

Speech Assessment Report

Spring 2018

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

1 INTRODUCTION

Florida SouthWestern's Speech Department has employed a common rubric used by all faculty as a means to evaluate an agreed upon series of student level outcomes. With a goal towards increasing student oral communication achievement, faculty have focused on a series of Student Learning Objectives (SLOs) using the rubric dimensions Introduction, Organization, Support, Oral Documentation, Language, NV-Vocal, NV-Physical, Presentation Media, Attire, and Conclusion, in a formative speech common assessment. Additional department goals for assessment include comparing results of SPC 1017 *Fundamentals of Speech Communication*, with that of SPC 2608 *Introduction to Public Speaking*, and comparisons by campus, dual enrollment (concurrent)/traditional, and online/traditional, when applicable. These correlative measures will serve as support for instructive improvement (Cole et al., 2011; Elder and Paul, 2007).

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

2 LEARNING OBJECTIVES, OUTCOMES, AND DESCRIPTIVE STATISTICS

Using common rubric criterion as an assessment method, in the 2014-15 academic year the FSW Speech faculty defined three areas of interest for evaluation that apply to both SPC 1017 and SPC 2608 and set goals appropriately. Results from that year showed that students met expectations (> 60% at achievement level). As a result, faculty determined that goals were raised in AY 2015-2016 to > 70%. These goals are maintained for AY 2017-2018 with changes to focal elements in this year's SLOs.

The rubric dimensions are modeled on a 5-point scale where a score of 0 indicates "Insufficient", 1 indicates "Beginning" level, 2 indicates the "Developing" level, 3 indicates the "Accomplished" level, and 4 indicates the "Exemplary", or highest level. The SLOs and their measure of success are:

SLO1: Students will know how to avoid plagiarizing when speaking by incorporating an oral citation that includes appropriate information. The faculty established measure of success for this SLO is a rating of "Developing" or higher for 70% of the students.

SLO2: Students will be able to provide effective speech closure by delivering a conclusion that signals the end, reviews purpose and main points and that ends smoothly and memorably. The faculty established measure of success for this SLO is a rating of "Developing" or higher in "Conclusion" for 70% of the students for both Outline and Informative Speech.

SLO3: Students will be able to incorporate presentation media vital to the success of an oral presentation. The faculty established measure of success for this SLO is a rating of “Developing” or higher for 70% of the students.

SLO4: Students will improve in the common outcomes of the Informative Speech Outline and the Informative Speech. These areas include Introduction, Oral documentation, Support, Organization, and Conclusion.

2.1 SPC 1017

2.1.1 Learning Objectives

For the spring 2018 assessment, 586 artifacts (based on highest rubric dimension count, not highest overall scores collected) were collected for SPC 1017 from 41 of 45 course sections. In some cases, rubric scores could either not be accessed or located. In other sections, old versions of the rubric scoring were used or maximum scores differed from the common rubric. The faculty established goal for SLO1, a rating of “Developing” or higher (≥ 2) in the Informative Speech rubric dimension “Oral Documentation” for 70% of the students was met. Spring 2018 artifacts exhibit 86% of artifacts scored level 2 or greater (Table 1). The faculty established goal for SLO2, a rating of “Developing” or higher (≥ 2) in the Informative Speech rubric dimension “Conclusion” for 70% of the students was met. Spring 2018 artifacts exhibit 94% scored level 2 or greater. The faculty established goal for SLO3, a rating of “Developing” or higher (≥ 2) in the Informative Speech rubric dimension “Presentation Media” for 70% of the students was met. Spring 2018 artifacts exhibit 91% scored level 2 or greater. Results for SLO4 require a somewhat different reporting process and, for convenience and clarity, are discussed below and listed in Table 2.

Rubric Score	Introduction	Organization	Support	Oral Documentation	Language	NV-Vocal	NV-Physical	Presentation Media	Attire	Conclusion
Developing or higher	97%	97%	96%	86%	98%	98%	95%	91%	98%	94%
4	46.8%	53.6%	49.7%	38.5%	55.7%	35.4%	28.0%	42.5%	74.8%	41.1%
3	33.1%	30.8%	30.3%	30.0%	37.3%	47.1%	48.7%	33.4%	16.5%	37.2%
2	16.7%	12.9%	15.8%	17.5%	5.5%	15.8%	18.6%	15.0%	6.6%	16.0%
1	3.1%	1.9%	4.2%	7.4%	1.3%	1.7%	4.3%	3.4%	1.5%	2.6%
0	0.3%	0.9%	0.0%	6.6%	0.2%	0.0%	0.4%	5.7%	0.6%	3.1%

Table 1. Percentage of student achievement level by rubric dimension for Informative Speech (includes percentage of students scoring in developmental level or higher as per SLOs). Rubric dimensions identified in SLOs in blue.

Rubric Score	Introduction	Organization	Support	Oral Documentation	Conclusion
Developing or higher	97%	73%	98%	73%	97%
4	48.5%	73.1%	57.5%	29.7%	58.6%
3	35.9%	17.7%	27.3%	27.8%	28.5%
2	12.2%	7.4%	12.8%	15.5%	10.0%
1	2.3%	0.9%	1.2%	14.9%	1.4%
0	1.2%	0.9%	1.2%	12.2%	1.4%

Table 2. Percentage of student achievement level by rubric dimension for Outline that are common to Informative Speech for (includes percentage of students scoring in developmental level or higher as per SLOs).

The faculty established goal for SLO4, students will improve in the common outcomes of the Informative Speech Outline and the Informative Speech was met. To effectively illustrate this, two separate

descriptions are provided. First, Table 3 describes mean scores by dimension and overall score for both Outline and Informative Speech.

From these results improvement is exhibited in 2 of 5 dimensions as well as the overall. It is somewhat misleading, however, to compare improvement/decline percentages based on all data. Inherently, those scoring '4' on the Outline can only decline or remain unchanged. Similarly, those scoring '0' can only improve or remain unchanged. As the purpose of this study is to determine where improvement occurs and why, it may be more prudent to compare improvement/decline percentages and exclude those scoring 4s on the Outline score (bottom three rows, Table 3). Based on these results, improvement is exhibited in all dimensions and overall score.

Rubric Score	Introduction	Organization	Support	Oral Documentation	Conclusion	OVERALL
<i>All artifacts</i>						
Outline Mean	8.5	9.2	8.7	6.8	8.8	81.0
Informative Speech Mean	8.4	8.9	8.8	7.6	8.0	85.0
<i>Change from Outline to Speech</i>	<i>-0.1</i>	<i>-0.3</i>	<i>0.1</i>	<i>0.8</i>	<i>-0.8</i>	<i>4.0</i>
<i>Only artifacts that did not score 4/4 on outline</i>						
Outline Mean	7.2	7.1	7.0	5.1	7.1	80.5
Informative Speech Mean	7.6	7.9	8.1	7.3	7.3	84.8
<i>Change from Outline to Speech</i>	<i>0.4</i>	<i>0.8</i>	<i>1.1</i>	<i>2.2</i>	<i>0.2</i>	<i>4.3</i>

Table 3. Comparison of changes in mean score from Outline rubric dimensions to Informative Speech.

A second way of describing results for this type of study is to review the percent improvements of common artifacts (originating from the same student) as shown in Figure 1 denoted by the black bar along with percent declines denoted by the red bar. From this figure, the same two dimensions which exhibited positive changes in mean scores also exhibit net improvements by students. The "Support" dimension exhibits net improvement in 21.2% of the artifacts (e.g., Speech = 4 compared to Outline = 3, or 3 to 2, etc.), compared with 19.4% decline while "Oral Documentation" exhibits 48.7% net improvement compared with 19.4% decline. As with Table 3, we compare only those artifacts which did not score perfect results on the Outline (Figure 2). From this figure, as with Table 3 above using extracted data, all five dimensions exhibit net improvement ranging from 33.5% in "Conclusion" to 60.1% in "Oral Documentation."

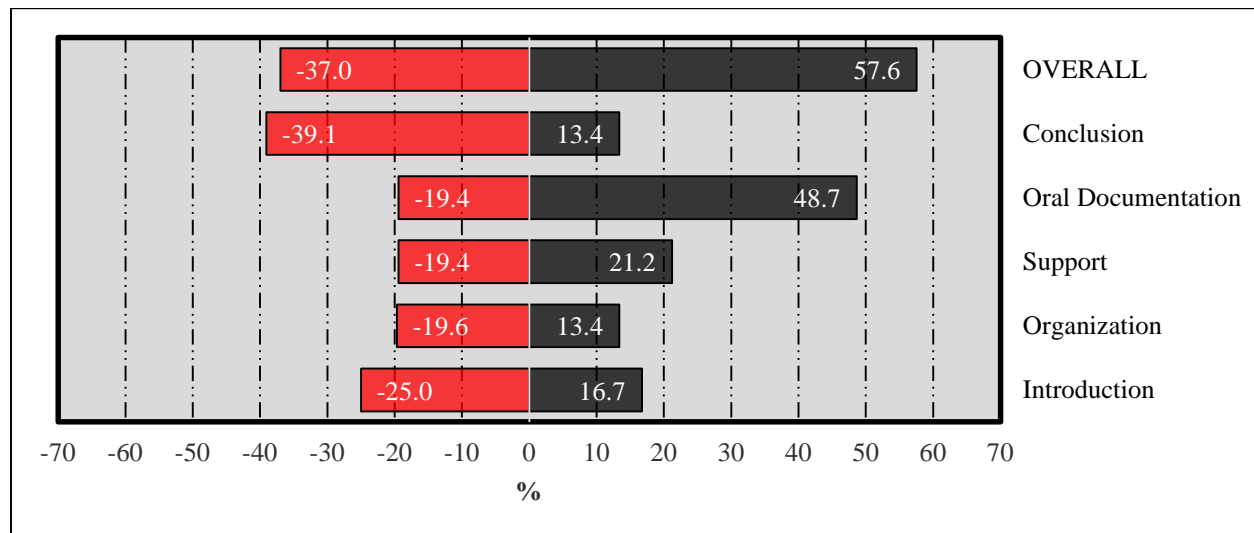


Figure 1. Percent increase/decrease from Outline to Speech by common rubric dimension. Note that no change was exhibited by 6% for "Introduction", 67% for "Organization", 59% for "Support", 32% for "Oral Documentation", and 48% for "Conclusion".

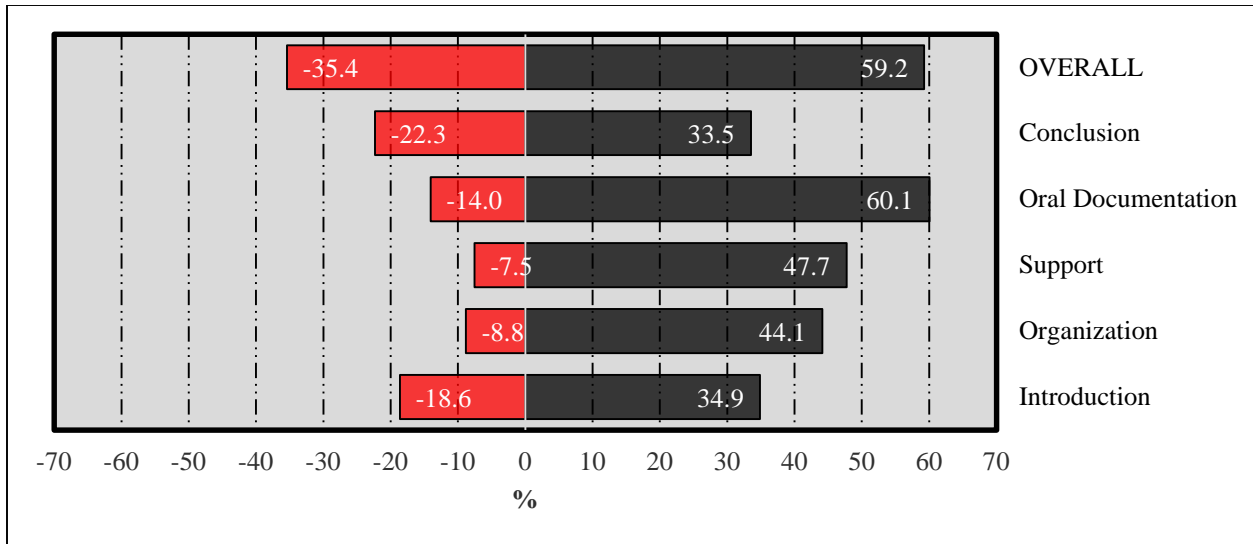


Figure 2. Percent increase/decrease from Outline to Speech by common rubric dimension excluding those artifacts scoring perfect 4/4 on Outline. Note that no change was exhibited by 47% for "Introduction", 26% for "Organization", 45% for "Support", 47% for "Oral Documentation", and 44% for "Conclusion".

2.1.2 Descriptive Statistics & Longitudinal Data

Descriptive statistics for SPC 1017 artifacts for both Outline and Informative Speech can be found in Tables 4 and 5. Note that comparative means in Tables 2 and 3 above may differ from those in Tables 4 and 5 as the comparative study includes common artifacts only. If a student did not complete both Outline and Informative Speech, a comparative score could not be completed and is thus excluded in results for Tables 2 and 3. Tables 4 and 5 exhibit all artifacts. A histogram of artifact scores for both Outline and Speech is shown in Figure 3. The Speech distribution exhibits a negative skewness (data shifted towards more positive values) when compared with the outline.

	Introduction	Organization	Support	Oral Documentation	Language	NV-Vocal	NV-Physical	Presentation Media	Attire	Conclusion
n	586	588	577	527	526	526	515	527	527	586
Max	10	10	15	10	10	10	14	10	10	10
Min	0	0	3	0	0	3	0	0	0	0
Mode	10	10	10	10	10	8	8	10	10	10
Mean	8.4	8.6	8.5	7.5	8.9	8.3	8.0	7.9	9.2	8.1
Standard deviation	1.83	1.80	1.94	2.84	1.43	1.54	1.83	2.63	1.66	2.21

Table 4. Descriptive statistics for SPC 1017 Informative Speech.

Rubric Score	Introduction	Organization	Support	Oral Documentation	Conclusion
n	666	666	666	666	621
Max	10	10	10	10	10
Min	0	0	0	0	0
Mode	10	10	10	8	10
Mean	8.5	9.2	8.7	6.8	8.8
Standard deviation	1.86	1.60	1.81	3.51	1.85

Table 5. Descriptive statistics for SPC 1017 Outline.

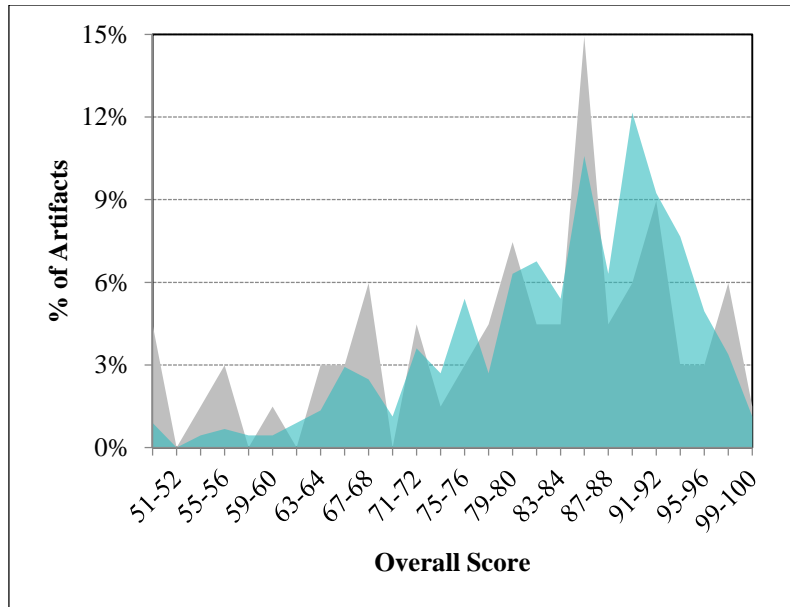


Figure 3. Overall score distribution for Outline (gray) and Speech (aqua) for spring 2018.

To describe the behavior of the rubric dimensions for the Informative Speech 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 4). To create this image the rubric scores (4, 3, 2, 1, or 0) for each artifact was grouped based on combined raw rubric score (10 dimensions x maximum rubric level of 4 = 40 overall points). The color represents the mean rubric score achieved in each dimension based on the combined score as shown in the x-axis.

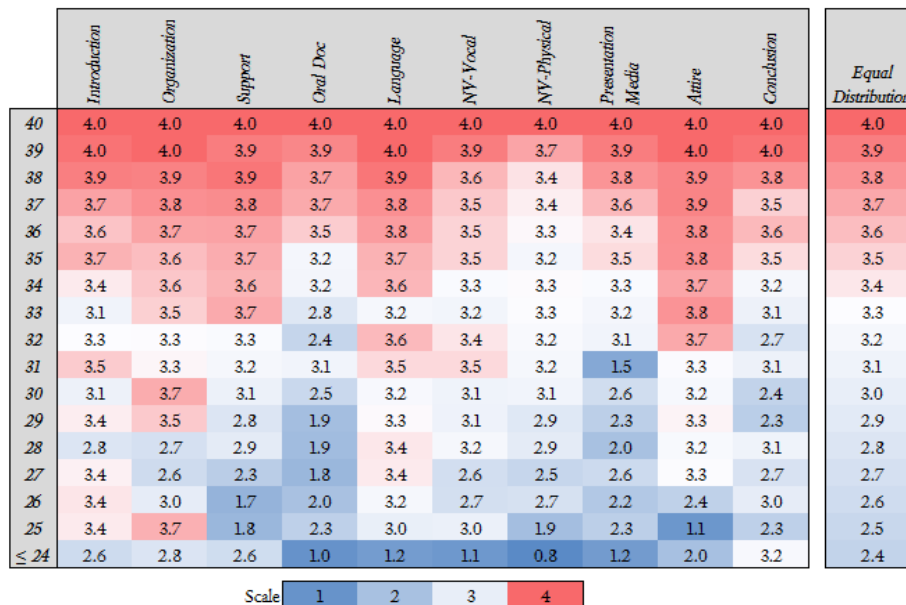


Figure 4. Colormap of mean scores for each rubric dimension (range: 0-4) based on overall rubric score (combined rubric score of all dimensions, max=40) for SPC 1017. (Right Sidebar) Comparison rubric dimension if dimension score is the same as overall (i.e. artifact overall score is equally distributed across all sections). A rubric dimension with hotter colors (reds) means that dimension achievement exceeds the overall score and is an area of strength. An exam section with colder colors (blues) means that section achievement is lower than the overall score and is therefore an area of weakness.

A review of the colormap in Figure 4 shows that at 37/40 and above (average rubric score of 3.7 or higher) all dimensions fair relatively equally (hot colors fairly evenly distributed) with the exception of “NV-Physical” which lags somewhat behind the others at 3.4/4.0. This is fairly similar to historical results dating back to fall 2015 although distributions tend to be even as low as 34/40. When overall rubric scores range from 34-36, the “Organization”, “Support”, “Language”, and “Attire” dimensions exhibit strong scores even when the overall score is somewhat lower. For example, at an overall score of 34, those four dimensions exhibit average scores ranging from 3.6 to 3.7, while other dimensions range from 3.2 to 3.4. Moreover, the “Language” attribute remains high even at very low overall scores. At an overall score of 28, for example, “Language” exhibits an average of 3.4 while all other categories range from 1.9 to 3.3. Lastly, when overall rubric scores range 30 or below, “Oral Documentation” is exceptionally weaker than the others.

A comparison of spring 2018 Informative Speech results with past results is shown in Figure 5 below. Results exhibit a few attributes. First, there appears to be a slight but consistent decline in the “Oral Documentation” dimension from 7.8 in fall 2014 down to 7.4 in fall 2017 before climbing again in spring 2018. Second, “Oral Documentation” is consistently the lowest performing dimension averaging approximately 0.5 lower than the next lowest. And finally, “Attire”, followed by “Language”, and “Support” consistently remain the first, second, and third highest performing dimensions.

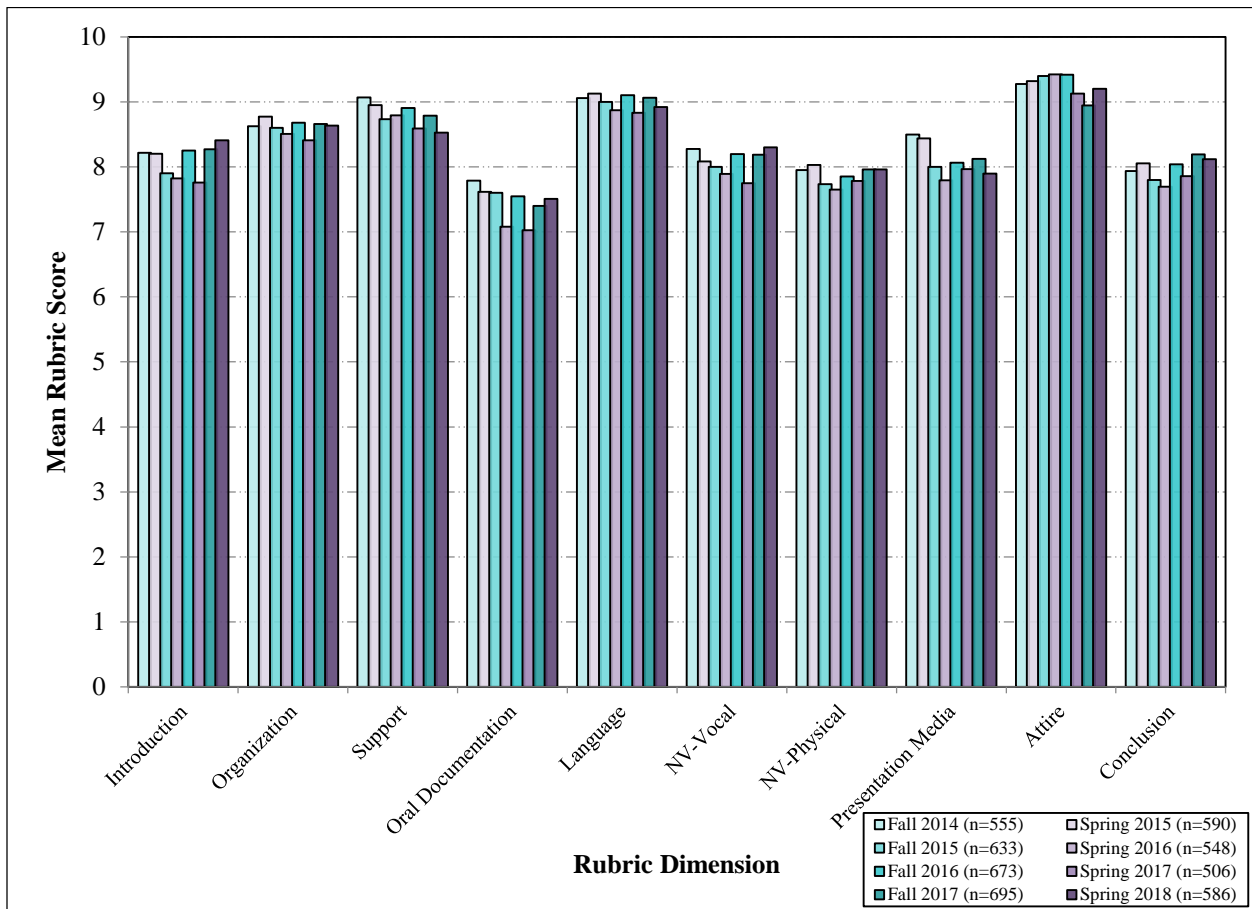


Figure 5. Comparison of mean scores for Informative Speech through time beginning fall 2014 through the present. *The “Support”, “NV-Physical”, “Presentation Media”, and “Attire” dimensions maximum rubric score was altered beginning fall 2017. The results from previous terms have been normalized to the new dimension maximum for comparative purposes.

2.2 SPC 2608

2.2.1 Learning Objectives

For the spring 2018 assessment, 120 artifacts (based on highest rubric dimension count, not highest overall scores collected) were collected for SPC 2608 from 7 of 17 course sections. In some cases, rubric scores could either not be accessed or located. In other sections, old versions of the rubric scoring were used or maximum scores differed from the common rubric. The faculty established goal for SLO1, a rating of “Developing” or higher (≥ 2) in the Informative Speech rubric dimension “Oral Documentation” for 70% of the students was met. Spring 2018 artifacts exhibit 92% of artifacts scored level 2 or greater (Table 6). The faculty established goal for SLO2, a rating of “Developing” or higher (≥ 2) in the Informative Speech rubric dimension “Conclusion” for 70% of the students was met. Spring 2018 artifacts exhibit 93% scored level 2 or greater. The faculty established goal for SLO3, a rating of “Developing” or higher (≥ 2) in the Informative Speech rubric dimension “Presentation Media” for 70% of the students was met. Spring 2018 artifacts exhibit 96% of scored level 2 or greater. Results for SLO4 require a somewhat different reporting process and, for convenience and clarity, are discussed below and listed in Table 7.

Rubric Score	Introduction	Organization	Support	Oral Documentation	Language	NV-Vocal	NV-Physical	Presentation Media	Attire	Conclusion
Developing or higher	97%	97%	100%	92%	99%	98%	98%	96%	100%	93%
4	54.2%	60.8%	59.2%	47.5%	65.8%	36.7%	27.5%	56.7%	90.0%	45.0%
3	26.7%	25.0%	32.5%	25.0%	30.8%	47.5%	45.8%	30.0%	8.3%	33.3%
2	15.8%	10.8%	8.3%	19.2%	2.5%	14.2%	24.2%	9.2%	1.7%	15.0%
1	3.3%	3.3%	0.0%	6.7%	0.8%	1.7%	2.5%	1.7%	0.0%	5.0%
0	0.0%	0.0%	0.0%	1.7%	0.0%	0.0%	0.0%	2.5%	0.0%	1.7%

Table 6. Percentage of student achievement level by rubric dimension (includes percentage of students scoring in developmental level or higher as per SLOs) for SPC 2608. Rubric dimensions identified in SLOs in blue.

Rubric Score	Introduction	Organization	Support	Oral Documentation	Conclusion
Developing or higher	96%	97%	97%	79%	96%
4	58.9%	74.1%	62.7%	48.1%	63.9%
3	26.6%	15.8%	19.0%	20.3%	23.4%
2	10.8%	7.0%	15.2%	10.8%	8.2%
1	3.2%	2.5%	3.2%	8.2%	2.5%
0	0.6%	0.6%	0.0%	12.7%	1.9%

Table 7. Percentage of student achievement level by rubric dimension for Outline that are common to Informative Speech for (includes percentage of students scoring in developmental level or higher as per SLOs).

The faculty established goal for SLO4, students will improve in the common outcomes of the Informative Speech Outline and the Informative Speech was met. To effectively illustrate this, again two separate descriptions are provided. First, Table 8 describes mean scores by dimension and overall score for both Outline and Informative Speech.

From these results improvement is exhibited in 2 of 5 dimensions. As with SPC 1017, it is somewhat misleading to compare improvement/decline percentages based on all data. As such, the bottom three rows of Table 8 compares improvement/decline percentages and excludes those scoring 4s on the Outline score (bottom row, Table 8). Based on these results, improvement is exhibited in 4 of 5 dimensions and the overall score.

Rubric Score	Introduction	Organization	Support	Oral Documentation	Conclusion	OVERALL
<i>All artifacts</i>						
Outline Mean	8.8	9.2	8.8	7.3	8.8	84.0
Informative Speech Mean	8.6	8.9	8.9	8.1	8.2	85.6
<i>Change from Outline to Speech</i>	-0.2	-0.3	0.1	0.8	-0.6	1.6
<i>Only artifacts that did not score 4/4 on outline</i>						
Outline Mean	7.1	6.9	7.1	4.8	7.4	83.4
Informative Speech Mean	7.8	8.6	8.4	7.4	7.3	85.1
<i>Change from Outline to Speech</i>	0.7	1.7	1.3	2.6	-0.1	1.7

Table 8. Comparison of changes in mean score from Outline rubric dimensions to Informative Speech.

As with SPC 1017 above, a second way of describing results for this type of study is to review the percent improvements of common artifacts (originating from the same student) as shown in Figure 6 denoted by the black bar along with percent declines denoted by the red bar. From this figure, one of the two dimensions which exhibited positive changes in mean scores also exhibit net improvements by students. The “Support” dimension exhibits net improvement in 23.1% of the artifacts (e.g., Speech = 4 compared to Outline = 3, or 3 to 2, etc.), compared with 17.6% decline. And as before, we compare only those artifacts which did not score perfect results on the Outline (Figure 7). From this figure, as with Table 8 above using extracted data, all five dimensions exhibit net improvement ranging from 26% in “Conclusion” to 65% in “Oral Documentation”. Additionally, the “Organization” dimension exhibits no decline for this cohort.

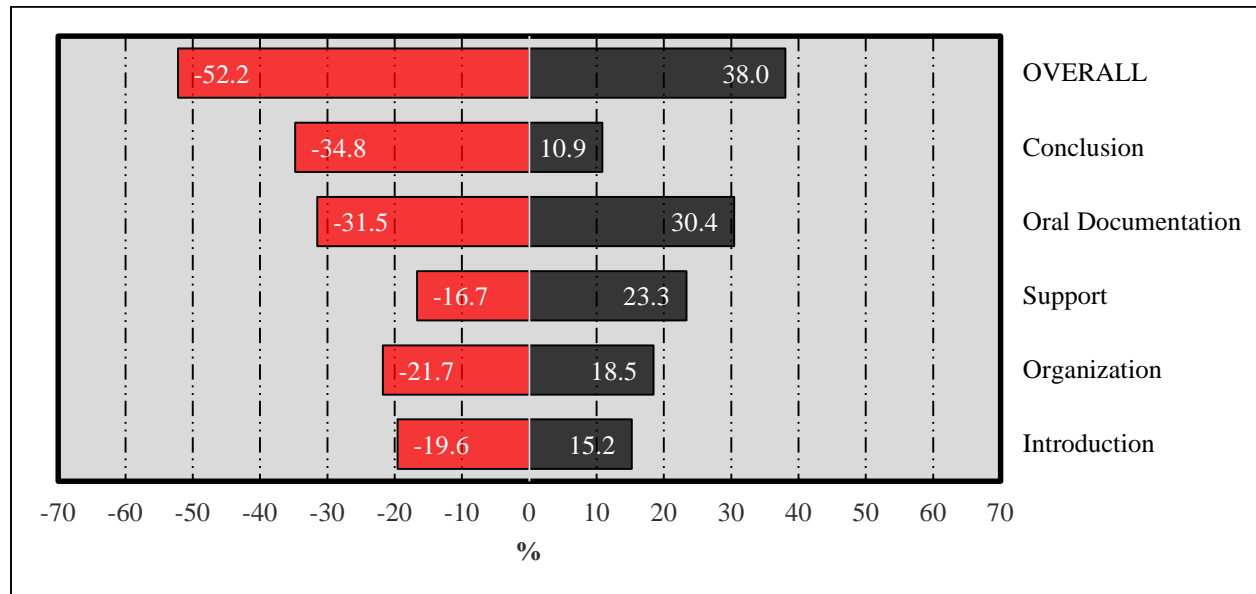


Figure 6. Percent increase/decrease from Outline to Speech by common rubric dimension. Note that no change was exhibited by 65% for “Introduction”, 59% for “Organization”, 59% for “Support”, 38% for “Oral Documentation”, and 54% for “Conclusion”.

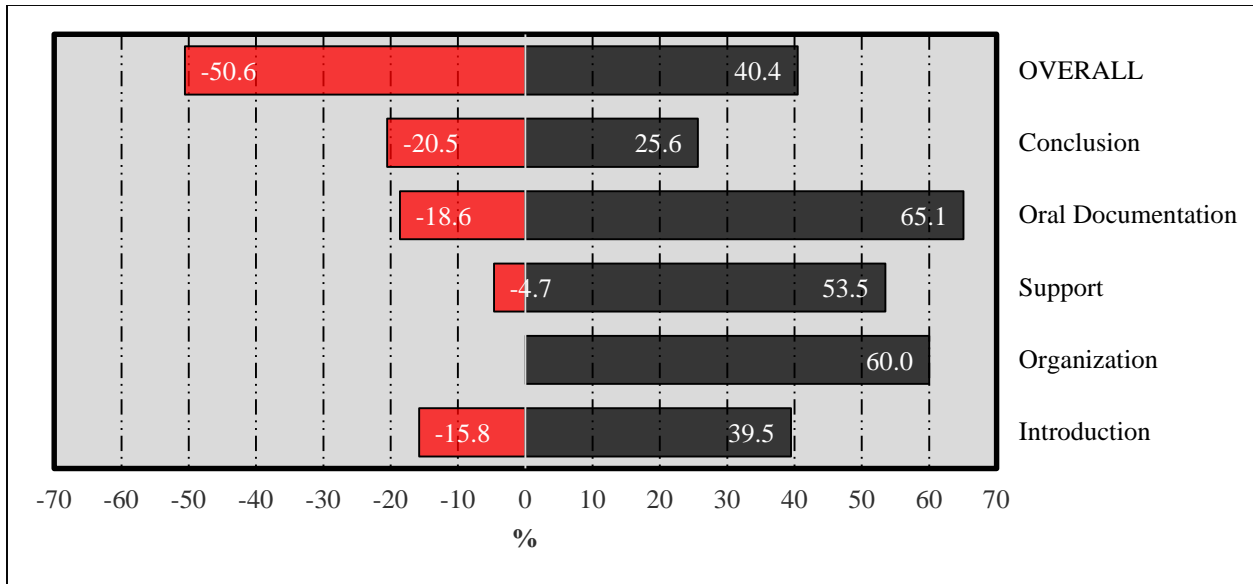


Figure 7. Percent increase/decrease from Outline to Speech by common rubric dimension excluding those artifacts scoring perfect 4/4 on Outline. Note that no change was exhibited by 45% for "Introduction", 40% for "Organization", 42% for "Support", 16% for "Oral Documentation", and 54% for "Conclusion".

2.2.2 Descriptive Statistics & Longitudinal Data

Descriptive statistics for SPC 2608 artifacts for both Outline and Informative Speech can be found in Tables 9 and 10. Note that comparative means in Tables 6 and 7 above may differ from those in Tables 9 and 10 as the comparative study includes common artifacts only. If a student did not complete both Outline and Informative Speech, a comparative score could not be completed and is thus excluded in results for Tables 6 and 7. Tables 9 and 10 exhibit all artifacts. A histogram of artifact scores for both Outline and Speech is shown in Figure 8. The Speed data distribution exhibits a large kurtosis centered in the lower 90s scoring range whereas the Outline has a smaller kurtosis (smaller major peak) with substantial scoring spanning in the mid-80s and below.

	<i>Introduction</i>	<i>Organization</i>	<i>Support</i>	<i>Oral Documentation</i>	<i>Language</i>	<i>NV-Vocal</i>	<i>NV-Physical</i>	<i>Presentation Media</i>	<i>Attire</i>	<i>Conclusion</i>
n	120	120	120	120	120	120	120	120	120	120
Max	10	10	10	10	10	10	10	10	10	10
Min	3	3	6	0	3	3	3	0	6	0
Mode	10	10	10	10	10	8	8	10	10	10
Mean	8.6	8.8	9.0	8.1	9.2	8.4	7.9	8.7	9.8	8.2
Standard deviation	1.82	1.74	1.30	2.33	1.21	1.53	1.65	2.06	0.74	2.17

Table 9. Descriptive statistics for SPC 2608.

Rubric Score	<i>Introduction</i>	<i>Organization</i>	<i>Support</i>	<i>Oral Documentation</i>	<i>Conclusion</i>
n	158	158	158	158	158
Max	10	10	10	10	10
Min	0	0	0	0	0
Mode	10	10	10	10	10
Mean	8.8	9.2	8.8	7.3	8.8
Standard deviation	1.85	1.71	1.82	3.48	2.02

Table 10. Descriptive statistics for SPC 2608 Outline.

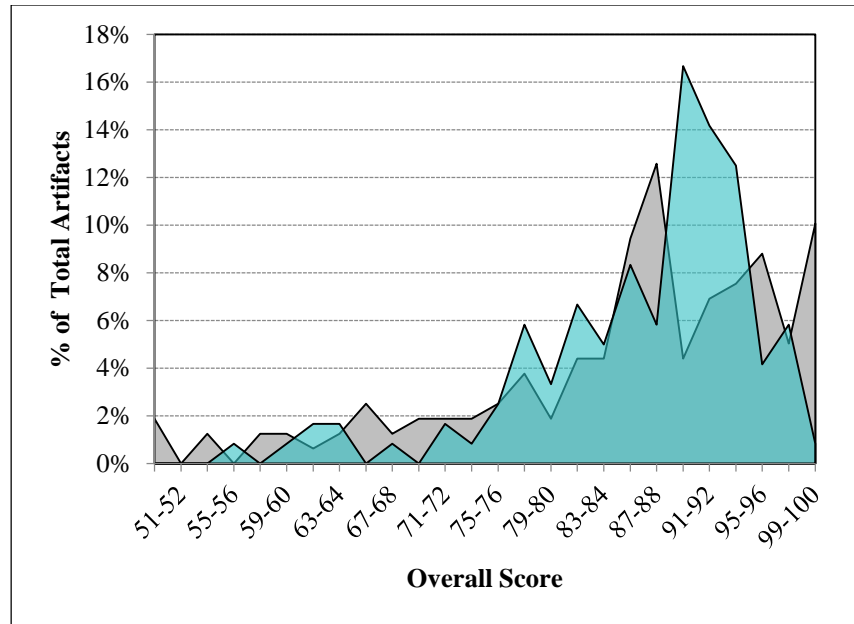


Figure 8. Overall score distribution for Outline (gray) and Speech (aqua).

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 9). To create this image the rubric scores (4, 3, 2, 1, or 0) for each artifact was grouped based on combined raw rubric score (10 dimensions x maximum rubric level of 4 = 40 overall points). The color represents the mean rubric score achieved in each dimension based on the combined score as shown in the x-axis.

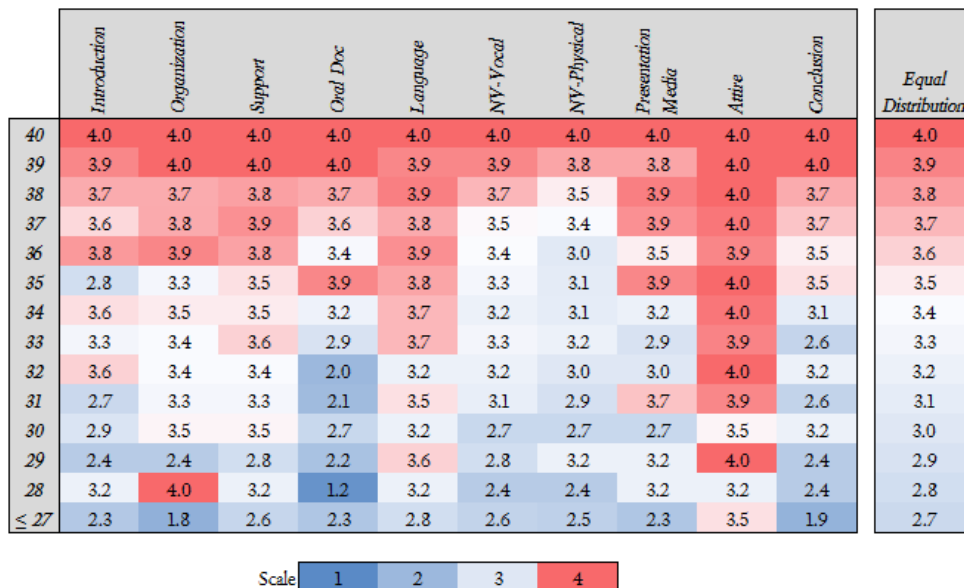


Figure 9. Colormap of mean scores for each rubric dimension (range: 0-4) based on overall rubric score (combined rubric score of all dimensions, max=40) for SPC 1017. (Right Sidebar) Comparison rubric dimension if dimension score is the same as overall (i.e. artifact overall score is equally distributed across all sections). A rubric dimension with hotter colors (reds) means that dimension achievement exceeds the overall score and is an area of strength. An exam section with colder colors (blues) means that section achievement is lower than the overall score and is therefore an area of weakness.

A review of the colormap in Figure 9 shows that at 38/40 and above (average rubric score of 3.8 or higher) all dimensions fair relatively equally (hot colors fairly evenly distributed), which is quite similar to colormap results of past terms. When overall rubric scores range below 35, “Oral Documentation” is somewhat weaker than the others, which is also fairly similar to that of previous terms. In mid-range, “Attire” and “Language” is substantially higher scoring than other dimensions. From a student performance perspective, strong students tend to be equally strong in all dimensions. Meanwhile, weaker students tend to be exceedingly lagging in “Oral Documentation” while exceedingly strong in “Attire” and “Language.”

A comparison of spring 2018 results with past results is shown in Figure 10 below. Results exhibit consistency among most rubric dimensions with the exception of “Oral Documentation” and “Conclusion.” The “Oral Documentation” dimension exhibits a wide range of results with no apparent trend with the lowest in fall 2017 (7.0/10) and the highest in fall 2015 (8.5/10). The “Conclusion” dimension also exhibits a fairly wide range from 8/10 in spring 2018 compared with 9.2/10 in fall 2017.

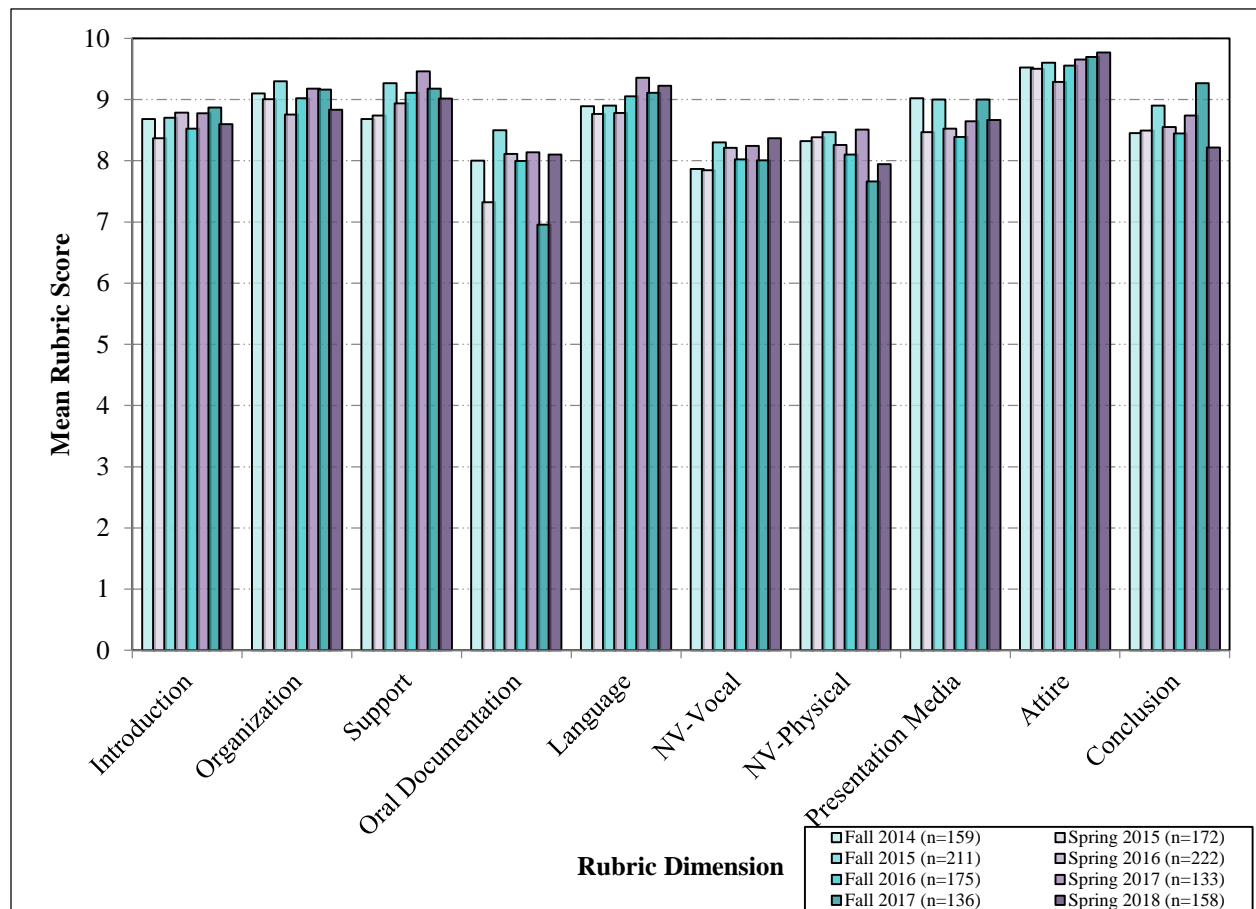


Figure 10. Comparison of mean scores for Informative Speech through time.

3 EXPLORATORY ANALYSIS AND SIGNIFICANCE TESTING

Multiple comparisons of artifact scores across varying formats, campuses, and student types were made in order to add depth to the distribution of the artifacts by achievement level. Each course was divided

into the appropriate subgroups to perform the analysis. Where possible, additional methods of analysis were conducted to provide a broader picture of these comparisons.

3.1 SPC 1017

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

No dual enrollment sections of SPC 1017 were offered during spring 2018 so no comparison study could be completed.

3.1.2 Online to Traditional Comparison

During the spring 2018 semester, 153 total online artifacts and 377 traditional artifacts were collected from SPC 1017 course sections. A comparison of mean scores by rubric dimension is provided in Table 11 and a graphical representation is provided in Figure 11. Mean scores are lower for online courses in six of ten dimensions. Differences in the means for all dimensions and overall score were tested for significance using a Welch’s t-test according to standard methods (Davis, 1973; McDonald, 2009; Wilkinson, 1999). Of these, “Introduction”, “Organization”, “Support”, “Language”, “NV-Physical”, “Presentation Media”, and “Attire” are statistically significantly different. Therefore, we must reject the null hypothesis that the differences in the means of the artifacts of the two course section types are equal to 0 for these dimensions, and we can conclude with a 95% confidence that the differences in scores are not solely due to chance.

	<i>Introduction</i>	<i>Organization</i>	<i>Support</i>	<i>Oral Documentation</i>	<i>Language</i>	<i>NV-Vocal</i>	<i>NV-Physical</i>	<i>Presentation Media</i>	<i>Attire</i>	<i>Conclusion</i>	<i>Combined Score</i>
<i>Rubric Max</i>	10	10	10	10	10	10	10	10	10	10	100
Online mean	8.0	8.3	7.6	7.7	8.5	8.3	7.4	7.1	8.9	8.2	72.1
Traditional mean	8.7	8.8	6.8	7.4	9.1	8.3	8.1	8.5	9.6	8.1	84.3
Effect Size	0.32	0.23	-0.25	-0.08	0.34	-0.01	0.28	0.45	0.37	-0.07	0.66
p-value	1.72x10⁻⁴	0.007	5.38x10⁻⁸	0.157	9.03x10⁻⁵	0.921	0.002	5.73x10⁻¹⁰	6.97x10⁻⁵	0.559	1.46x10⁻¹²

Table 11. Comparison of mean scores for Online and Traditional for SPC 1017. Bold denote statistically significant difference. Rubric dimensions identified in SLOs in blue. 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 ranges of small-to-large effect sizes ranging from 0.01 to 0.66 (Table 11). In other words, non-overlap from online artifacts to traditional artifacts range from approximately 0% to 40%.

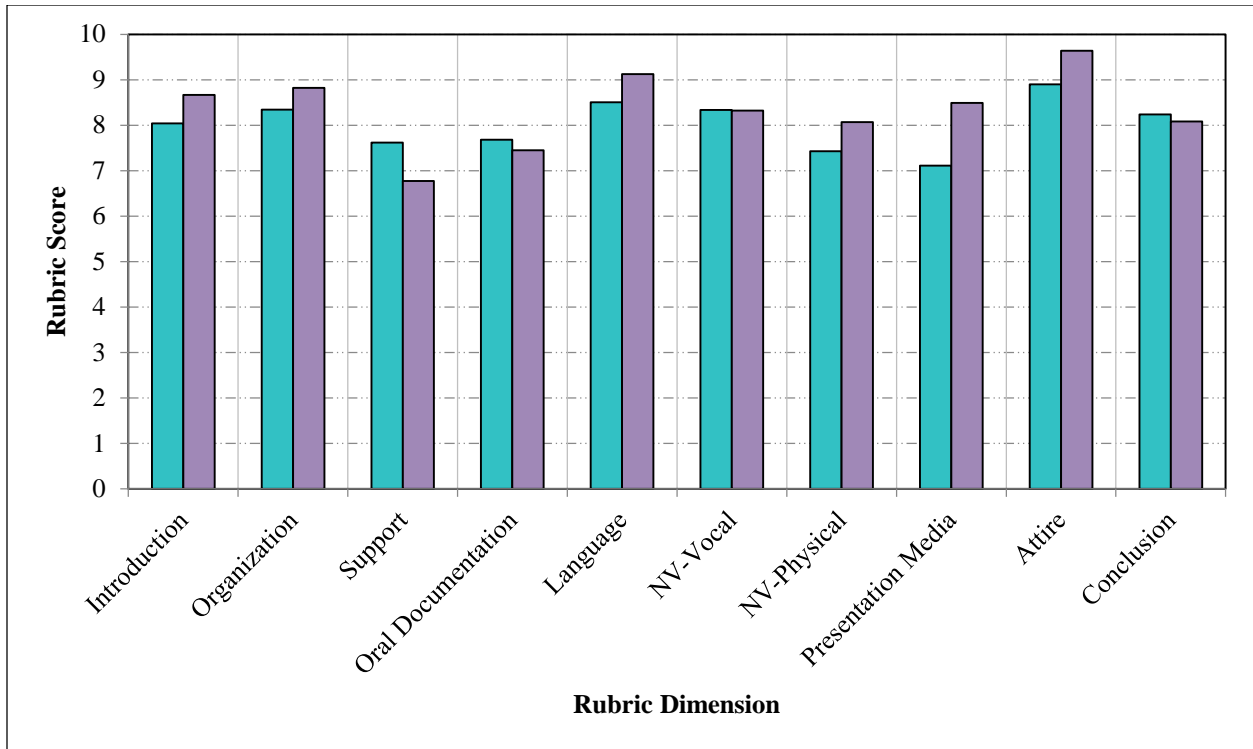


Figure 11. Comparison of mean scores for online (aqua) and traditional (purple) scores for SPC 1017 (spring 2018 term).

3.1.3 Comparison by Campus/Site

Of the 530 artifacts collected from SPC 1017, 50 originated from the Charlotte campus, 39 from the Collier campus, 153 from FSW Online, 10 from the Hendry-Glades Center, and 278 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 12.

	<i>Introduction</i>	<i>Organization</i>	<i>Support</i>	<i>Oral Documentation</i>	<i>Language</i>	<i>NV-Vocal</i>	<i>NV-Physical</i>	<i>Presentation Media</i>	<i>Attire</i>	<i>Conclusion</i>	<i>Combined Score</i>
<i>Rubric Max</i>	10	10	10	10	10	10	10	10	10	10	100
Charlotte	9.2	9.2	9.9	7.8	9.8	8.3	7.1	9.9	9.7	9.6	90.5
Collier	9.4	8.6	8.7	7.7	9.5	8.3	8.0	8.2	9.8	8.2	86.4
FSW Online	8.0	8.3	7.6	7.7	8.5	8.3	7.4	7.1	8.9	8.2	72.1
Hendry Glades	6.6	8.0	12.0	7.2	7.4	7.1	9.5	4.0	4.9	6.5	73.2
Thomas Edison (Lee)	8.5	8.8	6.2	7.3	9.0	8.3	8.3	8.3	9.6	7.8	83.3

Table 12. Comparison of mean scores by site for SPC 1017. Bold denotes highest mean score in that dimension among all sites. Rubric dimensions identified in SLOs in blue.

Charlotte campus exhibits higher scores in 7/10 dimensions, down from 9/10 in fall 2017, 10/10 in spring 2017, and 8/10 in spring 2016, and up from 6/10 in fall 2016 and 5/10 in fall 2015. Charlotte also exhibits the highest overall score. Collier and Hendry-Glades each exhibit the highest scores in one dimension while a four-way tie is exhibited in the 10th dimension.

A plot comparing score distribution of the combined (overall) scores by site is presented in Figure 12. There is extensive overlap between sites. However, Charlotte exhibits a distribution on the upper end of that overlap with progressively negatively shifted modes (central tendencies) for Collier, Thomas Edison, and finally FSW Online which exhibits a very low kurtosis (central peakedness). For example, over 70% of Charlotte’s scores range from 89 or higher. Meanwhile, in that same range, no other site exceeds 36%.

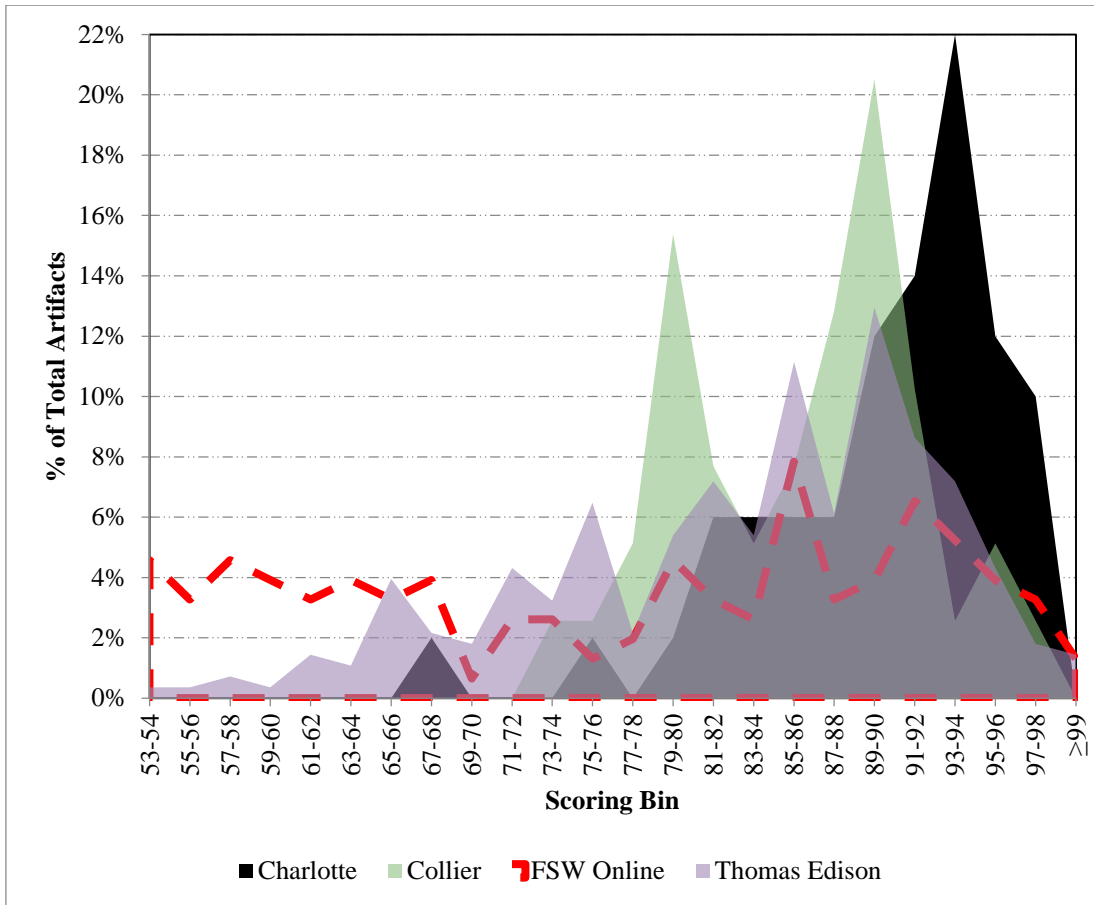


Figure 12. Comparison of artifact score distribution by site. *Hendry-Glades is not included in graphic due to limited sample size (n=10).

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 13). Therefore, we can reject the null hypothesis that the mean combined 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	19,729.3	4	4932.3	30.44	8.23x10 ⁻²³	2.39
Within Sites	85,055.5	525	162.0			
Total	104,784.8	529				

Table 13. Results of one-way ANOVA of combined rubric scores at each site for SPC 1017.

3.2 SPC 2608

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

No dual enrollment sections were offered in spring 2018 and so no comparison study could be completed.

3.2.2 Online to Traditional Comparison

During the spring 2018 semester, 26 total online artifacts and 94 traditional artifacts were collected from SPC 2608 course sections. A comparison of mean scores by rubric dimension is provided in Table 14 and a graphical representation is provided in Figure 13. Mean scores are lower for online courses in 6 of 10 dimensions, down from seven in spring 2017. Differences in the means for all dimensions and overall score were tested for significance using a Welch's t-test according to standard methods (Davis, 1973; McDonald, 2009; Wilkinson, 1999). Of the dimensions in which online sections exhibit a lower mean, only "NV-Physical" is statistically significantly different. Of the dimensions in which online sections exhibit a higher mean, none are statistically significantly different. Therefore, we must reject the null hypothesis that the differences in the means of the artifacts of the two courses in the statistically significant dimensions as well as the overall score are equal to 0, and we can conclude with a 95% confidence that the differences in scores are not solely due to chance. It should be noted that there is a 17-25% chance that the marginally significant results between the means of the "NV-Physical" dimension may be a Type I error according to Johnson (2013).

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 a wide range of effect sizes from 0.03 to 0.47 (Table 14). In other words, non-overlap from online artifacts to traditional artifacts range from approximately 1% to 3%.

	<i>Introduction</i>	<i>Organization</i>	<i>Support</i>	<i>Oral Documentation</i>	<i>Language</i>	<i>NV-Vocal</i>	<i>NV-Physical</i>	<i>Presentation Media</i>	<i>Attire</i>	<i>Conclusion</i>	<i>Combined Score</i>
<i>Rubric Max</i>	10	10	10	10	10	10	10	10	10	10	100
Online mean	8.3	8.9	9.2	8.0	9.0	8.0	7.3	9.3	9.6	8.8	86.5
Traditional mean	8.7	8.8	9.0	8.1	9.3	8.5	8.1	8.5	9.8	8.0	86.8
Effect Size	0.19	-0.06	-0.21	0.05	0.22	0.24	0.44	-0.47	0.15	-0.30	0.03
p-value	0.310	0.734	0.260	0.547	0.233	0.209	0.021*	0.058	0.409	0.142	0.856

Table 14. Comparison of mean scores for Online and Traditional for SPC 2608. Bold denote statistically significant difference. Rubric dimensions identified in SLOs in blue. Positive effect sizes indicate a higher mean score for Traditional artifacts. *Denote marginal significance as defined by Johnson (2013).

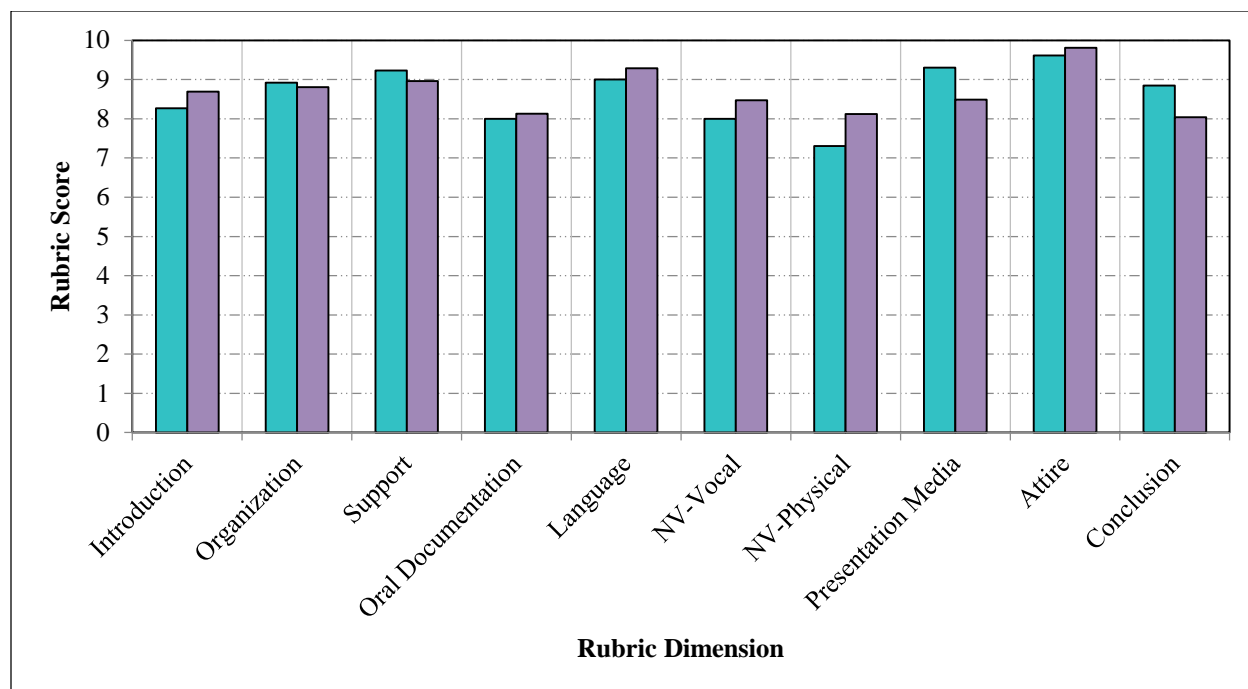


Figure 13. Comparison of mean scores for online (aqua) and traditional (purple) scores for SPC 2608.

3.2.3 Comparison by Campus/Site

Of the 120 artifacts collected from SPC 2608, 14 originated from the Charlotte campus, 19 from the Collier campus, 26 from FSW Online, and 61 from the Thomas Edison (Lee) campus. The Charlotte campus exhibits higher scores in 7/10 dimensions. The Charlotte campus also exhibits the highest overall score. The Collier campus exhibits the remaining 3/10 highest scores. A comparison of mean scores by rubric dimension is provided in Table 15. A plot comparing descriptive statistics of the combined scores by site is presented in Figure 14. Charlotte and Thomas Edison sites exhibit very similar distributions, if slightly shifted from one another. The Thomas Edison campus, however, exhibit results shifted more towards lower scores. A one-way analysis of variance was used to compare means of the overall scores at each site. Results of the ANOVA exhibit a statistically significant difference between sites largely as a result of the shifts exhibited by FSW Online. Therefore, we can reject the null hypothesis that the mean combined 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.

	<i>Introduction</i>	<i>Organization</i>	<i>Support</i>	<i>Oral Documentation</i>	<i>Language</i>	<i>NV-Vocal</i>	<i>NV-Physical</i>	<i>Presentation Media</i>	<i>Attire</i>	<i>Conclusion</i>	<i>Combined Score</i>
<i>Rubric Max</i>	10	10	10	10	10	10	10	10	10	10	100
Charlotte	7.6	9.1	9.9	8.2	10.0	9.9	8.9	10.0	10.0	8.9	92.4
Collier	10.0	9.6	8.9	8.6	9.5	8.2	8.2	8.6	10.0	7.7	89.4
FSW Online	8.3	8.9	9.2	8.0	9.0	8.0	7.3	9.3	9.6	8.8	86.5
Thomas Edison (Lee)	8.5	8.5	8.8	8.0	9.1	8.2	7.9	8.1	9.7	7.9	84.7

Table 15. Comparison of mean scores by site for SPC 2608. Bold denotes highest mean score in that dimension among all sites. Rubric dimensions identified in SLOs in blue.

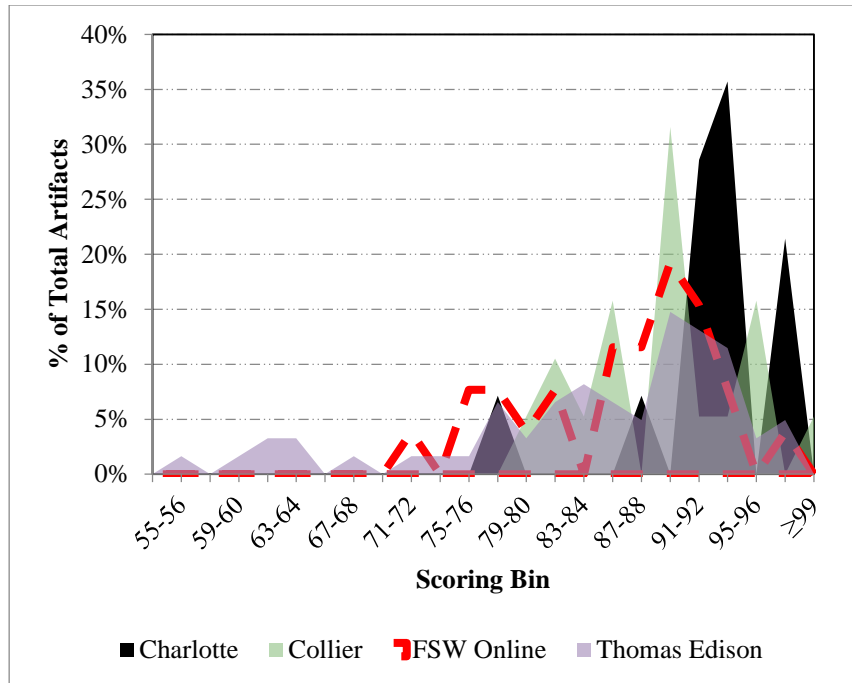


Figure 14. Comparison of artifact score distribution.

Source of Variation	Sum of squared differences	df	Mean Squares	F _{obs}	p-value	F _{crit}
Between Sites	838.4	3	279.5	3.77	0.013*	2.68
Within Sites	8597.0	116	74.1			
Total	9435.5	119				

Table 16. Results of one-way ANOVA of combined rubric scores at each site for SPC 2608. *Denote marginal significance as defined by Johnson (2013).

4 CONCLUSIONS

FSW’s Speech Department employed a common rubric used by all faculty as a means to evaluate an agreed upon series of student level outcomes for SPC 1017 and SPC 2608. Faculty goals in assessment included tracking rubric implementation, Student Learning Objectives (SLOs) to include Oral Documentation, Presentation Media, and Conclusion, and comparisons between dual enrollment (concurrent) and non-dual enrollment students, online and traditional students, and by site.

A drilldown of SPC 1017 results are as follows:

1. SLO 1 – Achievement of “Developing” or higher (≥ 2) in the Informative Speech rubric dimension “Oral Documentation” for 70% of the students was met.
2. SLO 2 – Achievement of “Developing” or higher (≥ 2) in the Informative Speech rubric dimension “Conclusion” for 70% of the students was met.
3. SLO 3 – Achievement of “Developing” or higher (≥ 2) in the Informative Speech rubric dimension “Presentation Media” for 70% of the students was met.
4. SLO 4 – Improvement in common outcomes between Informative Speech Outline and Speech was met. Improvement is exhibited in 2 of 5 dimensions as well as the overall. Improvement excluding Outline scores of ‘4’ are exhibited in 5 of 5 dimensions.

5. In a study comparing rubric achievement based on overall score, over achieving students tend to be equally strong in all dimensions, moderate students tend to excel in “Organization”, “Support”, “Language”, and “Attire”, while beginning to lag in other dimensions, and under achieving students tend to be exceedingly lagging in “Oral Documentation”, and in exceptionally under achieving students tend to be extremely lagging in “Support” but strong in “Language.”
6. In a longitudinal study, results exhibit a few attributes. First, there appears to be a slight but consistent decline in the “Oral Documentation” dimension from 7.8 in fall 2014 down to 7.4 in fall 2017 before climbing again in spring 2018. Second, “Oral Documentation” is consistently the lowest performing dimension averaging approximately 0.5 lower than the next lowest. And finally, “Attire”, followed by “Language”, and “Support” consistently remain the first, second, and third highest performing dimensions.
7. No comparison between dual enrollment (concurrent) sections and traditional sections could be made because no dual enrollment sections were offered during spring 2018.
8. In a comparison of online to traditional artifacts mean scores are lower for online courses in six of ten dimensions. Of these, “Introduction”, “Organization”, “Support”, “Language”, “NV-Physical”, “Presentation Media”, and “Attire” are statistically significantly different.
9. In a cross-campus comparison, Charlotte campus exhibits higher scores in 7/10 dimensions, down from 9/10 in fall 2017, 10/10 in spring 2017, and 8/10 in spring 2016, and up from 6/10 in fall 2016 and 5/10 in fall 2015. Charlotte also exhibits the highest overall score. Collier and Hendry-Glades each exhibit the highest scores in one dimension while a four-way tie is exhibited in the 10th dimension. Results of the ANOVA exhibit a statistically significant difference between sites.

A drilldown of SPC 2608 results are as follows:

1. SLO 1 – Achievement of “Developing” or higher (≥ 2) in the Informative Speech rubric dimension “Oral Documentation” for 70% of the students was met.
2. SLO 2 – Achievement of “Developing” or higher (≥ 2) in the Informative Speech rubric dimension “Conclusion” for 70% of the students was met.
3. SLO 3 – Achievement of “Developing” or higher (≥ 2) in the Informative Speech rubric dimension “Presentation Media” for 70% of the students was met.
4. SLO 4 – Improvement in common outcomes between Informative Speech Outline and Speech was met. Improvement is exhibited in 2 of 5 dimensions as well as the overall. Improvement excluding Outline scores of ‘4’ are exhibited in 4 of 5 dimensions.
5. In a study comparing rubric achievement based on overall score, strong students tend to be equally strong in all dimensions. Meanwhile, weaker students tend to be exceedingly lagging in “Oral Documentation” while exceedingly strong in “Attire” and “Language.”
6. In a longitudinal study, results exhibit consistency among most rubric dimensions with the exception of “Oral Documentation” and “Conclusion.” The “Oral Documentation” dimension exhibits a wide range of results with no apparent trend with the lowest in fall 2017 (7.0/10) and the highest in fall 2015 (8.5/10). The “Conclusion” dimension also exhibits a fairly wide range from 8/10 in spring 2018 compared with 9.2/10 in fall 2017.
7. No comparison between dual enrollment (concurrent) sections and traditional sections could be made because no dual enrollment sections were offered during spring 2018.
8. In a comparison of online to traditional artifacts mean scores are lower for online courses in 6 of 10 dimensions, down from seven in spring 2017. Of the dimensions in which online sections exhibit a lower mean, only “NV-Physical” is statistically significantly different. Of the dimensions in which online sections exhibit a higher mean, none are statistically significantly different.

9. In a cross-campus comparison, the Charlotte campus exhibits higher scores in 7/10 dimensions. The Charlotte campus also exhibits the highest overall score. The Collier campus exhibits the remaining 3/10 highest scores. Results of the ANOVA exhibit a statistically significant difference between sites.

5 REFERENCES

- Cohen, J. 1988. *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates, Hillsdale, NJ.
- Cole, R., Haimson, J., Perez-Johnson, I., and May, H. 2011. *Variability in Pretest-Posttest Correlation Coefficients by Student Achievement Level*. NCEE Reference Report 2011-4033. Washington, DC: National Center for Education Evaluation and Regional Assistance, U.S. Department of Education.
- Davis, J.C. 1973. *Statistics and Data Analysis in Geology*. John Wiley & Sons, New York, New York, 564 pp.
- Elder, L, and Paul, R. 2007. *Consequential Validity: Using Assessment to Drive Instruction*. In: *Foundation For Critical Thinking*. Retrieved from <http://www.criticalthinking.org/pages/consequential-validity-using-assessment-to-drive-instruction/790>.
- Johnson, V. 2013. *Revised Standards for Statistical Evidence*. *Proceedings of the National Academy of Science*, 110(48), 19313-19317.
- Lipsey, M.W. and Wilson, D.B. 1993. *The efficacy of psychological, educational, and behavioral treatment: Confirmation from meta-analysis*. *American Psychologist*, 48, 1181-1209.
- McDonald, J.H. 2009. *Handbook of Biological Statistics* (2nd ed.). Sparky House Publishing, Baltimore, Maryland.
- Rosenthal, R. and Rosnow, R.L. 1991. *Essentials of behavioral research: Methods and data analysis* (2nd ed.). McGraw Hill, New York, NY.
- Wilkinson, L. 1999. *APA Task Force on Statistical Inference. Statistical Methods in Psychology Journals: Guidelines and Explanations*. *American Psychologist* 54 (8), 594–604.