nd ed.). Sparky House Publishing, Baltimore, Maryland.
[3]Siegel, S. 1956. Nonparametric statistics for the behavior sciences. McGraw-Hill, New York, New York, 312 pp.
[4]Wilkinson, L. 1999. APA Task Force on Statistical Inference. Statistical Methods in Psychology Journals: Guidelines and Explanations. American Psychologist 54 (8), 594–604.

Section 5

MAT 0058 Survey Report – Fall 2016

Author: Joseph F. van Gaalen, Ph.D., Director, Academic Affairs Assessment

Florida SouthWestern State College tracks satisfaction of current developmental courses through a survey administered at the end of each term. The data is in support of assessment measures for the developmental accountability plan to determine efficacy of developmental options and to inform course and program improvement. The following are the results for the fall 2016 term.

Of the 59 students enrolled in MAT 0058 during fall 2016, 9 responded to the survey for a response rate of 15%, the same as spring 2016. Of the 9 respondents, all were enrolled in the computer assisted, or modularized learning strategy. Note that with a sample size of just 9, interpretation of results is limited.

Questions 1 – 7, and 9 of the survey establish general statistics of the survey respondent such as class meeting times, gender, age group, etc. Questions 8, 10 – 12 are Likert scale questions describing student perception of learning and achievement in various areas. The below are the prompts for Question #8 followed by the results in Figure 1.

Q8: I believe I have improved in the following areas since taking this Math class.

1. *I am better at Math*
2. *Math is less scary*
3. *Math makes more sense to me*
4. *Math is easier for me*
5. *I have learned how to manage my time appropriately to succeed in math*
6. *I will be more successful in future Math courses*

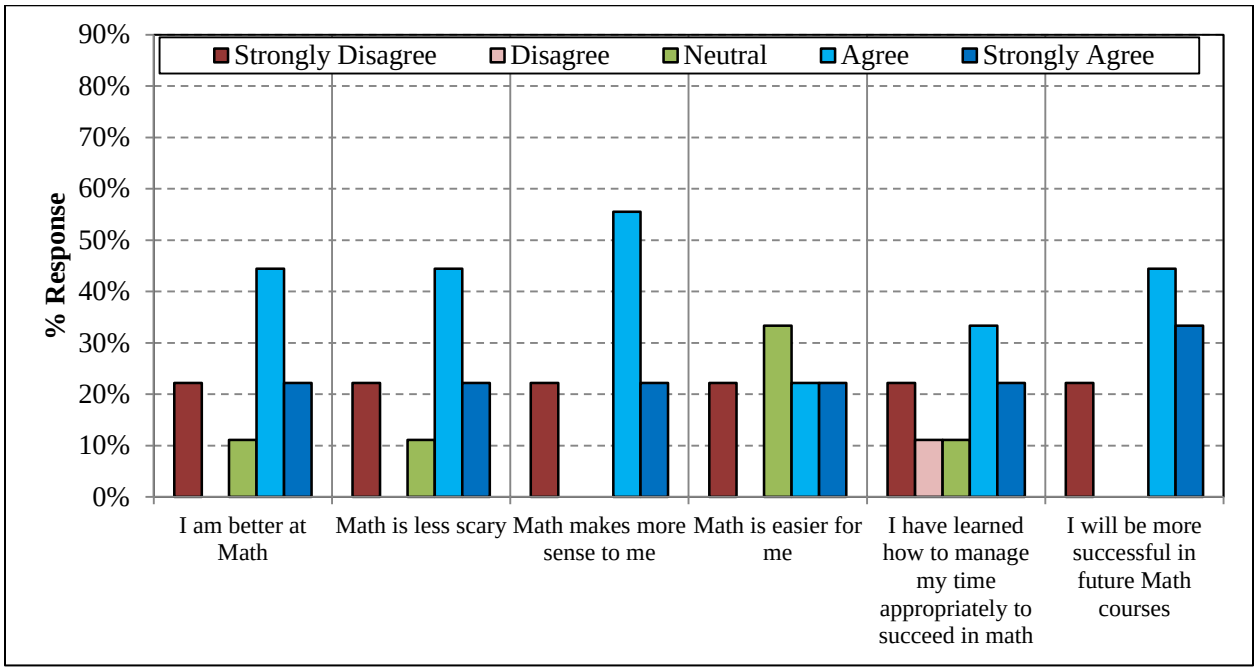

Figure 1. Responses to Question #8 " I believe I have improved in the following areas since taking this Math class."

All six areas exhibit positive responses (Agree or Strongly Agree) of 65% or better with the exception of Q8-5, which exhibits a positive response rate of 44%. Q8-3 exhibits a positive response rate of 78%. Question 8-4 exhibits the highest negative response rates (Disagree or Strongly Disagree) with 33%.

The below are the prompts for Question #10 followed by the results in Figure 2.

Q10: I benefited from the following aspects of the Math Academic Support Center this semester.

1. *The resources available in the Math Center*
2. *The instructional assistants*
3. *The access to computers*
4. *The programs on the computers*
5. *The hours the Math Center was open and available to me*

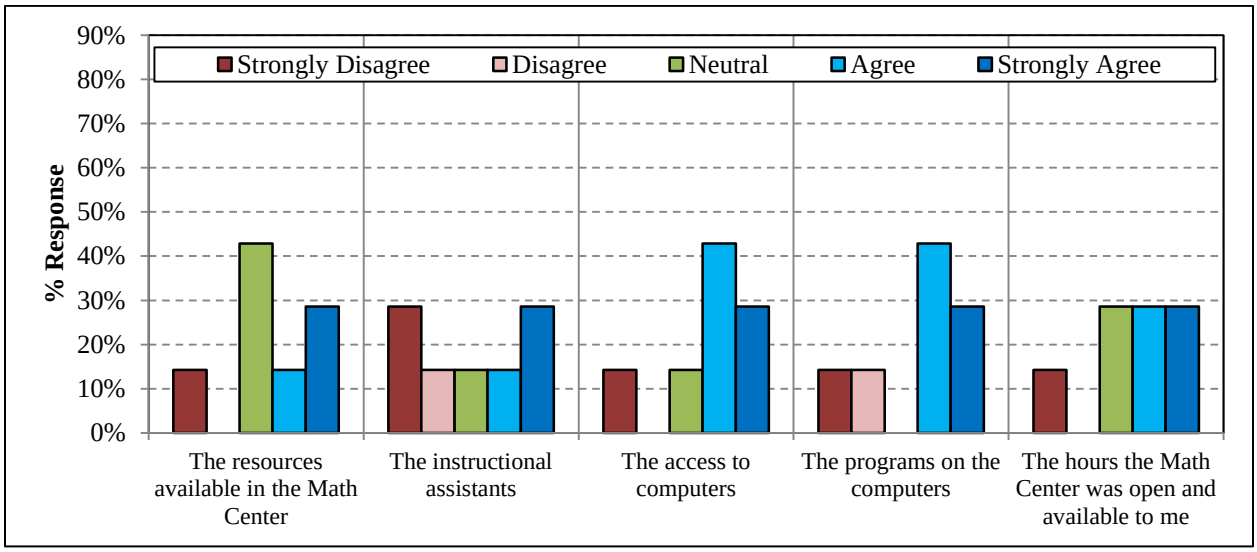

Figure 2. Responses to Question #10 "I benefited from the following aspects of the Math Academic Support Center this semester."

All five areas exhibit positive responses (Agree or Strongly Agree) of 33% or better. Q10-4, and Q10-4 exhibit positive response rates of 72%. Question 10-2 exhibits the highest negative response rate (Disagree or Strongly Disagree) at 33%.

The below are the prompts for Question #11 followed by the results in Figure 3.

Q11: I was satisfied with the following aspects of my Math class this semester.

1. *The frequency of class meetings*
2. *The information on the course syllabus*
3. *The online homework with MyMathLabs Plus*
4. *The amount of homework assigned*
5. *The clarity of the explanations within the MyLabsPlus site*
6. *The number of tests*
7. *The length of time in class*
8. *The pace of the course*

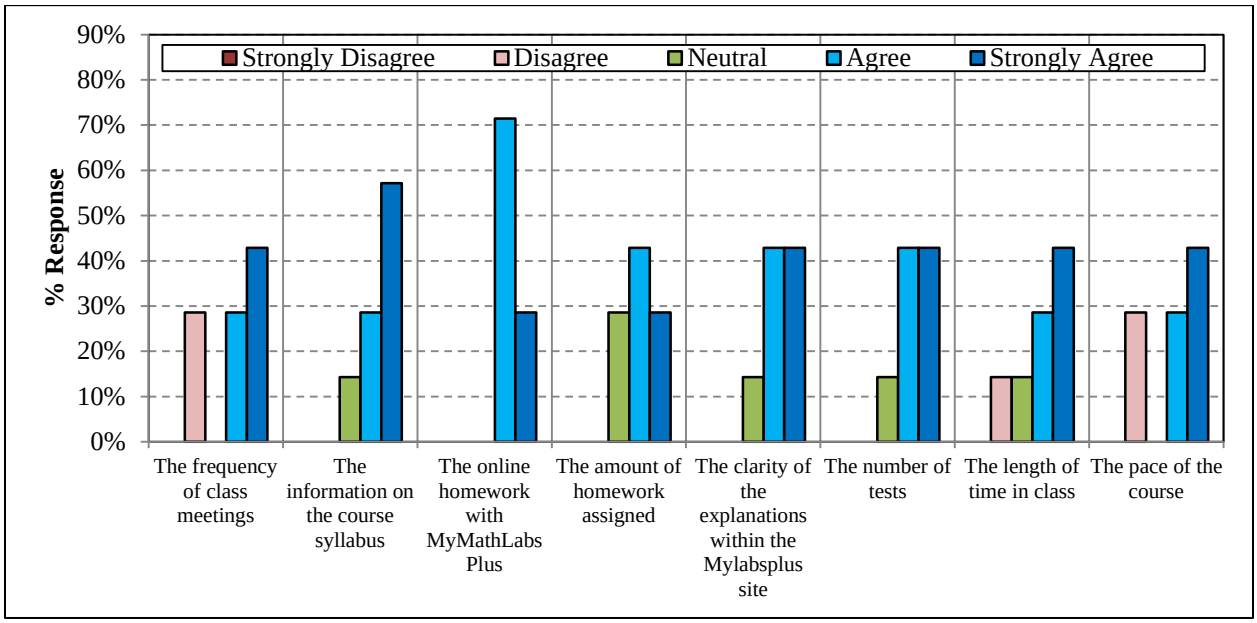

Figure 3. Responses to Question #11 "I was satisfied with the following aspects of my Math class this semester."

All eight areas exhibit positive responses (Agree or Strongly Agree) of 72% or better. Q11-3 exhibits the highest positive response rates at 100%. Questions 11-1 and 11-8 exhibit the highest negative response rate (Disagree or Strongly Disagree) with 29%.

The below are the prompts for Question #12 followed by the results in Figure 5.

Q12: This Math course prepared me for:

1. *The next Math classes I will take*
2. *The time management I must have in college*
3. *The skills I need to take tests in college*

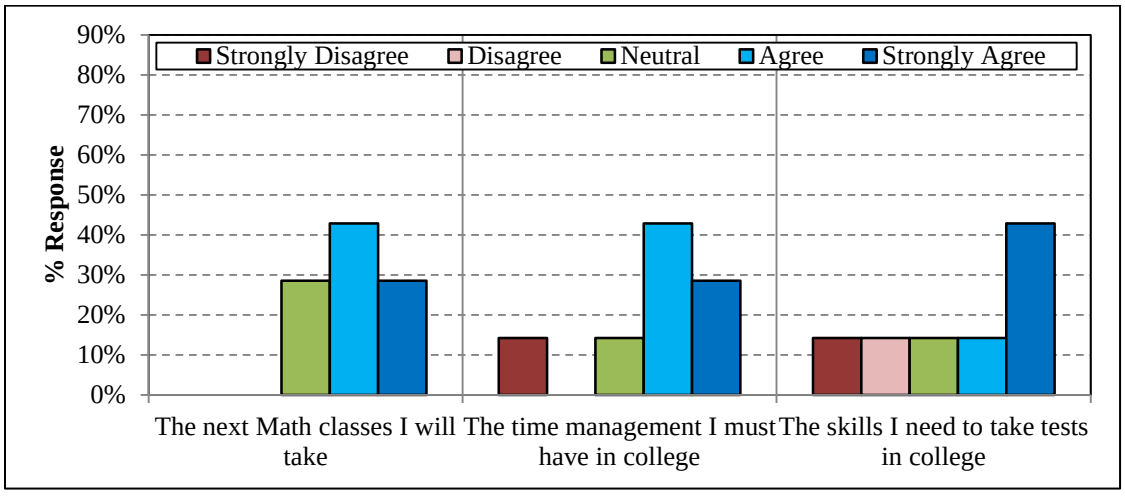

Figure 4. Responses to Question #12 "This Math course prepared me for:"

All three areas exhibit positive responses (Agree or Strongly Agree) of 60% or better. Q12-1 and 12-2 exhibits the highest positive response rate at 72%. Question 12-3 exhibits the highest negative response rate (Disagree or Strongly Disagree), at 28%.

Section 6

MAT 0057 Survey Report – Fall 2016

Author: Joseph F. van Gaalen, Ph.D., Director, Academic Affairs Assessment

Florida SouthWestern State College tracks satisfaction of current developmental courses through a survey administered at the end of each term. The data is in support of assessment measures for the developmental accountability plan to determine efficacy of developmental options and to inform course and program improvement. The following are the results for the fall 2016 term.

Of the 609 students enrolled in MAT 0057 during fall 2016, 93 responded to the survey for a response rate of 15.0%, the same as spring 2016. Of the 93 respondents, 22% were enrolled in the traditional classroom, or compressed, learning strategy while 78% were enrolled in the computer assisted, or modularized learning strategy.

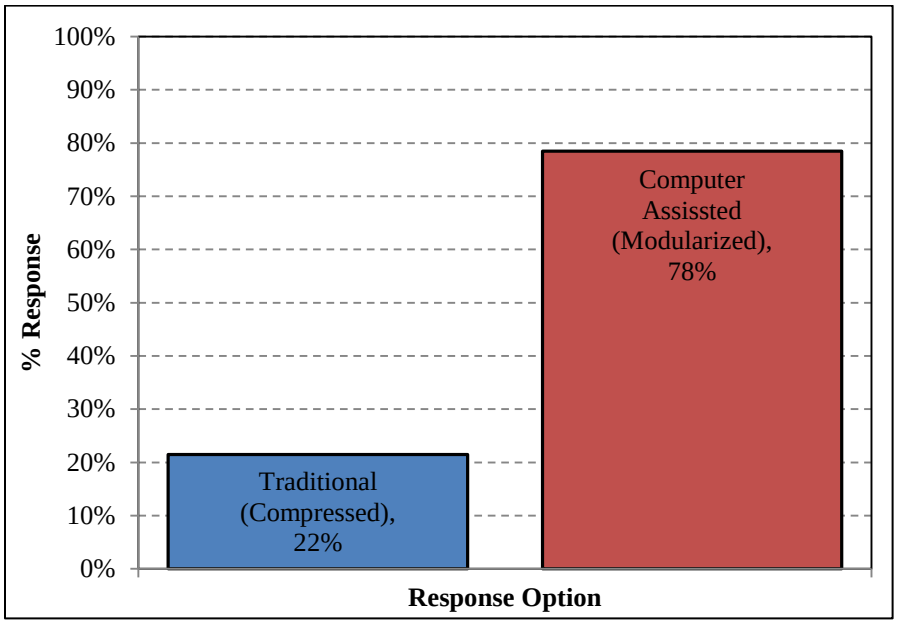

Figure 1. Response rate by learning strategy.

Questions 1 – 7, and 9 of the survey establish general statistics of the survey respondent such as class meeting times, gender, age group, etc. Questions 8, 10 – 12 are Likert scale questions describing student perception of learning and achievement in various areas. The below are the prompts for Question #8 followed by the results in Figure 2.

Q8: I believe I have improved in the following areas since taking this Math class.

1. *I am better at Math*
2. *Math is less scary*
3. *Math makes more sense to me*
4. *Math is easier for me*
5. *I have learned how to manage my time appropriately to succeed in math*
6. *I will be more successful in future Math courses*

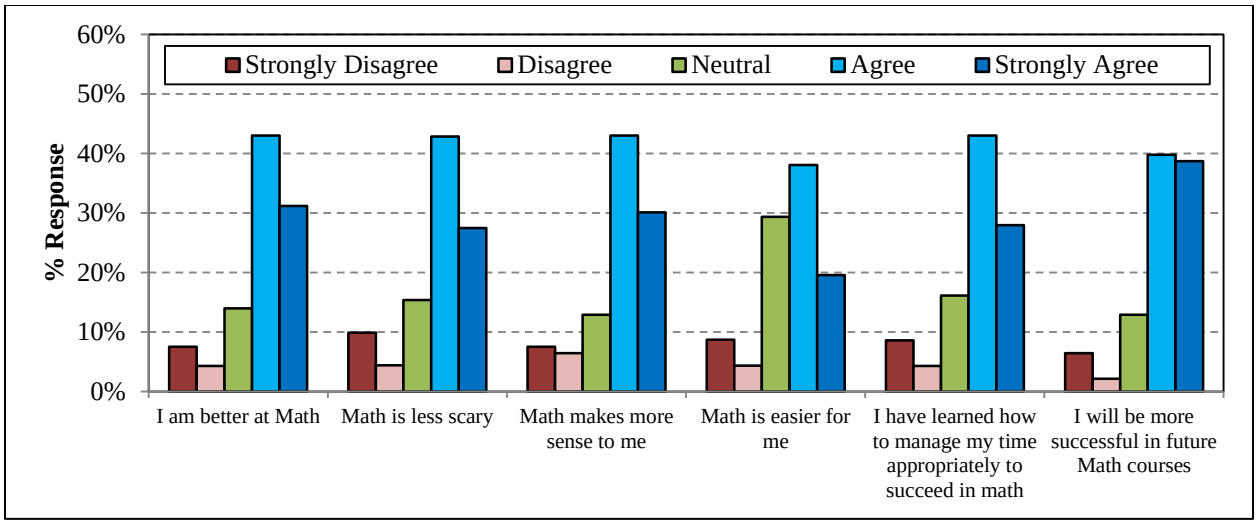

Figure 2. Responses to Question #8 " I believe I have improved in the following areas since taking this Math class."

All six areas exhibit positive responses (Agree or Strongly Agree) of 55% or better. Q8-1, Q8-2, Q8-3, Q8-5 and Q8-6 exhibit positive response rates of 70% or greater. Question 8-4 exhibits the highest negative response rates (Disagree or Strongly Disagree) with 15%.

The below are the prompts for Question #10 followed by the results in Figure 3.

Q10: I benefited from the following aspects of the Math Academic Support Center this semester.

1. *The resources available in the Math Center*
2. *The instructional assistants*
3. *The access to computers*
4. *The programs on the computers*
5. *The hours the Math Center was open and available to me*

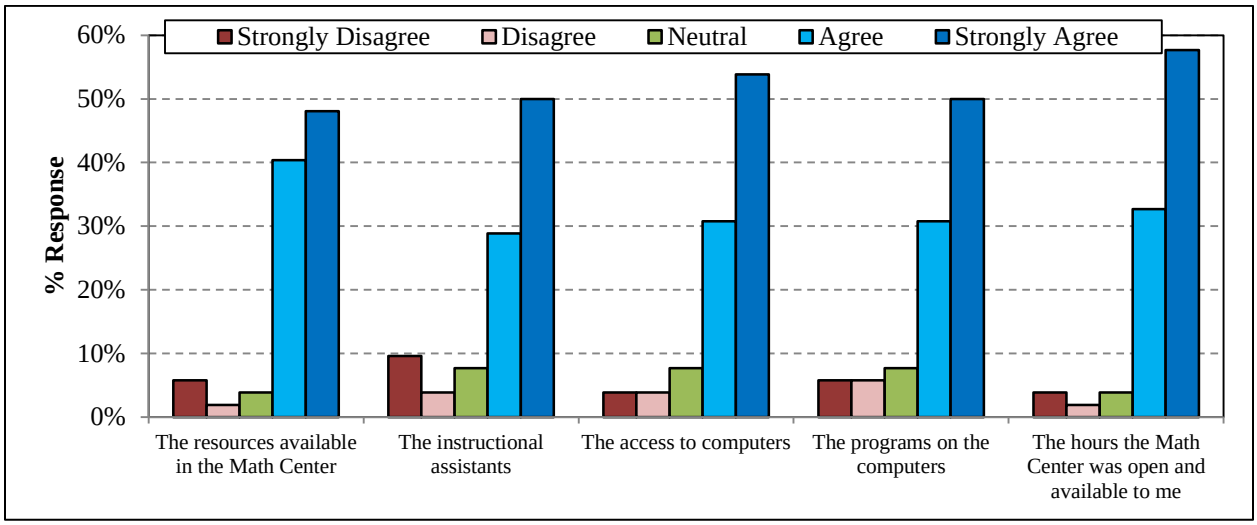

Figure 3. Responses to Question #10 "I benefited from the following aspects of the Math Academic Support Center this semester."

All five areas exhibit positive responses (Agree or Strongly Agree) of 75% or better. Q10-1, Q10-3 Q10-4, and Q10-5 exhibit positive response rates greater than 80%. No question exhibits negative response rates (Disagree or Strongly Disagree) greater than 14%.

The below are the prompts for Question #11 followed by the results in Figure 4.

Q11: I was satisfied with the following aspects of my Math class this semester.

1. *The frequency of class meetings*
2. *The information on the course syllabus*
3. *The online homework with MyMathLabs Plus*
4. *The amount of homework assigned*
5. *The clarity of the explanations within the MyLabsPlus site*
6. *The number of tests*
7. *The length of time in class*
8. *The pace of the course*

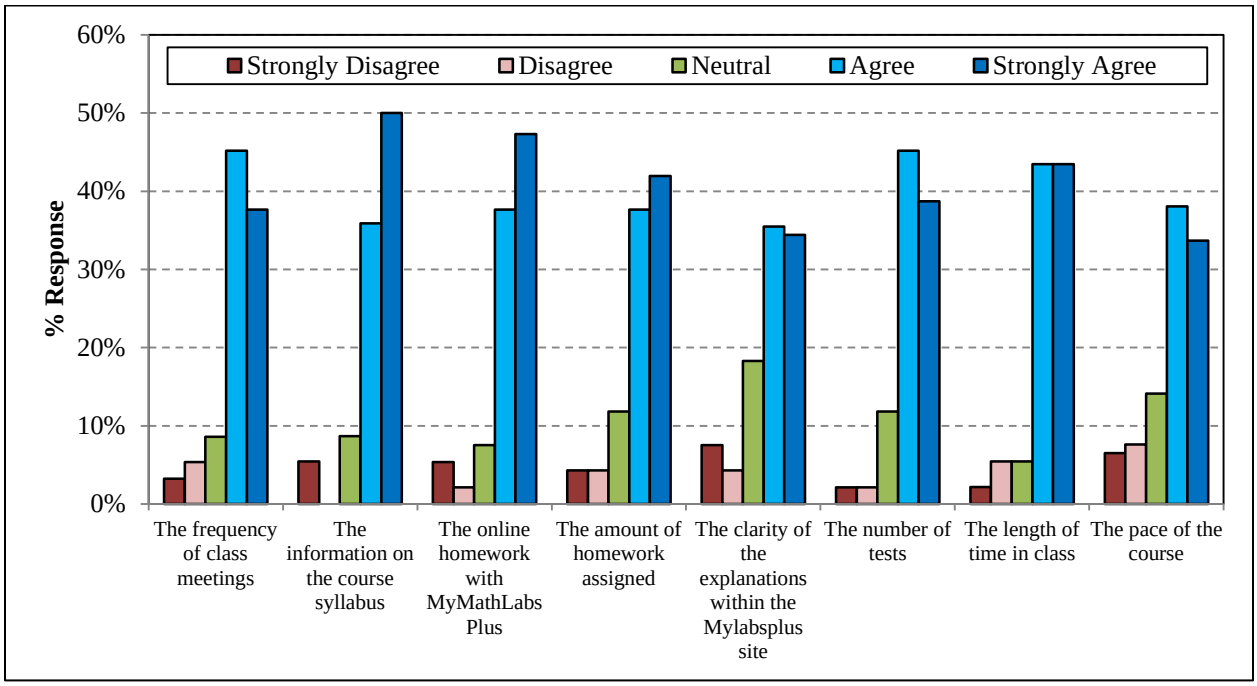

Figure 4. Responses to Question #11 "I was satisfied with the following aspects of my Math class this semester."

All eight areas exhibit positive responses (Agree or Strongly Agree) of 65% or better. Q11-1, Q11-2, Q11-3, Q11-6, and 11-7 exhibit positive response rates greater than 80%. Question 11-8 exhibits the highest negative response rate (Disagree or Strongly Disagree) with 15%.

The below are the prompts for Question #12 followed by the results in Figure 5.

Q12: This Math course prepared me for:

1. *The next Math classes I will take*
2. *The time management I must have in college*
3. *The skills I need to take tests in college*

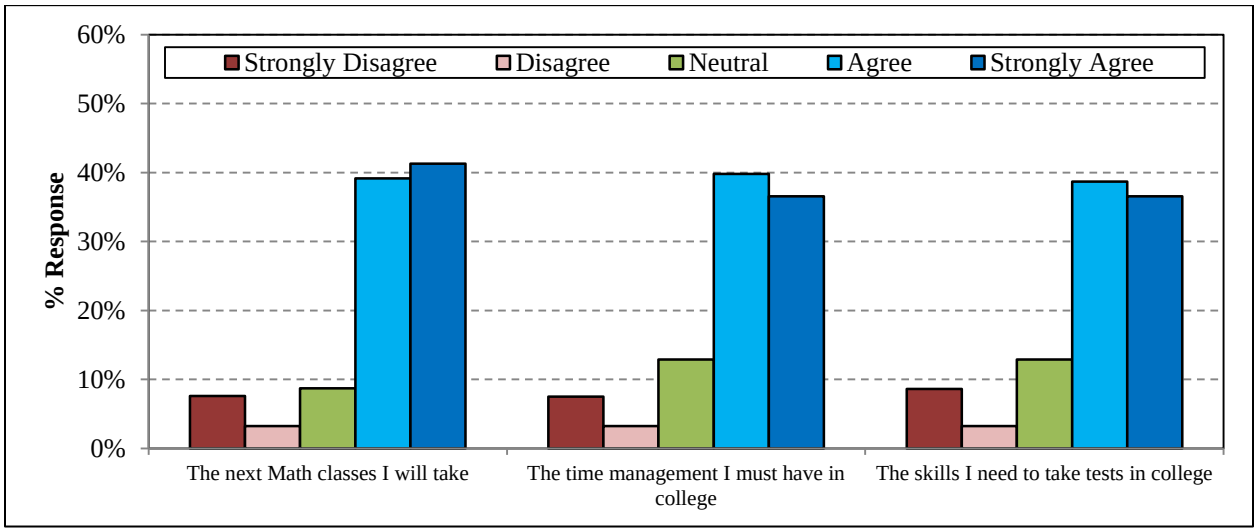

Figure 5. Responses to Question #12 "This Math course prepared me for:"

All three areas exhibit positive responses (Agree or Strongly Agree) of 65% or better. Question 12-1 exhibits the highest positive response rate at 80%. Question 12-3 exhibits the highest negative response rate (Disagree or Strongly Disagree) with 12%.

A tabulation of positive responses (Strongly Agree or Agree) is included below based on learning strategy (Table 1). Of the 22 questions, 14 of 22 exhibit a more positive response from compressed respondents and 0/22 were statistically significant based on results of a Fisher's exact test.

	Traditional (Compressed)	Computer-based (Modularized)
Q8-1	75%	70%
Q8-2	72%	65%
Q8-3	73%	75%
Q8-4	56%	63%
Q8-5	74%	60%
Q8-6	78%	80%
Q10-1	88%	92%
Q10-2	80%	75%
Q10-3	85%	83%
Q10-4	83%	75%
Q10-5	90%	92%
Q11-1	84%	80%
Q11-2	86%	85%
Q11-3	88%	75%
Q11-4	82%	70%
Q11-5	71%	65%
Q11-6	85%	80%
Q11-7	88%	85%
Q11-8	73%	68%
Q12-1	79%	84%
Q12-2	74%	85%
Q12-3	75%	75%

Table 1. Positive survey response (Strongly Agree or Agree) by learning strategy. Shaded cells denote higher of the two learning strategies. *denotes statistical significance.

Table 2 shows positive response rates (Agree or Strongly Agree) for each of the survey prompts over time beginning fall 2014 through fall 2016. Note that comparison from fall-to-spring is less useful as assessment reports across multiple course level and program level assessments at FSW typically exhibit substantial differences from fall to spring term and are better interpreted from fall-to-fall and spring-to-spring (see http://www.fsw.edu/facultystaff/assessment/history for further details). Of the 22 questions, all 22 exhibit increases.

	Fall 2014 n=265	Spring 2015 n=137	Summer 2015 n=73	Fall 2015 n=120	Spring 2016 n=91	Summer 2016 n=50	Fall 2016 n=93
Question 8 – Prompt: I believe I have improved in the following areas since taking this Math class.							
I am better at Math	62%	74%	81%	69%	71%	74%	**74%**
Math is less scary	54%	59%	69%	63%	63%	60%	**70%**
Math makes more sense to me	63%	65%	78%	65%	69%	67%	**73%**
Math is easier for me	52%	53%	69%	52%	55%	56%	**58%**
I have learned how to manage my time appropriately to succeed in math	63%	65%	74%	69%	66%	66%	**71%**
I will be more successful in future Math courses	70%	71%	84%	77%	73%	72%	**78%**
Question 10 – Prompt: I benefited from the following aspects of the Math Academic Support Center this semester.							
The resources available in the Math Center	59%	80%	83%	76%	79%	85%	**88%**
The instructional assistants	57%	73%	83%	75%	77%	78%	**79%**
The access to computers	72%	86%	77%	81%	83%	85%	**85%**
The programs on the computers	68%	76%	77%	71%	69%	81%	**81%**
The hours the Math Center was open and available to me	68%	84%	90%	79%	85%	74%	**90%**
Question 9 – Prompt: I was satisfied with the following aspects of my Math class this semester.							
The frequency of class meetings	72%	85%	86%	81%	77%	82%	**83%**
The information on the course syllabus	78%	84%	89%	80%	76%	76%	**86%**
The online homework with MyMathLabs Plus	77%	84%	81%	74%	61%	56%	**85%**
The amount of homework assigned	69%	69%	67%	70%	69%	62%	**80%**
The clarity of the explanations within the MyLabsPlus site	51%	73%	70%	61%	70%	76%	**70%**
The number of tests	77%	78%	85%	73%	72%	68%	**84%**
The length of time in class	76%	84%	79%	79%	81%	78%	**87%**
The pace of the course	64%	67%	69%	67%	68%	61%	**72%**
Question 10 – Prompt: This Math course prepared me for:							
The next Math classes I will take	71%	75%	85%	68%	83%	70%	**80%**
The time management I must have in college	71%	71%	81%	69%	73%	68%	**76%**
The skills I need to take tests in college	70%	68%	82%	68%	79%	66%	**75%**

Table 2. Positive (Agree or Strongly agree) response rates over time. Increases from fall-to-fall noted in green text, declines in red.

Section 7

MAT 0058 Final Exam Assessment Report – Fall 2016

Author: Joseph F. van Gaalen, Ph.D., Director, Academic Affairs Assessment

Florida SouthWestern State College's assessment plan includes collection of achievement data to determine the efficacy of the developmental options and to inform course and program improvement. The FSW Math Department uses a 45-question final exam to test mastery of the subject in MAT 0057 *Mathematics for College Success* and MAT 0058 *Mathematics for College Success Module Completion*, which was added for the first time in spring 2016. The following report details the results for the final exam for MAT 0058 for the fall 2016 term.

During fall 2016, 4 course sections were offered. Of those, 3 sections submitted results. One course did not report data. In the 3 reporting sections, 12 artifacts from the final exam were collected with all 12 originating from a modularized section. A distribution of the artifact scores can be found in Figure 1. The data exhibit a distribution centered on 32/45 (71%).

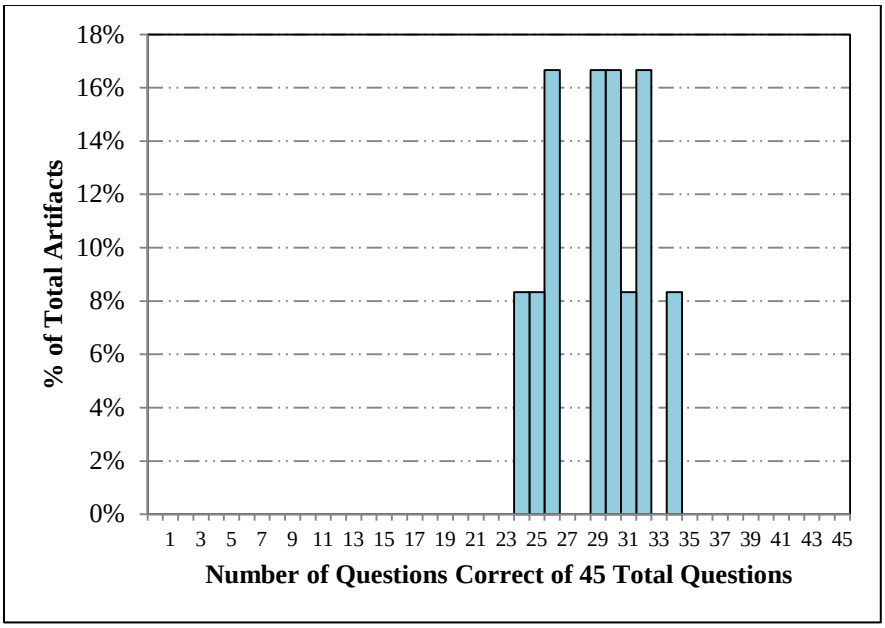

Figure 1. MAT 0058 final exam score distribution for fall 2016.

A comparison of mean scores by learning strategy would normally be shown here, however, all reported data originates from modularized sections.

Success rates based on achievement at the 50%, 70%, and 90% level were compiled (Figure 2). The percentage of artifacts scored 50% or better on the final exam is 100% overall (recall all collected data are modularized). The percentage of artifacts scored 70% or better on the final exam is 25% overall. The percentage of artifacts scored 90% or better on the final exam is 0% overall.

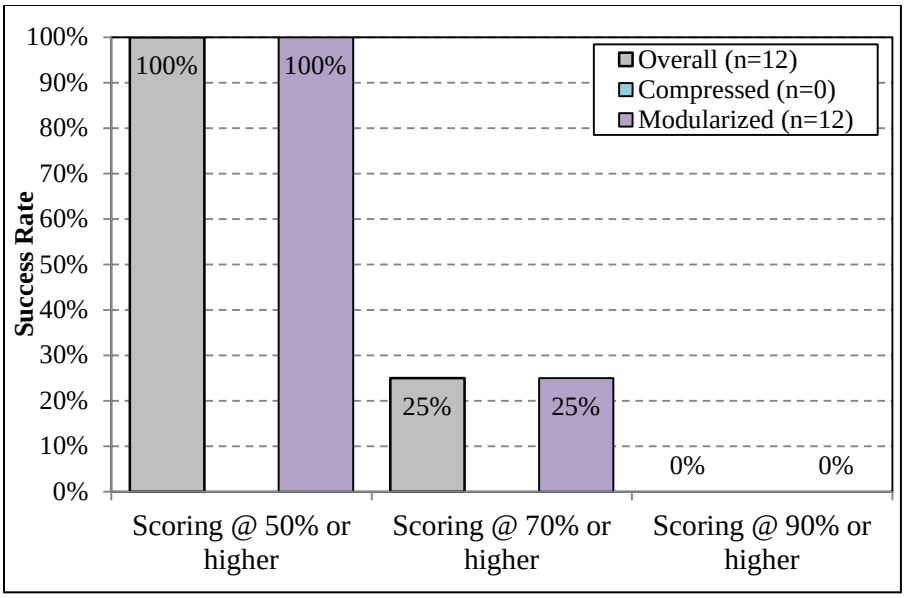

Figure 2. Comparison of MAT 0058 final exam success rates at scores of 50% or higher, 70% or higher, and 90% or higher.

Of the 12 artifacts from the final exam, all were collected from the Thomas Edison (Lee) Campus so no cross-site comparisons could be made. A comparison of exam success rates by course (MAT 0057 with MAT 0058) is shown in Figure 3.

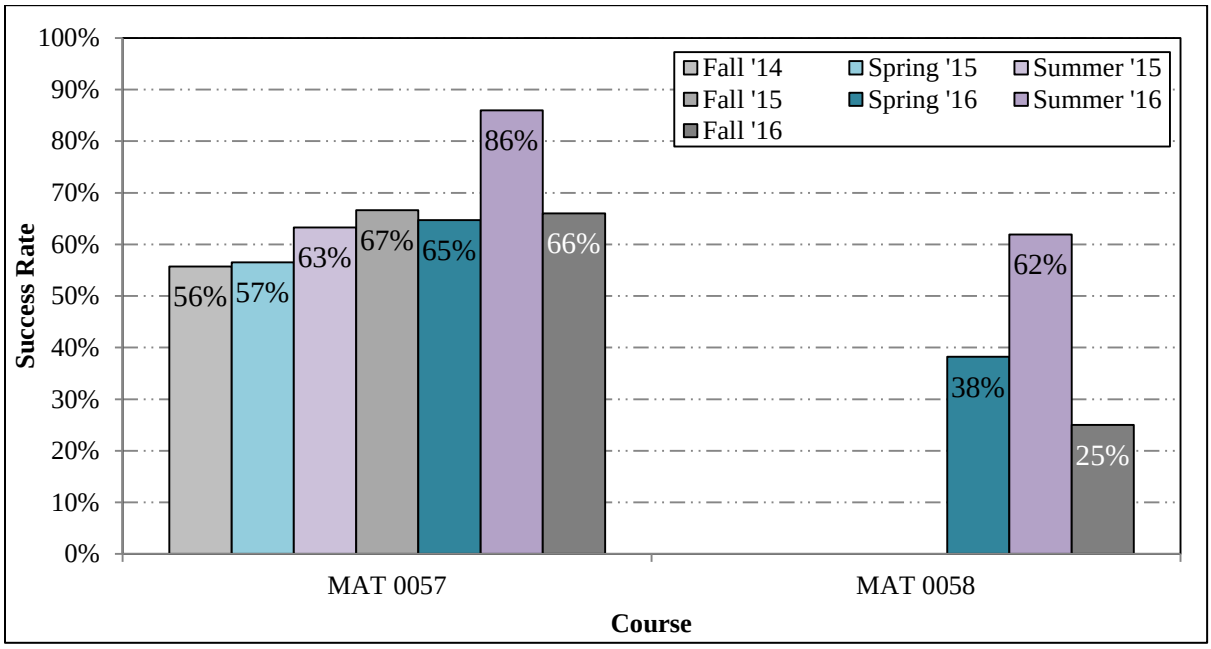

Figure 3. Comparison of MAT 0058 final exam success rates compared with MAT 0057 final exam success rates.

[1]Davis, J.C. 1973. Statistics and Data Analysis in Geology. John Wiley & Sons, New York, New York, 564 pp.
[2]McDonald, J.H. 2009. Handbook of Biological Statistics (2nd ed.). Sparky House Publishing, Baltimore, Maryland.
[3]Siegel, S. 1956. Nonparametric statistics for the behavior sciences. McGraw-Hill, New York, New York, 312 pp.
[4]Wilkinson, L. 1999. APA Task Force on Statistical Inference. Statistical Methods in Psychology Journals: Guidelines and Explanations. American Psychologist 54 (8), 594–604.

Section 8

REA 0019 Mastery Exam Assessment Report – Fall 2016

Author: Joseph F. van Gaalen, Ph.D., Director, Academic Affairs Assessment

Florida SouthWestern State College's assessment plan includes collection of achievement data to determine the efficacy of the developmental options and to inform course and program improvement. The learning outcome: *Students will read at a post-secondary level that correlates with college success by the completion of the Developmental Reading sequence*, is measured through the comparison of pre- and post-tests conducted using the Townsend Press College Reading Test as an assessment within REA 0019 *Reading for College Success*. The following report details the results for Townsend Press College Reading Test for the fall 2016 term.

In a comparison of pre-test to post-test results, the mean scores increased across all rubric criterion as well as the overall score (Figure 1). The difference in the means of the overall score from pre-to-post test scores was tested for significance using a paired means t-test according to standard methods[1,2,3,4]. The paired means t-test results indicate a statistically significant improvement from 27.9 to 29.8 ($t(182)=6.24$, $p=2.96\times10^{-9}$). Therefore we can reject the null hypothesis that the difference in the means of the overall scores of the pre- and post-test scores 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 distribution of overall scores from pre-to-post test can be found in Figure 2.

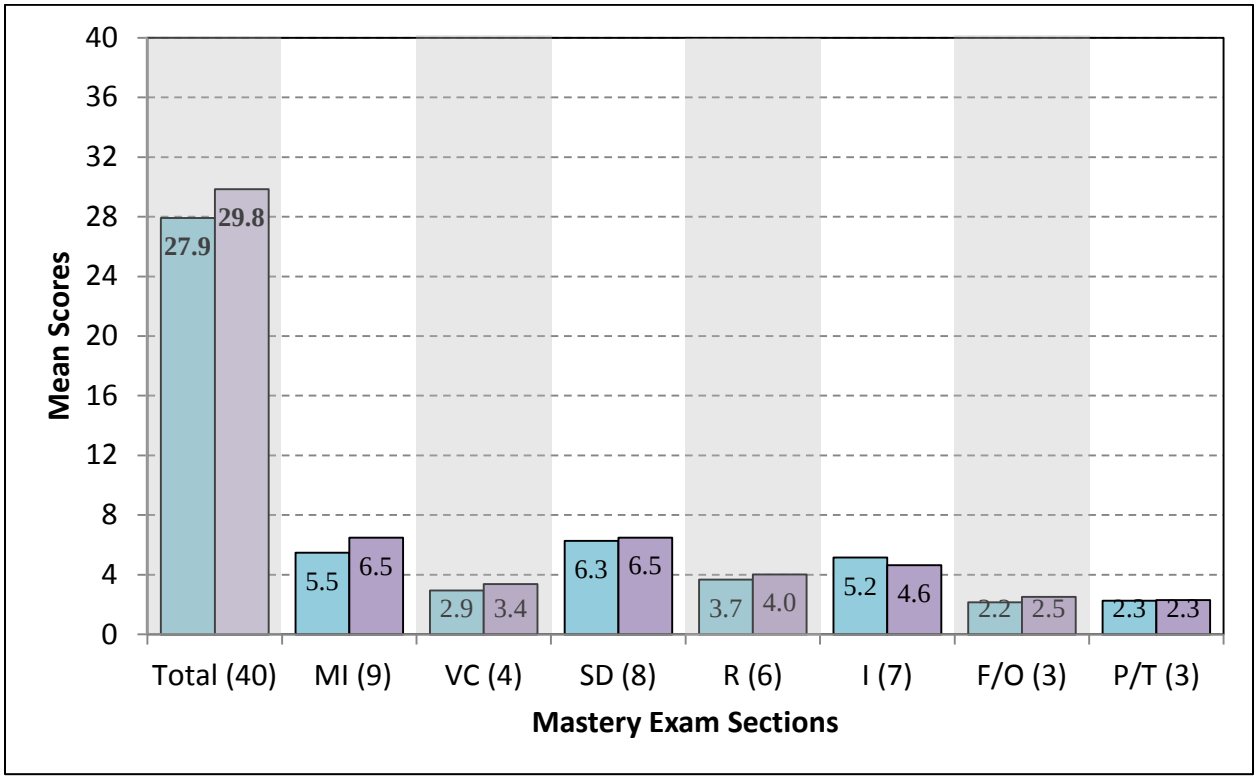

Figure 1. Comparison of pre- (teal) and post-test (purple) achievement for the Townsend Press College Reading Test (serving as the course mastery exam) conducted during the fall 2016 semester in REA 0019 courses. MI: Main Idea (9 points), VC: Vocabulary (4 points), SD: Supporting Details (8 points), R: Relationships (6 points), I: Inferences (7 points), F/O: Fact/Opinion (3 points), and P/T: Purpose/Tone (3 points) for a total of 40 possible points.

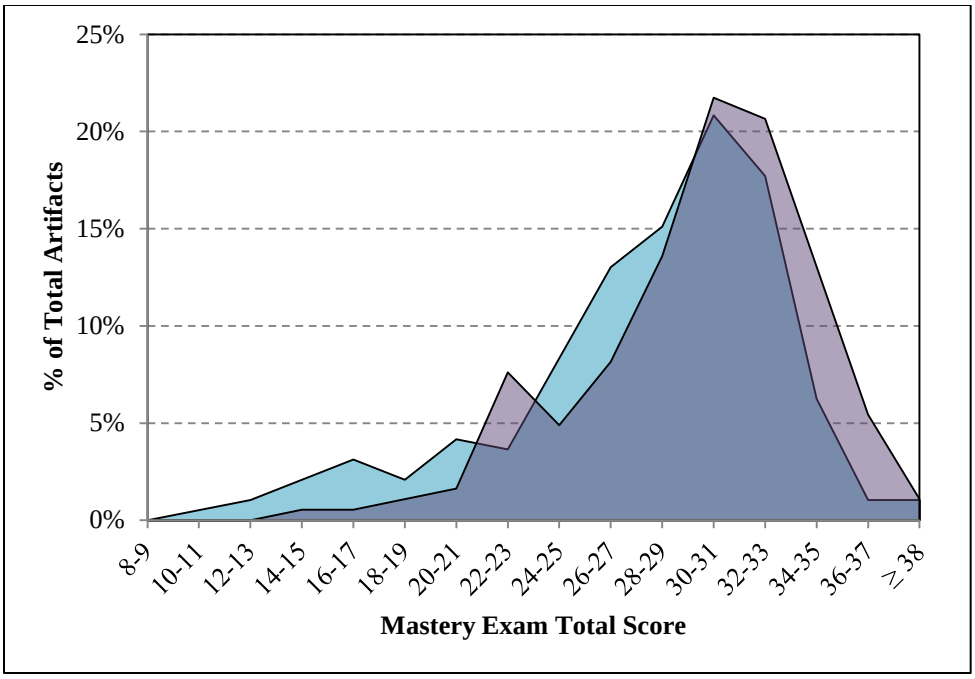

Figure 2. Distribution of pre- (teal) and post-test (purple) scores for the Townsend Press College Reading Test (serving as the course mastery exam) conducted during the fall 2016 semester in REA 0019 courses.

A comparison of pre-test to post-test results as a function of learning strategy (modularized, compressed, and contextualized) is shown in Figure 3. The mean scores of all learning strategies increased from pre-to-post tests ranging from +0.4/40 points in contextualized sections to +2.5/40 points in modularized sections. These improvements amount to a range of 1 to 6 percentage points. Each comparison study was tested for significance using a paired means t-test according to standard methods[1,2,3,4]. The paired means t-test results indicate a statistically significant improvement for both modularized and compressed learning strategies, but not contextualized.

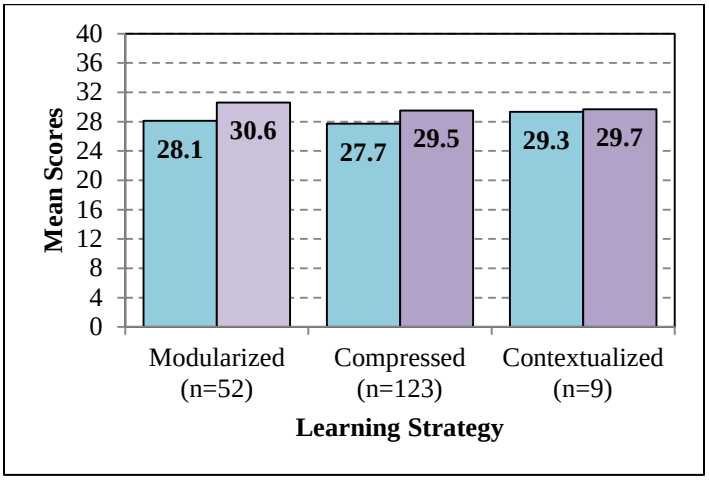

Figure 3. Comparison of pre- (teal) and post-test (purple) achievement for the Townsend Press College Reading Test (serving as the course mastery exam) conducted during the fall 2016 semester in REA 0019 courses based on enrollment in a modularized (computer-based) course or a traditional (compressed) course.

A comparison of exam success rates for pre-test and post-test according to learning strategy exhibits substantial improvement across all strategies. Based on results of a Fisher's Exact Test for independence, the compressed learning strategy have statistically significantly higher rates of passing scores in the post-test than in the pre-test. Results of the Fisher's Exact Test for each as well as success rates are shown in Table 1.

	Modularized	Compressed	Contextualized	Overall
Pre-Test	71%	59%	53%	**62%**
Post-Test	83%	72%	78%	**76%**
P	*0.244*	*0.033*	*0.389*	***0.189***

Table 1. Pre-test/Post-test success rates (achievement at 70% or higher) by learning strategy for fall 2016.

A longitudinal study of success rates on this assessment is provided in Table 2. Note that overall success rates are up compared with fall 2015. Fall 2016 exhibits the highest success rate dating back to spring 2015.

	Modularized	Compressed	Contextualized	Overall
Spring 2015	57%	79%	*	**73%**
Summer 2015	67%	*	*	**68%**
Fall 2015	72%	66%	65%	**69%**
Spring 2016	59%	54%	57%	**57%**
Summer 2016	*	62%	*	**62%**
Fall 2016	83%	72%	78%	**76%**

Table 2. Longitudinal study of post-test success rates (achievement at 70% or higher) using the present assessment (Townshend Press College Reading Test). *Denotes no sections of the strategy offered.

A paired comparison was also completed to gauge improvement in a case-by-case basis. In that study, 72% of students exhibit at least some improvement from pre-to-post test (Figure 4). Of those, 30% of students exhibit improvement of greater than or equal to 10% (4 point or more increase on the 40-point test). This is down from 43% in spring 2016 and 40% in fall 2015.

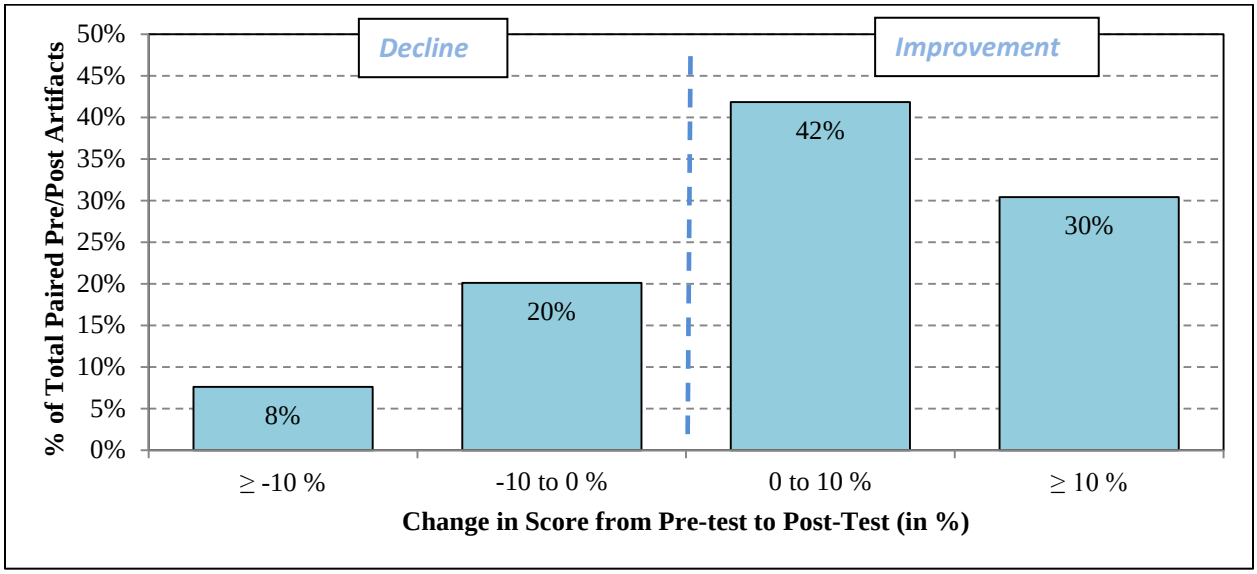

Figure 4. Comparison of the change in individual students' paired tests from pre-test to their post-test counterpart for fall 2016.

[1]Davis, J.C. 1973. Statistics and Data Analysis in Geology. John Wiley & Sons, New York, New York, 564 pp.
[2]McDonald, J.H. 2009. Handbook of Biological Statistics (2nd ed.). Sparky House Publishing, Baltimore, Maryland.
[3]Siegel, S. 1956. Nonparametric statistics for the behavior sciences. McGraw-Hill, New York, New York, 312 pp.
[4]Wilkinson, L. 1999. APA Task Force on Statistical Inference. Statistical Methods in Psychology Journals: Guidelines and Explanations. American Psychologist 54 (8), 594–604.

Section 9

REA 0019 Survey Report – Fall 2016

Author: Joseph F. van Gaalen, Ph.D., Director, Academic Affairs Assessment

Florida SouthWestern State College tracks satisfaction of current developmental courses through a survey administered at the end of each term. The data is in support of assessment measures for the developmental accountability plan to determine efficacy of developmental options and to inform course and program improvement. The following are the results for the fall 2016 term.

Of the 240 students enrolled in REA 0019 during fall 2016, 26 responded to the survey for a response rate of 11%. Questions 1 – 6 of the survey establish general statistics of the survey respondent such as class meeting times, gender, age group, etc. Questions 7 – 10 are Likert scale questions describing student perception of learning and achievement in various areas. The below are the prompts for Question #7 followed by the results in Figure 1.

#7 I believe I have improved in the following areas since taking this Reading class (Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree).

1. *Reading college textbooks*
2. *Reading novels*
3. *Reading for fun*
4. *Understanding what I read*
5. *Expanding my vocabulary*

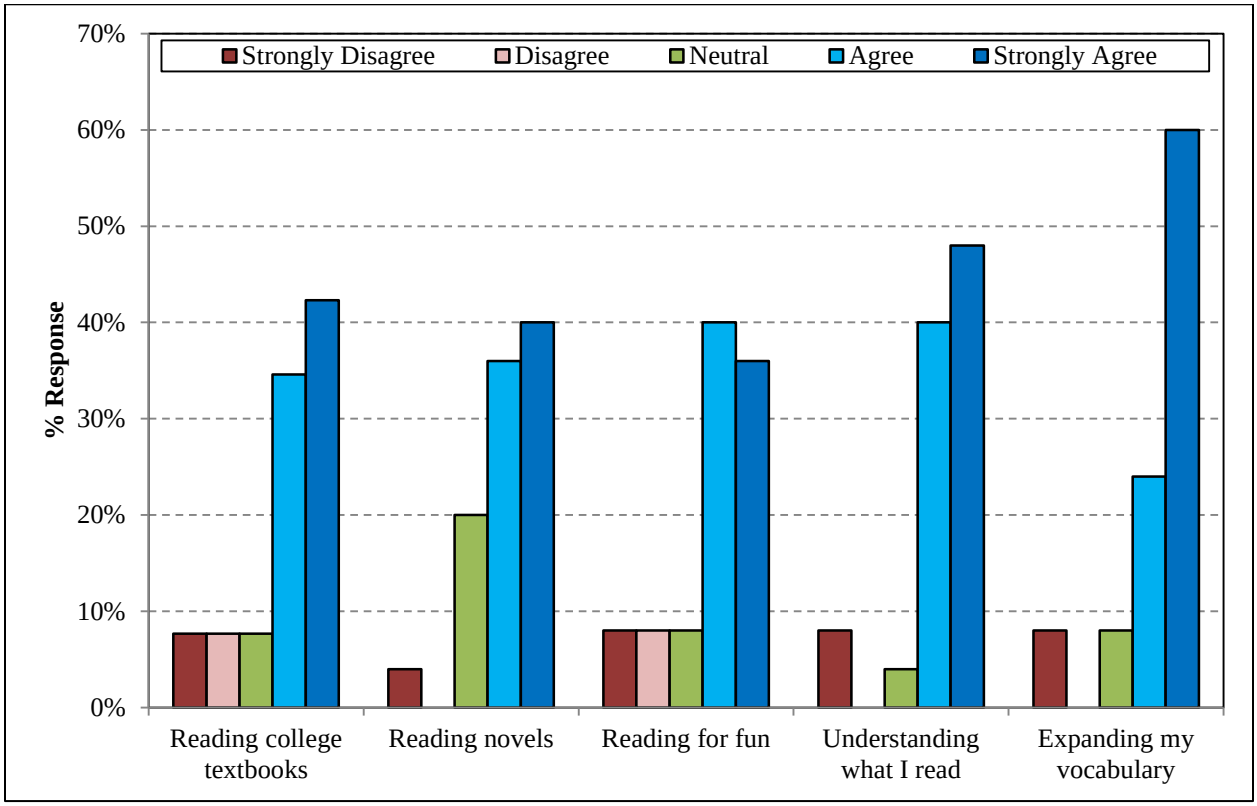

Figure 1. Responses to Question #7 "I believe I have improved in the following areas since taking this reading class."

All five areas exhibit positive responses (Agree or Strongly Agree) of 70% or. Q7-4, and Q7-5 exhibit positive response rates greater than 80%. All questions exhibit negative responses of 16% or less. A review of positive responses by learning strategy for Question 7, a focal element in the study, is shown in Figure 2. Note that only six responses were recorded originating from both the modularized and contextualized sections and 14 from compressed so interpretation may be limited.

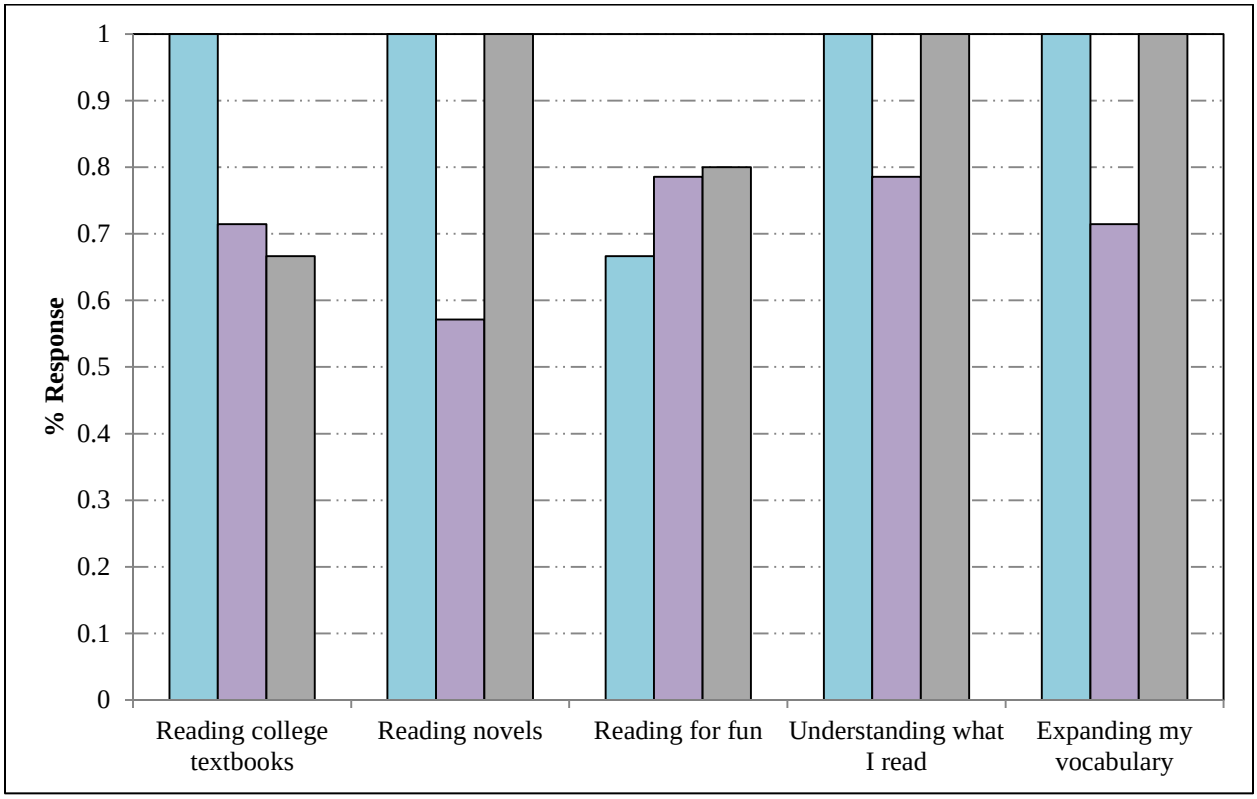

Figure 2. Responses to Question #7 for modularized (teal) where n=6, compressed (purple) where n=14, and contextualized (gray) where n=6.

The following are the prompts for Question #8 followed by results in Figure 3.

#8 I benefited from the following aspects of the Academic Support Center for Reading this semester (Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree).

1. *The resources available in the Center*
2. *The instructional assistants*
3. *The access to computers*
4. *The programs on the computers*
5. *The hours the Center was open and available to me*

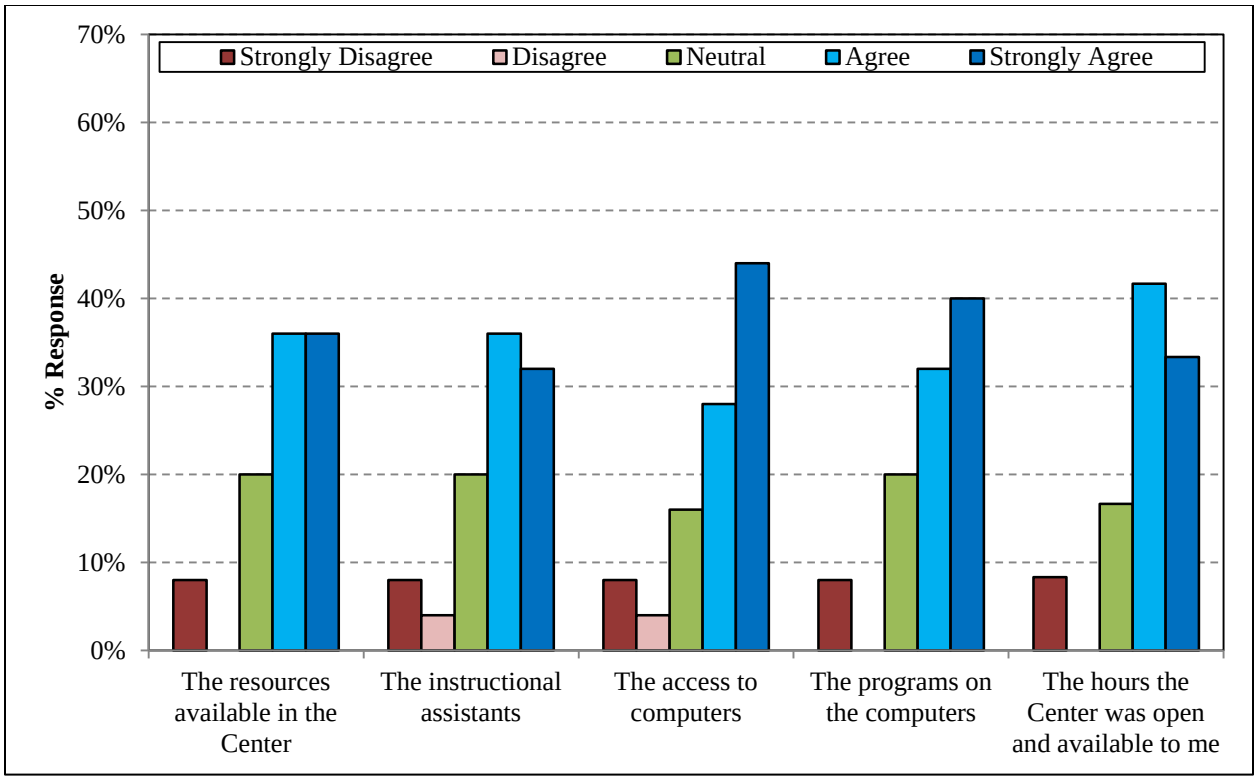

Figure 3. Responses to Question #8 "I benefited from the following aspects of the Academic Support Center for Reading this semester."

All five areas exhibit positive responses (Agree or Strongly agree) of 60% or better. Q8-5 exhibits a positive response rate of 75%. All questions exhibit negative responses of 12% or less.

The following are the prompts for Question #9 followed by results in Figure 4.

#9 I was satisfied with the following aspects of my Reading class this semester (Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree).

1. *The novel or stories we read in class*
2. *The information on the course syllabus*
3. *The course textbook*
4. *The homework assigned*
5. *The number of tests*
6. *The length of time of each class*
7. *The frequency of class meetings*
8. *The pace of the course*

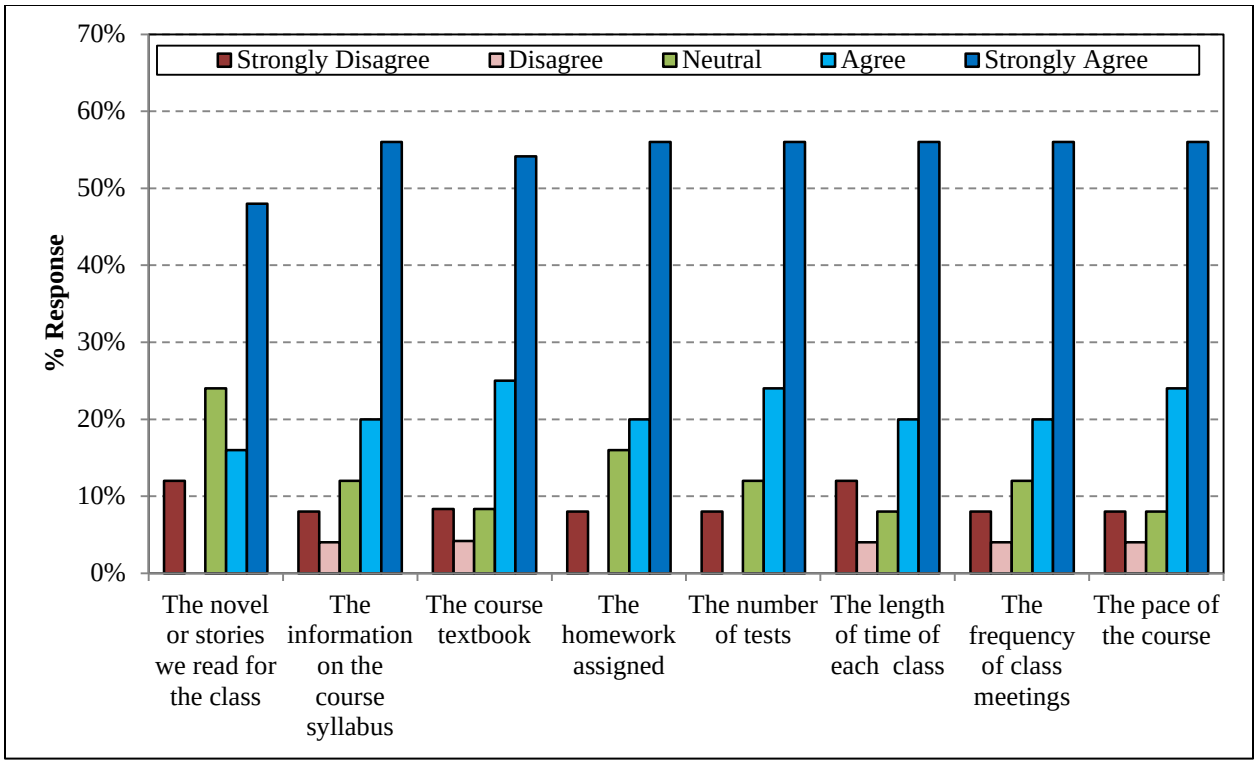

Figure 4. Responses to Question #9 " I was satisfied with the following aspects of my Reading class this semester."

All eight areas exhibit positive responses (Agree or Strongly agree) of 60% or better. Questions 9-3, 9-5, and 9-8 exhibit a positive response of 80%. All questions exhibit negative responses of 16% or less.

The following are the prompts for Question #10 followed by results in Figure 5.

#10 This Reading course prepared me for: (Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree).

1. *The textbook reading I will do in college*
2. *The expectations of college courses*
3. *The time management I must have in college*
4. *The skills I need to take tests in college*
5. *The technology used in college classes*

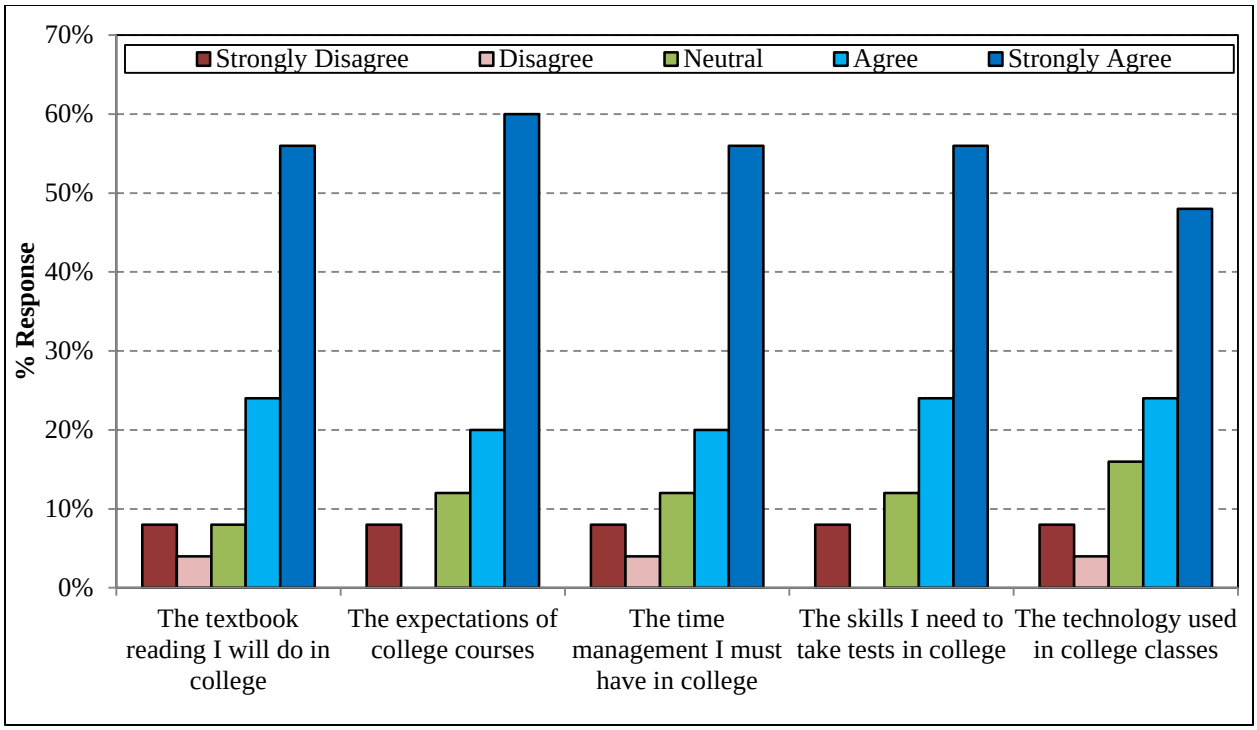

Figure 5. Responses to Question #10 "This Reading course prepared me for:"

All five areas exhibit positive responses (Agree or Strongly Agree) of 75% or better. All questions exhibit negative responses of 12% or less. A review of positive responses by learning strategy for Question 10, a focal element in the study, is shown in Figure 6. Note that only six responses were recorded originating from both the modularized and contextualized sections and 14 from compressed so interpretation may be limited.

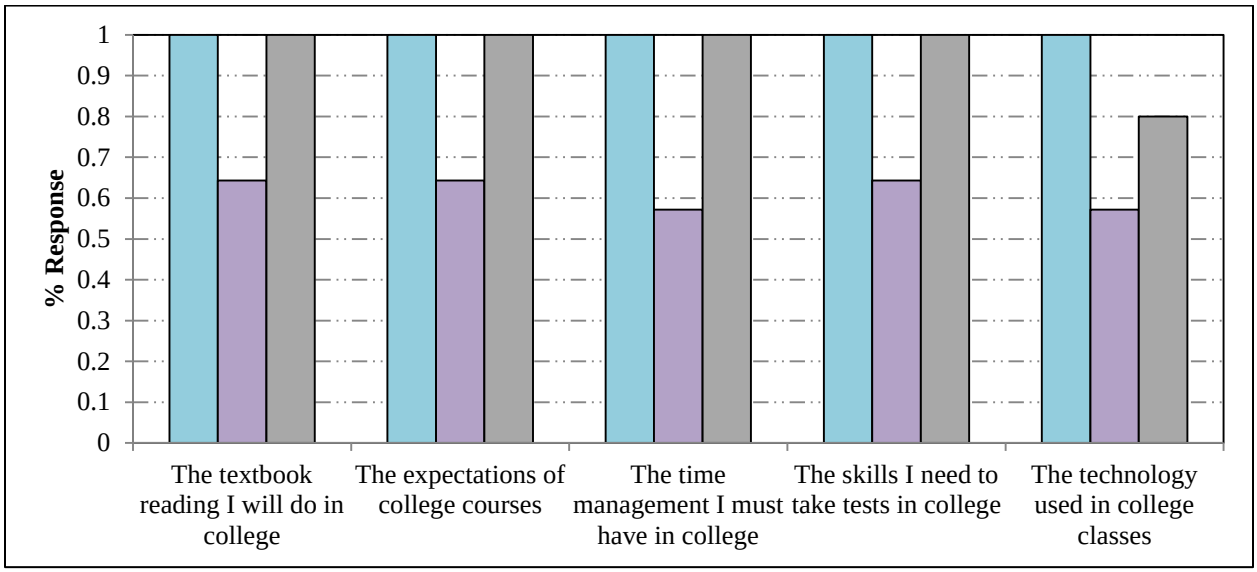

Figure 6. Responses to Question #10 for modularized (teal) where n=6, compressed (purple) where n=14, and contextualized (gray) where n=6.

Table 1 shows positive response rates (Agree or Strongly Agree) for each of the survey prompts over time beginning fall 2014 through fall 2016. Note that comparison from fall-to-spring is less useful as assessment reports across multiple course level and program level assessments at FSW typically exhibit substantial differences from fall to spring term and are better interpreted from fall-to-fall and spring-to-spring (see http://www.fsw.edu/facultystaff/assessment/history for further details). Fall 2016 exhibits increases from fall 2015 in 15 of 23 prompts. All prompts in Question 10 exhibit increases from fall 2015.

	Fall 2014 n=51	Spring 2015 n=21	Summer 2015 n=2	Fall 2015 n=40	Spring 2016 n=15	Summer 2016 n=10	Fall 2016 n=26
Question 7 – Prompt: I believe I have improved in the following areas since taking this Reading class.							
Reading college textbooks	58%	90%	low	85%	80%	80%	**77%**
Reading novels	60%	75%	sample	60%	73%	60%	76%
Reading for fun	58%	90%	size	65%	67%	60%	76%
Understanding what I read	67%	90%		85%	73%	80%	88%
Expanding my vocabulary	69%	86%		90%	80%	80%	**84%**
Question 8 – Prompt: I benefited from the following aspects of the Academic Support Center for Reading this semester.							
The resources available in the Center	69%	75%	low	67%	73%	60%	72%
The instructional assistants	65%	85%	sample	68%	67%	60%	68%
The access to computers	69%	86%	size	74%	73%	60%	**72%**
The programs on the computers	63%	76%		82%	80%	60%	**72%**
The hours the Center was open and available to me	71%	85%		77%	87%	70%	**75%**
Question 9 – Prompt: I was satisfied with the following aspects of my Reading class this semester.							
The novel or stories we read for the class	67%	86%	low	63%	60%	70%	64%
The information on the course syllabus	71%	95%	sample	80%	67%	90%	**76%**
The course textbook	63%	90%	size	78%	67%	90%	79%
The homework assigned	71%	86%		78%	73%	90%	**76%**
The number of tests	63%	90%		70%	80%	90%	80%
The length of time of each class	75%	86%		78%	73%	80%	**76%**
The frequency of class meetings	71%	90%		73%	73%	90%	76%
The pace of the course	69%	90%		78%	80%	90%	80%
Question 10 – Prompt: This reading course prepared me for:							
The textbook reading I will do in college	71%	86%	low	68%	67%	80%	80%
The expectations of college courses	73%	81%	sample	73%	60%	80%	80%
The time management I must have in college	73%	71%	size	70%	53%	80%	76%
The skills I need to take tests in college	71%	81%		68%	60%	80%	80%
The technology used in college classes	65%	81%		63%	67%	70%	72%

Table 1. Positive (Agree or Strongly Agree) response rates over time. Red font denotes decrease from previous like term (fall-to-fall, spring-to-spring, summer-to-summer).