Developmental Achievement & Student Satisfaction Reports Summer 2018

Author: Joseph F. van Gaalen, Ph.D., Asst. VP, Institutional Research, Assessment & Effectiveness

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 (Modularized).

The faculty for REA 0019 *Reading for College Success* use a defined course outcome in AY 2017-2018 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. Note that no surveys were analyzed in Summer 2018 as the surveys are undergoing revisions with their respective departments.

- ❖ Section 1: ENC 0022 Common Course Assessment Report (includes ENC 1101 & LIT 2000)
- ❖ Section 2: ENC 0022 Final Exam Assessment Report
- ❖ Section 3: MAT 0057 Final Exam Assessment Report
- ❖ Section 4: REA 0019 Final Exam Assessment Report

Section 1

English Assessment Report
Summer 2018
Author: Joseph F. van Gaalen, Ph.D., Asst. VP, Institutional Research, Assessment, & Effectiveness

1 INTRODUCTION

The English Department currently assesses three courses, ENC 0022 *Writing for College Success*, ENC 1101 *Composition I*, and LIT 2000 *Introduction to Literature (I)*. The planned assessment practice continues in summer 2018 in which instructors use a common rubric with seven identified rubric dimensions in the case of ENC 0022, and both ENC 1101 and LIT 2000 remain in review to be assessed again in the fall term. 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 (concurrent) artifacts compared with traditional, as well as online artifacts compared with traditional artifacts. Other analyses such as comparison by site and longitudinal studies are included.

For additional detail or further analysis not provided in this report, please contact Dr. Joseph F. van Gaalen, Assistant Vice President, Institutional Research, Assessment, & Effectiveness, 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 summer 2018 assessment, 45 artifacts were collected for ENC 0022 from 3 of 3 course sections. All rubric dimensions exhibit a percentage of artifacts scoring a 2 or greater at 100% (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	100%	100%	100%	100%	100%	100%	98%
4	29%	24%	36%	27%	11%	16%	44%
3	58%	56%	38%	53%	47%	64%	33%
2	13%	20%	27%	20%	42%	20%	20%
1	0%	0%	0%	0%	0%	0%	2%
0	0%	0%	0%	0%	0%	0%	0%

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.
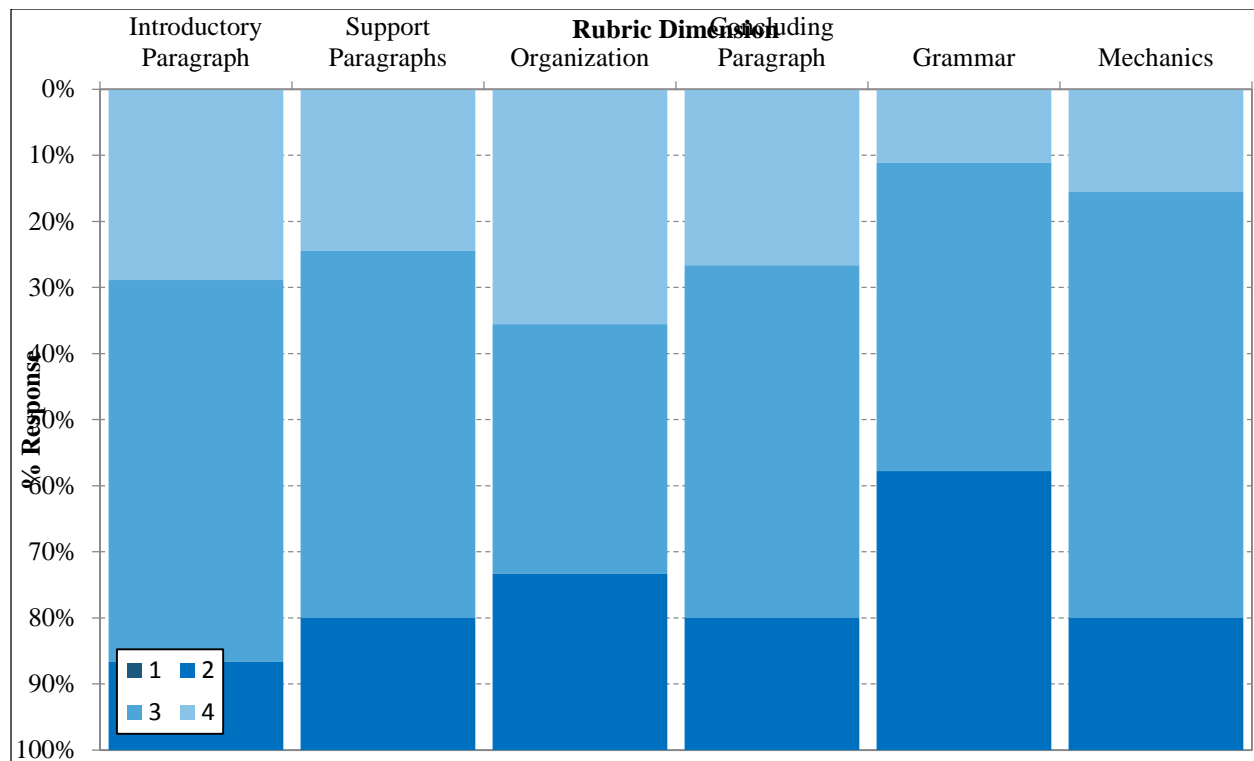

Figure 1. ENC 0022 distribution of rubric scores by dimension.

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 45 artifacts is shown in Figure 2. Distribution of artifact scores are centered on 19/28, and is slightly negatively skewed, meaning scores are slightly shifted towards the higher range. To describe the behavior of the rubric dimensions based on overall achievement, a color map, or binary raster image, is typically completed, however, sample size for summer terms is limited so this analysis is excluded here.

	Introductory Paragraph	Support Paragraphs	Organization	Concluding Paragraph	Grammar	Mechanics	Research	TOTAL
n	45	45	45	45	45	45	45	**45**
Max	4	4	4	4	4	4	4	**28**
Min	2	2	2	2	2	2	1	**13**
Median	3	3	3	3	3	3	3	**21**
Mode	3	3	3	3	3	3	4	**19**
Mean	3.2	3.0	3.1	3.1	2.7	3.0	3.2	**21.2**
Standard deviation	0.64	0.67	0.79	0.69	0.67	0.60	0.84	**4.04**
Skewness	-0.14	-0.05	-0.16	-0.09	0.45	0.01	-0.64	**-0.05**
Kurtosis	-0.49	-0.69	-1.37	-0.80	-0.70	-0.06	-0.61	**-0.92**

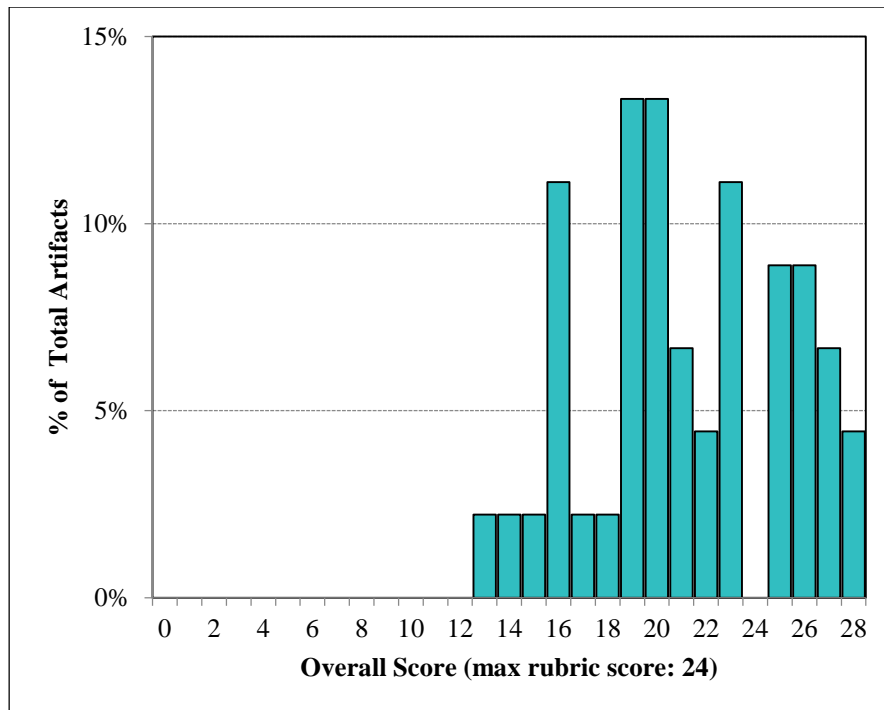*Table 2. Descriptive statistics for ENC 0022 common course assessment.*

Figure 2. Overall score distribution for ENC 0022 artifacts (summer 2018).

2.2 COMPARISONS BY SITE, FORMAT, AND STUDENT TYPE

2.2.1 Dual Enrollment (Concurrent) to non-Dual Enrollment Comparison

ENC 0022 is not offered as a dual enrollment (concurrent) 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

Only one site offered sections of the course for summer 2018, so no cross-site comparison could be completed.

3   ENC 1101

Course assessment for ENC 1101 follows a procedure of data collection in fall term only followed by departmental discussions in spring.

4   LIT 2000

Course assessment for LIT 2000 follows a procedure of data collection in fall term only followed by departmental discussions in spring.

5   CONCLUSIONS

FSW's English Department assessment plan includes three courses: ENC 0022 *Writing for College Success*, ENC 1101 *Composition I*, and LIT 2000 *Introduction to Literature (I)*. Instructors use a common rubric with seven identified rubric dimensions in the case of ENC 0022. The assessment plan uses 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. All rubric dimensions exhibit a percentage of artifacts scoring a 2 or greater at 100% except the 'Research' dimension, which is 98%.
2. Distribution of artifact scores are centered on 19/28, and is slightly negatively skewed, meaning scores are slightly shifted towards the higher range.
3. No comparison of dual enrollment (concurrent) to traditional artifacts was completed because no dual enrollment sections of the course were offered.
4. No comparison of online to traditional artifacts was completed because no online sections of the course were offered.
5. No cross-campus comparison could be completed because all sections were offered on one site.

No drilldown of results for ENC 1101 is reported because the course follows a procedure of data collection in fall term only followed by departmental discussions in spring. Therefore, no results or analysis is reported here.

No drilldown of results for LIT 2000 is reported because the course follows a procedure of data collection in fall term only followed by departmental discussions in spring. Therefore, no results or analysis is reported here.

Section 2

ENC 0022 Final Exam Assessment Report – Summer 2018

Author: Joseph F. van Gaalen, Ph.D., Director, Assessment & Effectiveness

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 summer 2018 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 44 students were reported for summer 2018 with 3 of 3 sections reporting objective sections and 3 of 3 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.
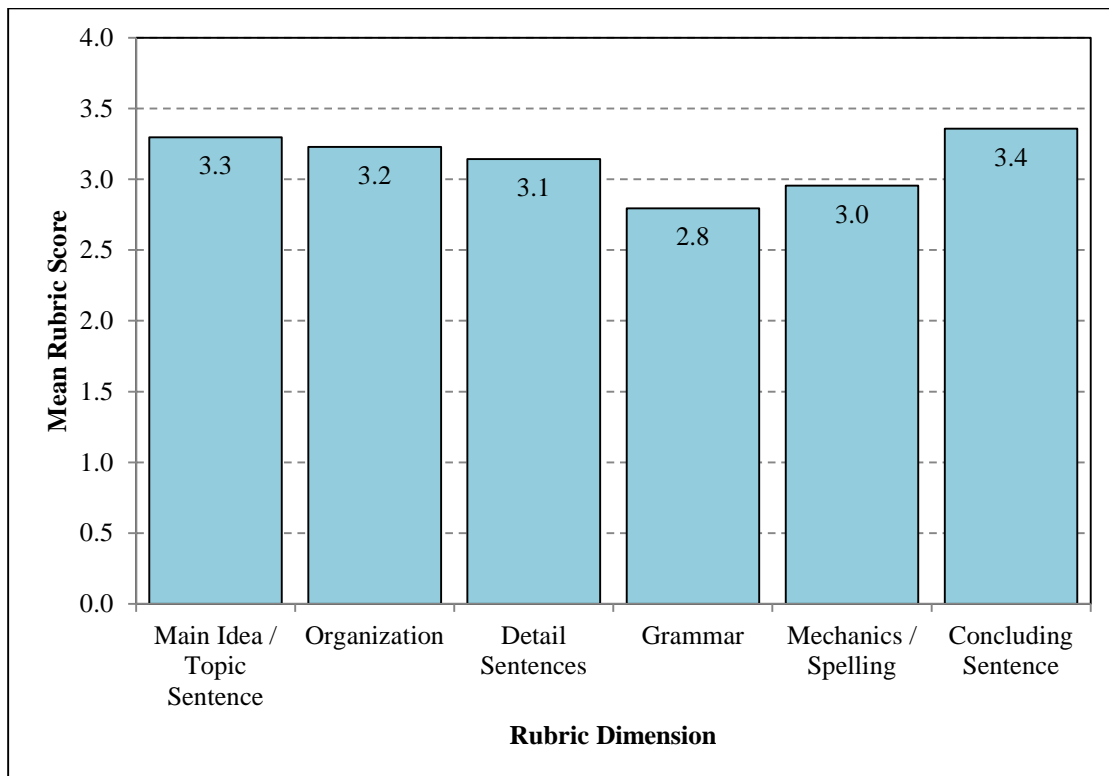

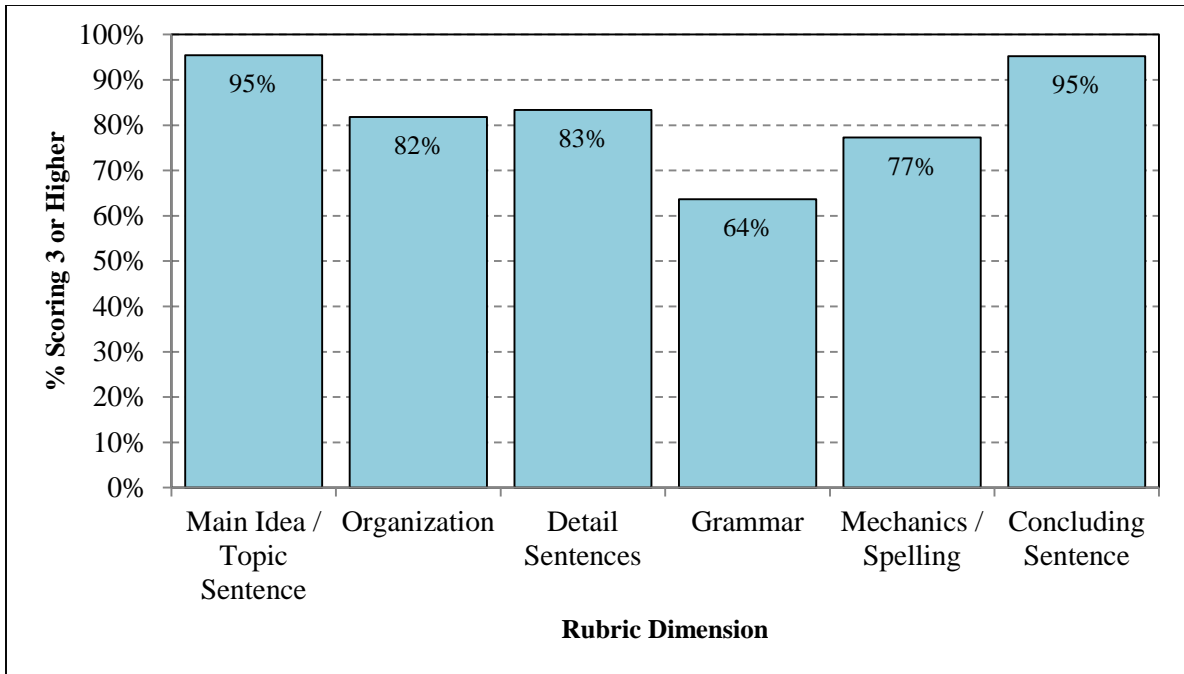**Figure 1. ENC 0022 Final Exam written section mean rubric scores for summer 2018.**

Figure 2. Percentage of summer 2018 artifacts scored 3 or higher on written section of ENC 0022 final exam.

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(86) = -2.88, p = 0.005). 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.
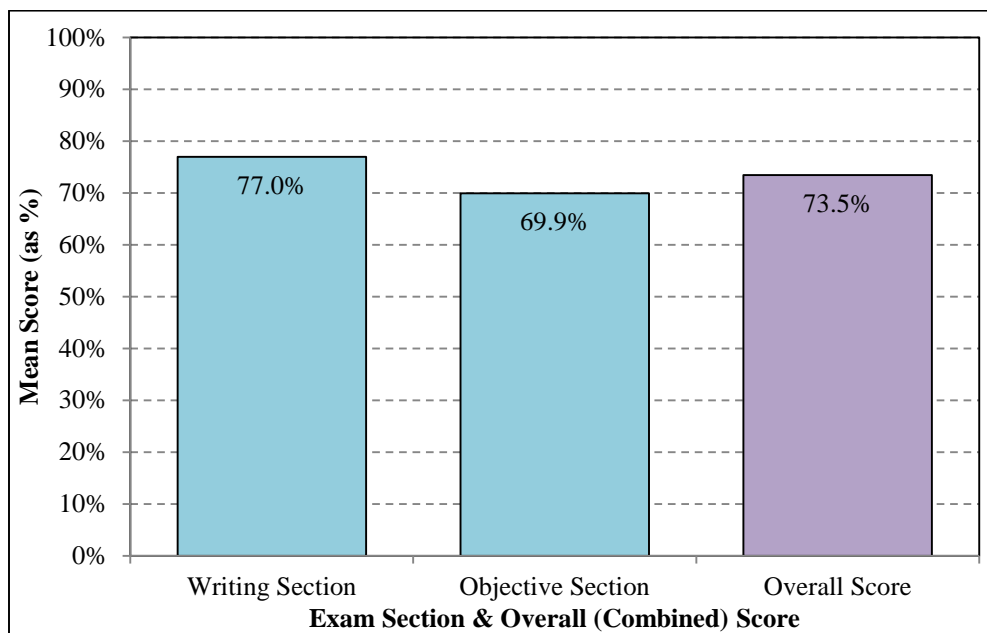

Figure 3. Mean scores by exam section and overall score for the summer 2018 ENC 0022 final exam.

Of the 44 common (objective & written) artifacts collected from the final exam, all originated from the modularized learning strategy version of the course. Normally, a comparison of mean scores by learning strategy is shown. As no artifacts originate from the compressed section, no comparison is completed.

[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 3

MAT 0057 Final Exam Assessment Report – Summer 2018
Author: Joseph F. van Gaalen, Ph.D., Director, Assessment & Effectiveness

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 38-question final exam to test mastery of the subject in MAT 0057 *Mathematics for College Success*. This 38-question exam is new for summer 2018. Previously a 45-question exam was used (last used summer 2017 as fall 2017 assessment was cancelled due to Hurricane Irma). The following report details the results for the final exam for MAT 0057 for the summer 2018 term.

During summer 2018, 10 course sections were offered. Of those, eight sections submitted verified results. In the eight reporting sections, 73 artifacts from the final exam were collected with all sections 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 31/38, mean score of 26.2, and standard deviation of 6.35. Of the 73 artifacts, 51% achieved a score of 70% or higher.
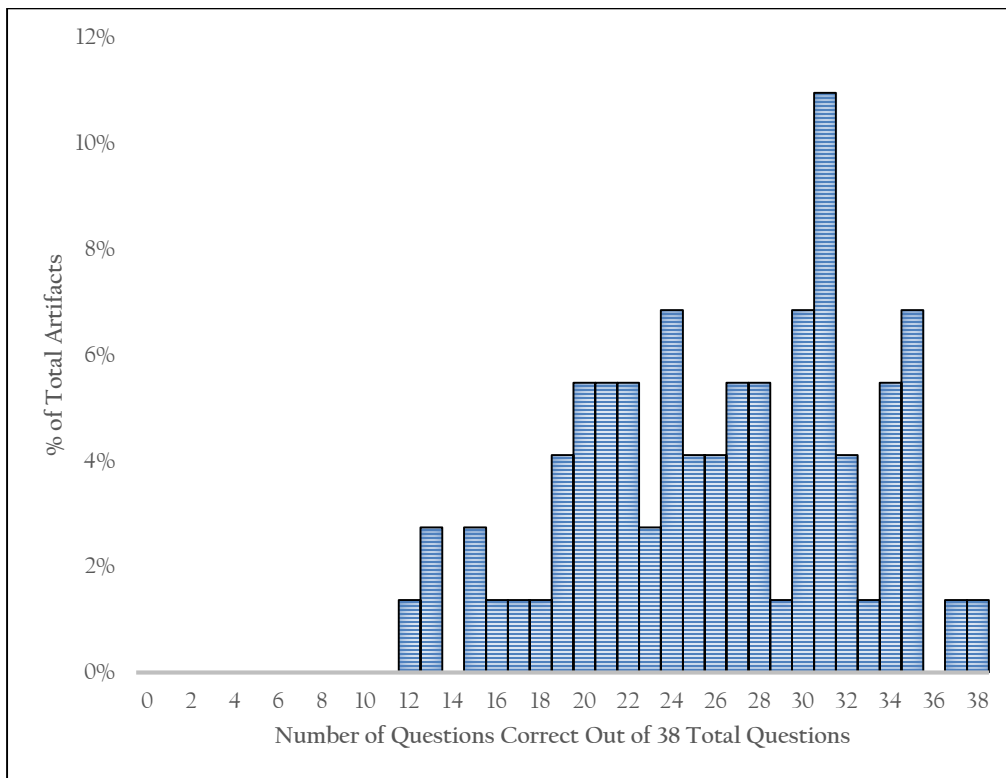

Figure 1. MAT 0057 final exam score distribution for summer 2018 (n=73).

A comparison of mean scores by learning strategy has historically been a part of this report. However, beginning with AY 2017-2018, all MAT 0057 sections are offered in a modularized format. As a result, comparisons by learning strategy are no longer provided here.

Of the 73 artifacts from the final exam, 8 originated from the Charlotte campus, 11 from the Collier campus, 3 from the Hendry-Glades Center, and 51 from the Thomas Edison (Lee) campus. A comparison

of mean scores by campus is shown in Figure 2. Differences in the means between sites are tested for significance using a ANOVA according to standard methods[1,2,3,4]. Results of the ANOVA exhibit no statistically significant difference between sites [p=0.805]. 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.
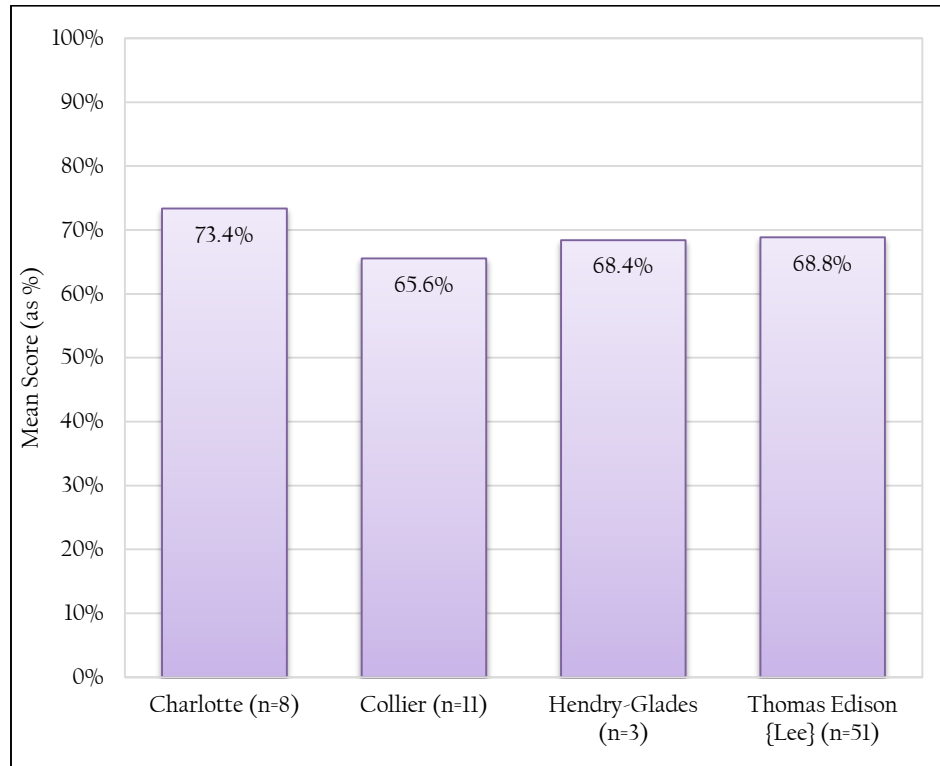

Figure 2. Comparison of MAT 0057 Final exam (mastery exam) scores by site.

[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 4

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 summer 2018 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 27.8 to 31.9 $(t(27)=5.04, p=2.32 \times 10^{-5})$. 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.
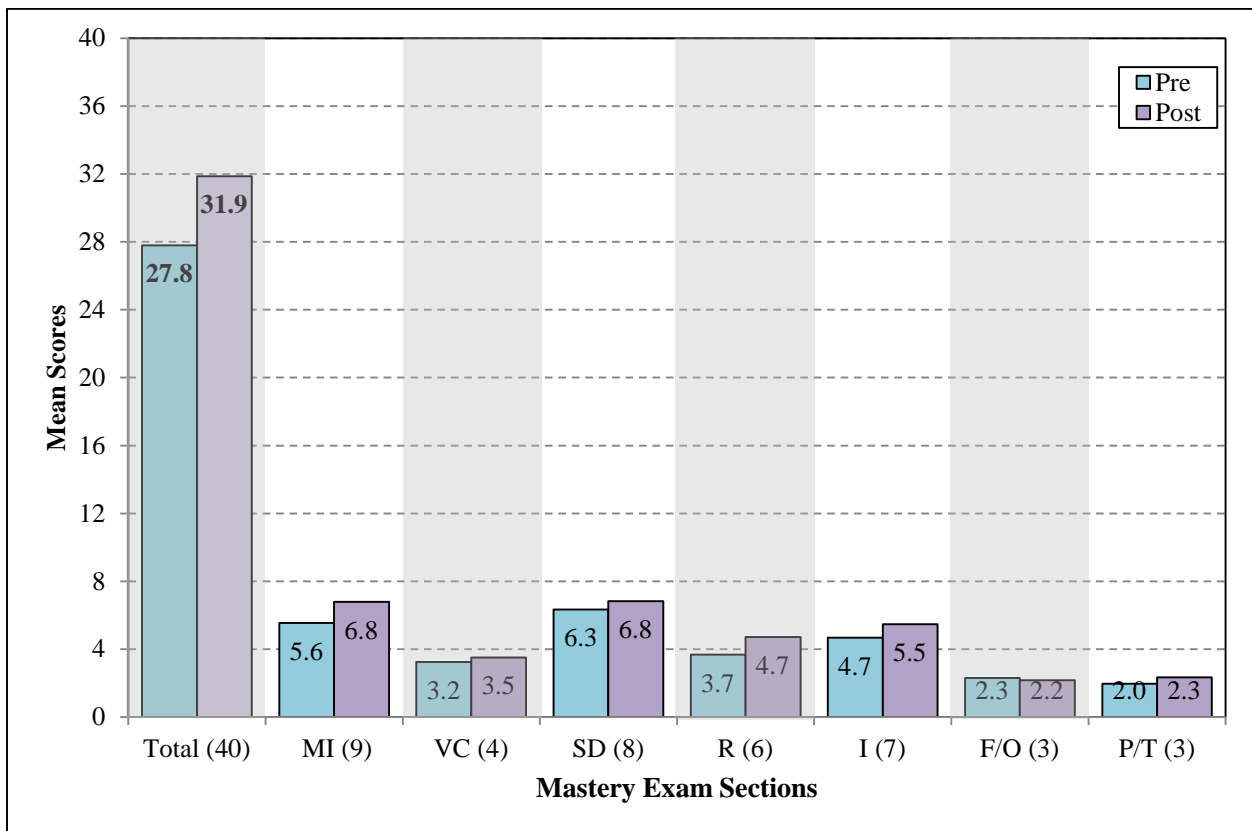

Figure 1. Comparison of pre- (aqua) and post-test (purple) achievement for the Townsend Press College Reading Test (serving as the course mastery exam) conducted during the summer 2018 semester in REA 0019 courses. MI: Main Idea (9 points), VC: Vocabulary (4 points), SD: Supporting Details (8 points), 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.
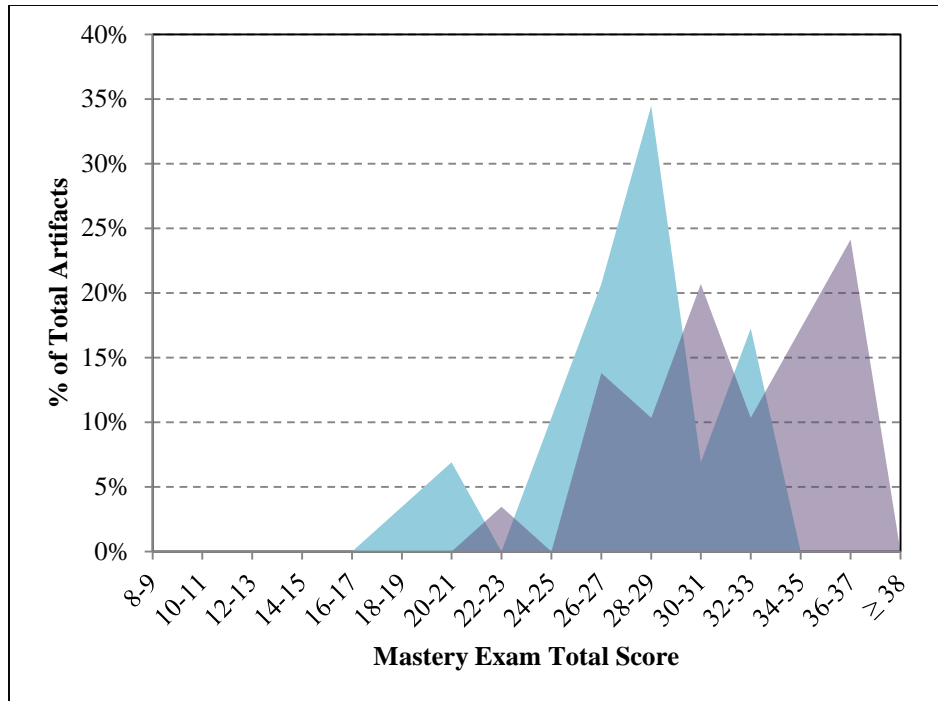
Figure 2. Distribution of pre- (aqua) and post-test (purple) scores for the Townsend Press College Reading Test (serving as the course mastery exam) conducted during the summer 2018 semester in REA 0019 courses.

A comparison of pre-test to post-test results as a function of learning strategy (modularized, compressed, and contextualized) is typically completed. However, as both sections of REA 0019 in the summer 2018 term are compressed sections, no analysis is completed.

A longitudinal study of success rates on this assessment is provided in Table 1. The summer 2018 term exhibits the highest overall success rates since reporting began in 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%**
Spring 2017	*	71%	83%	**72%**
Summer 2017	*	81%	*	**81%**
Fall 2017	81%	81%	75%	**79%**
Spring 2018	*	71%	58%	**68%**
Summer 2018	*	83%	*	**83%**

Table 1. 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, 93% of students exhibit at least some improvement from pre-to-post test (Figure 3). Of those, 40% 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 42% in spring 2018, 50% in fall 2017, 49% in spring 2017, and 43% in spring 2016, up from 30% in fall 2016, and the same as fall 2015.
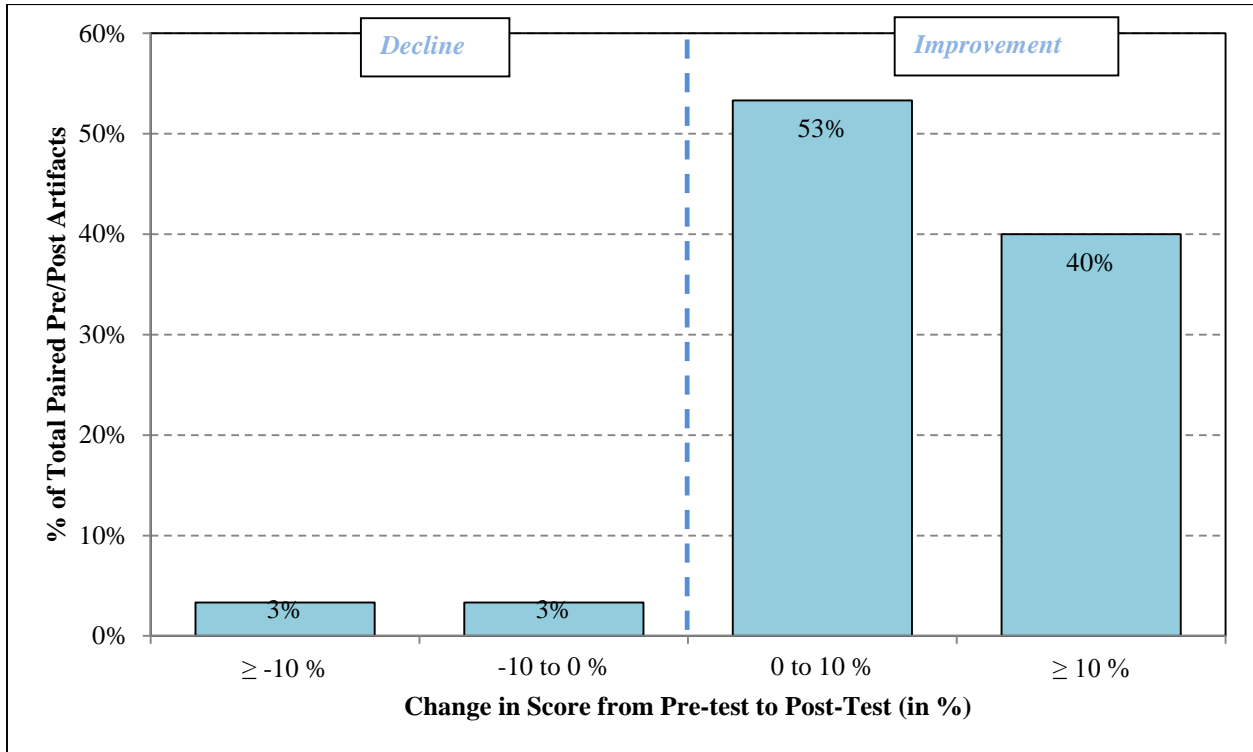

Figure 3. Comparison of the change in individual students' paired tests from pre-test to their post-test counterpart for summer 2018.

[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.