

Foreign Language Assessment Report

Spring 2022

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

1 INTRODUCTION

Florida SouthWestern's Foreign Language Department employs a common course assessment to measure student progress in course level objectives, a practice shown to be effective in establishing data driven instruction (Hall, 2010). Courses included in assessment are: FRE 1120 *Elementary French I*, FRE 1121 *Elementary French II*, SPN 1120 *Beginning Spanish I*, and SPN 1121 *Beginning Spanish II*. Through achievement of these courses, students will acquire and demonstrate competency in speaking, writing, reading comprehension and listening comprehension in standard Spanish or French at the beginner's level. The assessment outcomes outlined below define the method of assessment for each course assessment as well as measure current Student Learning Outcomes (SLOs) and identify areas for future SLOs to be assessed. Additionally, the plan provides information on achievement levels of dual enrollment (concurrent) artifacts compared with traditional, as well as modality comparisons, and comparisons by site, where applicable. This report provides achievement analysis for both spring 2022 as well as longitudinal studies, where applicable.

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

2 FRENCH

2.1 FRE 1120

During the Spring 2022 term, two sections of FRE 1120 were offered, although there was no data available in one of the sections to collect. A total of in AY 2017-18 was recorded in all sections of FRE 1120 accounting for 15 artifacts, or 43% of the population. The assessment utilizes a combination quiz and disposition survey. In the assessment, the students are asked for their relative levels of confidence in translating a given topic in conjunction with performing brief translations of the same topic. Each of five disposition survey questions are tethered to two questions in which students are asked to (1) translate French by answering a question written in French using an English response and (2) translate French by answering a question written in French using a French response. The resulting assessment consists of 15 questions comprised of five survey questions and 10 achievement related questions. In form, the assessment measures achievement as well as alignment with student confidence of a given topic. Note that several instances, the scoring was altered. It is important that scoring is consistent in an assessment such as this, so it may be important to review this area.

2.1.1 Descriptive Statistics, Learning Outcomes, and Objectives

The lead French faculty has identified five areas of interest for evaluation. No achievement metric goals have yet been set. The Learning Outcomes (LOs) are:

- LO 1: Reading/Writing Introductions
- LO 2: Reading/Writing Self, Classes & Campus
- LO 3: Reading/Writing Activity Likes & Dislikes
- LO 4: Reading/Writing Home & Rooms
- LO 5: Reading/Writing Descriptions & Family

Each LO consists of two questions. The first, worth one point, requires a translation from French using English responses. The second, worth two points, requires comprehension of French using French responses. Each question can be scored at half-point intervals. The result is a combined maximum score of 15 points. Results exhibit mean scores across the five LOs ranging from 2.2 to 2.6 (Figure 1), compared with 2.5-2.8 in fall 2021, 2.8-3.0 in spring 2021, 2.0-2.3 in fall 2020, 2.7-3.0 of spring 2020, 2.2-2.6 in fall 2019, 2.3 to 2.7 in fall 2018. It is important to note that each LOs in this study are arranged in order of advancement for the course. LO 1 is encountered early in the term with each LO encountered sequentially to LO 5, which is studied near the term's end.

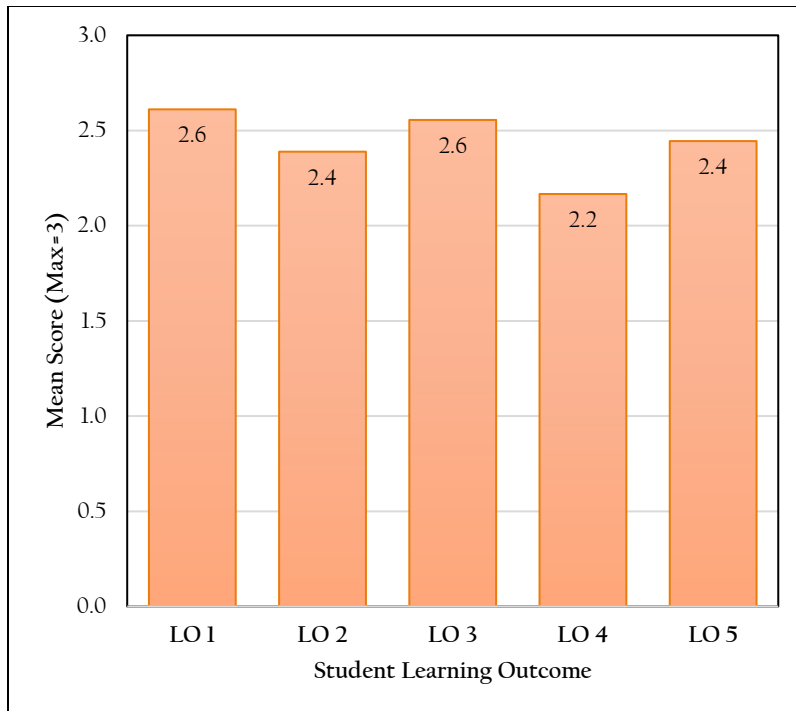


Figure 1. Mean scores by SLOs for FRE 1120.

2.1.2 Exploratory Analysis & Significance Testing

2.1.2.1 Dual Enrollment (Concurrent) to Traditional Comparison

Only one section of data was reported, so no comparison could be completed.

2.1.2.2 Modality Comparison

Only one section of data was reported, so no comparison could be completed.

2.1.2.3 Comparison by Campus/Site

Only one section of data was reported, so no comparison could be completed.

2.1.3 Data Distribution & Longitudinal Studies

2.1.3.1 Data Distribution

A distribution of combined (total) scores from the 10 achievement questions is shown below in Figure 2. Scores are centered on 15/15 with a strong negative skew meaning scores are tending strongly towards higher values (Starkweather, 2010). In total, 33% of artifacts score 15/15.

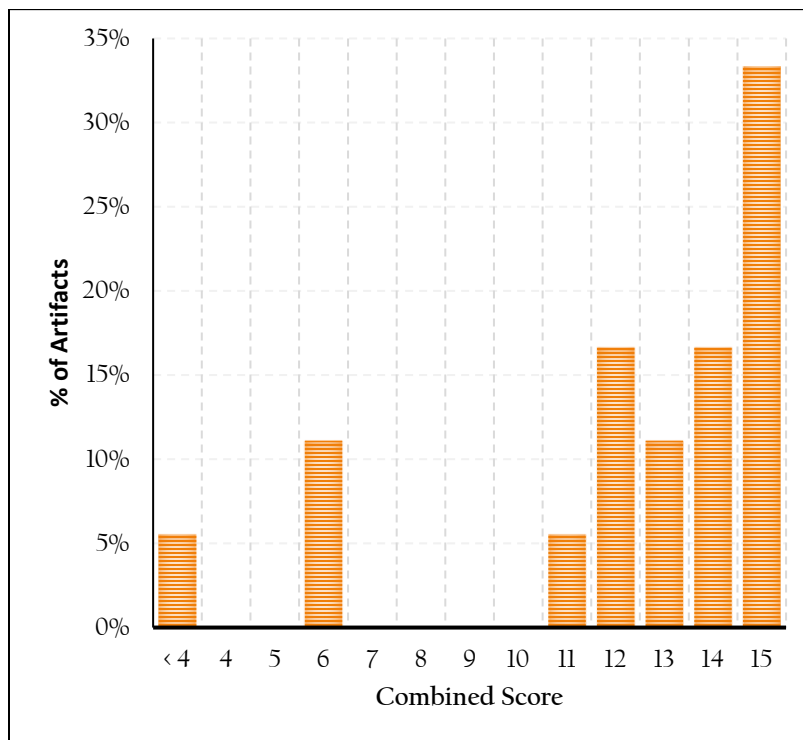


Figure 2. Distribution of combined (total) scores for assessment.

One of the strengths of a combined disposition survey and achievement assessment is the way in which the data can be analyzed. Survey questions that gauge confidence in a topic can now be compared with the results of achievement in that topic to better describe how student confidence varies with student strengths and weaknesses. This gauge is reflected in the scatterplot shown in Figure 3 below.

These results indicate a weak-to-moderate sense of students self-reporting a strong understanding of the topic that correlates with actual achievement. There are some which report a low understanding and yet score high (as seen in data point in upper left corner of graph). There are also some students who report a high understanding, and let score modestly, such as those seen on the right side of the graph.

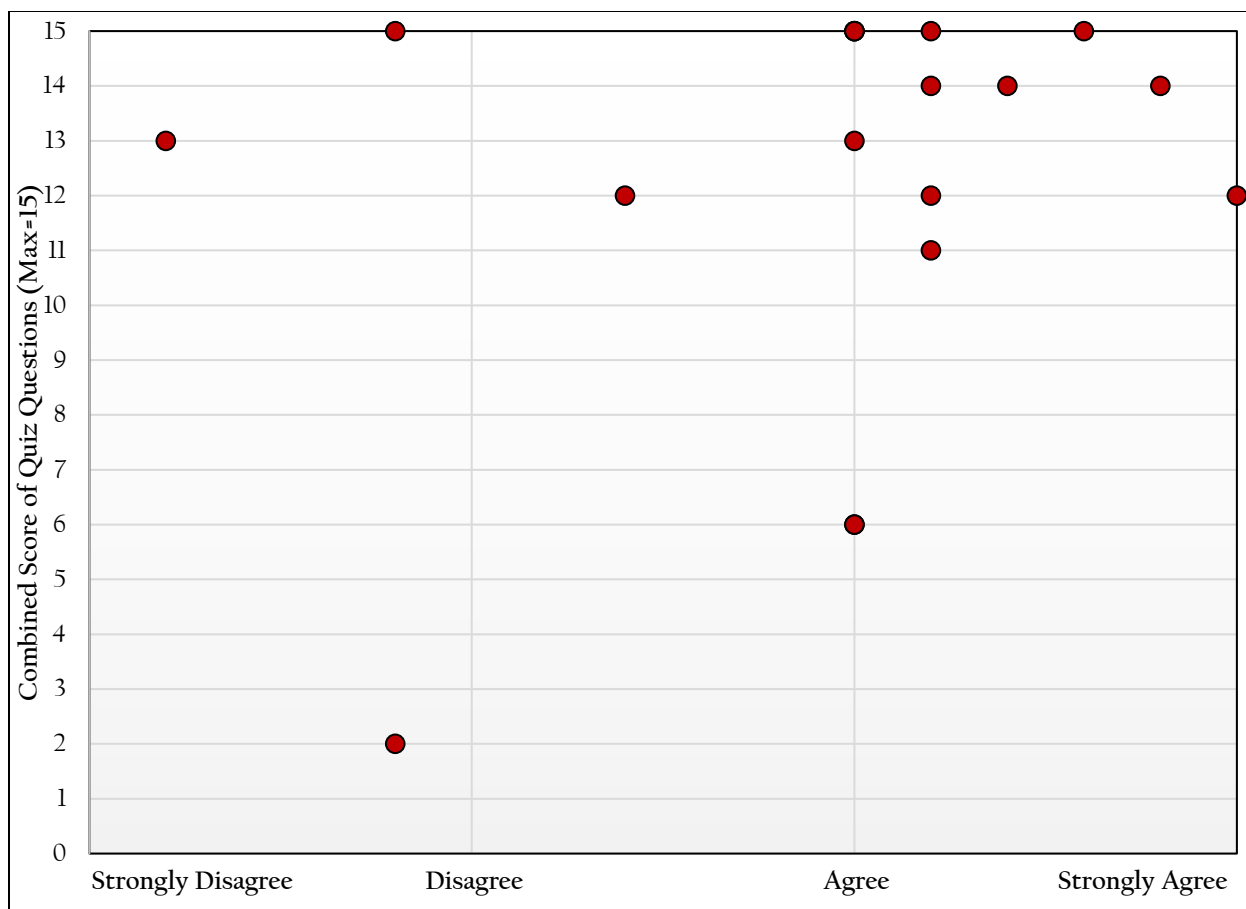


Figure 3. Scatter plot of combined (total) scores based on general response to survey questions.

2.1.3.2 Longitudinal Study

Further description of achievement over time in FRE 1120 is provided in Table 3. Both demographics of students and student count vary by semester it may be more reasonable to compare like semesters (Fall vs. Fall, Spring vs. Spring) (see <http://www.fsw.edu/facultystaff/assessment/history> for further details). In eight terms, LOs 1 through 5 for the Spring 2022 term rank 5th, 6th, 6th, 6th, and 7th respectively.

	LO 1	LO 2	LO 3	LO 4	LO 5	Overall
Fall 2018 (n=26)	2.6	2.4	2.7	2.3	2.7	12.7
Spring 2019 (n=19)	2.9	3.0	3.0	2.9	2.9	14.7
Fall 2019 (n=55)	2.6	2.5	2.6	2.2	2.5	12.4
Spring 2020 (n=35)	2.9	2.9	2.9	2.7	3.0	14.4
Fall 2020 (n=49)	2.2	2.2	2.3	2.0	2.3	11.0
Spring 2021 (n=20)	3.0	2.9	3.0	2.8	2.9	14.6
Fall 2021 (n=64)	2.8	2.5	2.8	2.7	2.7	13.4
Spring 2022 (n=15)	2.6	2.4	2.6	2.2	2.4	12.2

Table 1. Comparison of mean scores for FRE 1120 over time.

2.2 FRE 1121

During the Spring 2022 term, one section of FRE 1121 was offered. The data collection accounts for 32 artifacts, or 67% of the population of 48. One course section did not utilize the full assessment. The

assessment utilizes a combination quiz and disposition survey. In the assessment, the students are asked for their relative levels of confidence in translating a given topic in conjunction with performing brief translations of the same topic. Each of five disposition survey questions are tethered to two questions in which students are asked to (1) translate French by answering a question written in French using an English response and (2) translate French by answering a question written in French using a French response. The resulting assessment consists of 15 questions comprised of four survey questions and 10 achievement related questions. In form, the assessment measures achievement as well as alignment with student confidence of a given topic. Note that several instances, the scoring was altered. It is important that scoring is consistent in an assessment such as this, so it may be important to review this area.

2.2.1 Descriptive Statistics, Learning Outcomes, and Objectives

In FRE 1121, a similar assessment seen in FRE 1120 is utilized. The lead French faculty has identified five areas of interest for evaluation. No achievement metric goals have yet been set. The Learning Outcomes (LOs) are:

- LO 1: Reading/Writing Introductions
- LO 2: Reading/Writing Completed Actions in the Past
- LO 3: Reading/Writing Repeated and Habitual Actions in the Past
- LO 4: Reading/Writing Hypothetical Situations
- LO 5: Future Events and Projects

Each LO consists of two questions. The first, worth one point, requires a translation from French using English responses. The second, worth two points, requires comprehension of French using French responses. Each question can be scored at half-point intervals. The result is a combined maximum score of 15 points. Results exhibit mean scores across the five LOs ranging from 2.6 to 2.8. It is important to note that each LOs in this study are arranged in order of advancement for the course. LO 1 is encountered early in the term with each LO encountered sequentially to LO 5, which is studied near the term's end.

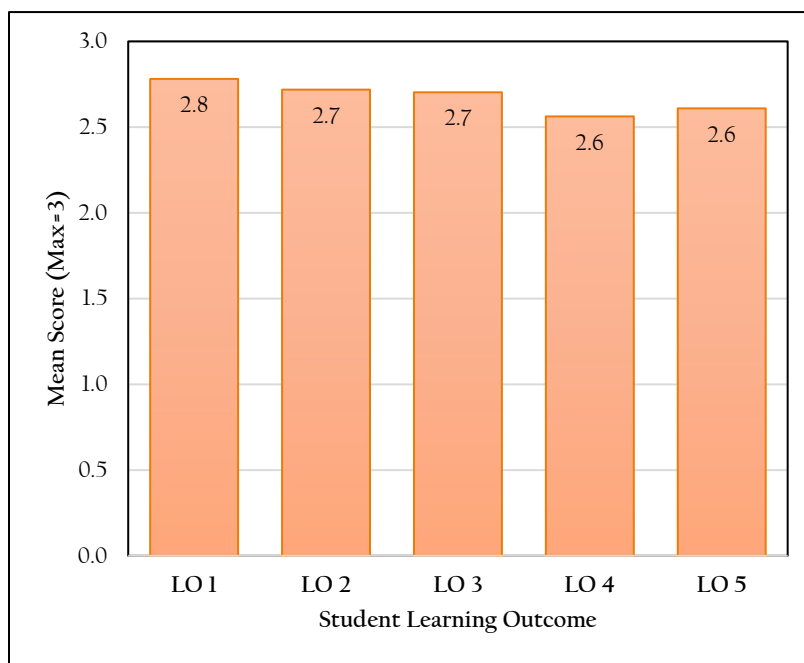


Figure 4. Mean scores by SLOs for FRE 1121.

2.2.2 Exploratory Analysis & Significance Testing

2.2.2.1 *Dual Enrollment (Concurrent) to Traditional Comparison*

While one dual enrollment (concurrent) section was run during spring 2022, the assessment in full was not utilized, so no comparison study between dual enrollment and traditional courses could be completed.

2.2.2.2 *Modality Comparison*

While two sections were offered, one in Flex, and one Traditional, sample size is limited in one case, making comparisons limited in interpretation.

2.2.2.3 *Comparison by Campus/Site*

Only one site offered sections other than online sections, so no comparison by site could be completed.

2.2.3 Data Distribution & Longitudinal Studies

2.2.3.1 *Data Distribution*

A distribution of combined (total) scores from the 15 achievement questions is shown below in Figure 5. In total, 50% of scores are a perfect 15/15.

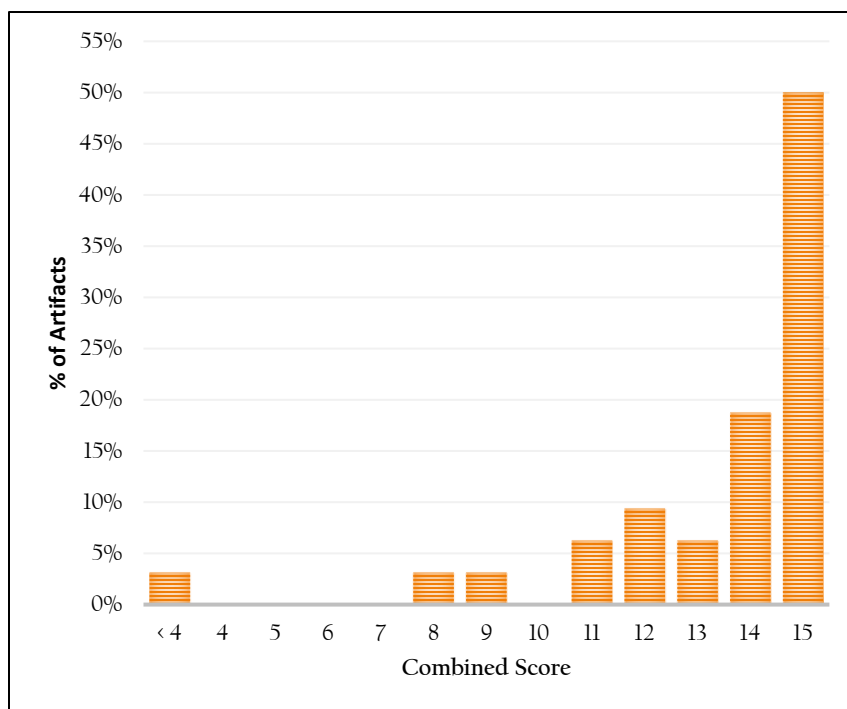


Figure 5. Distribution of combined (total) scores for assessment.

One of the strengths of a combined disposition survey and achievement assessment is the way in which the data can be analyzed. Survey questions that gauge confidence in a topic can now be compared with the results of achievement in that topic to better describe how student confidence varies with student strengths and weaknesses. This gauge is reflected in the scatterplot shown in Figure 6 below. These results yield a clearer sense of just how many students self-report a strong understanding of the topic and if they appear to be capable of demonstrating it. There is a moderate correlation between self-report and achievement.

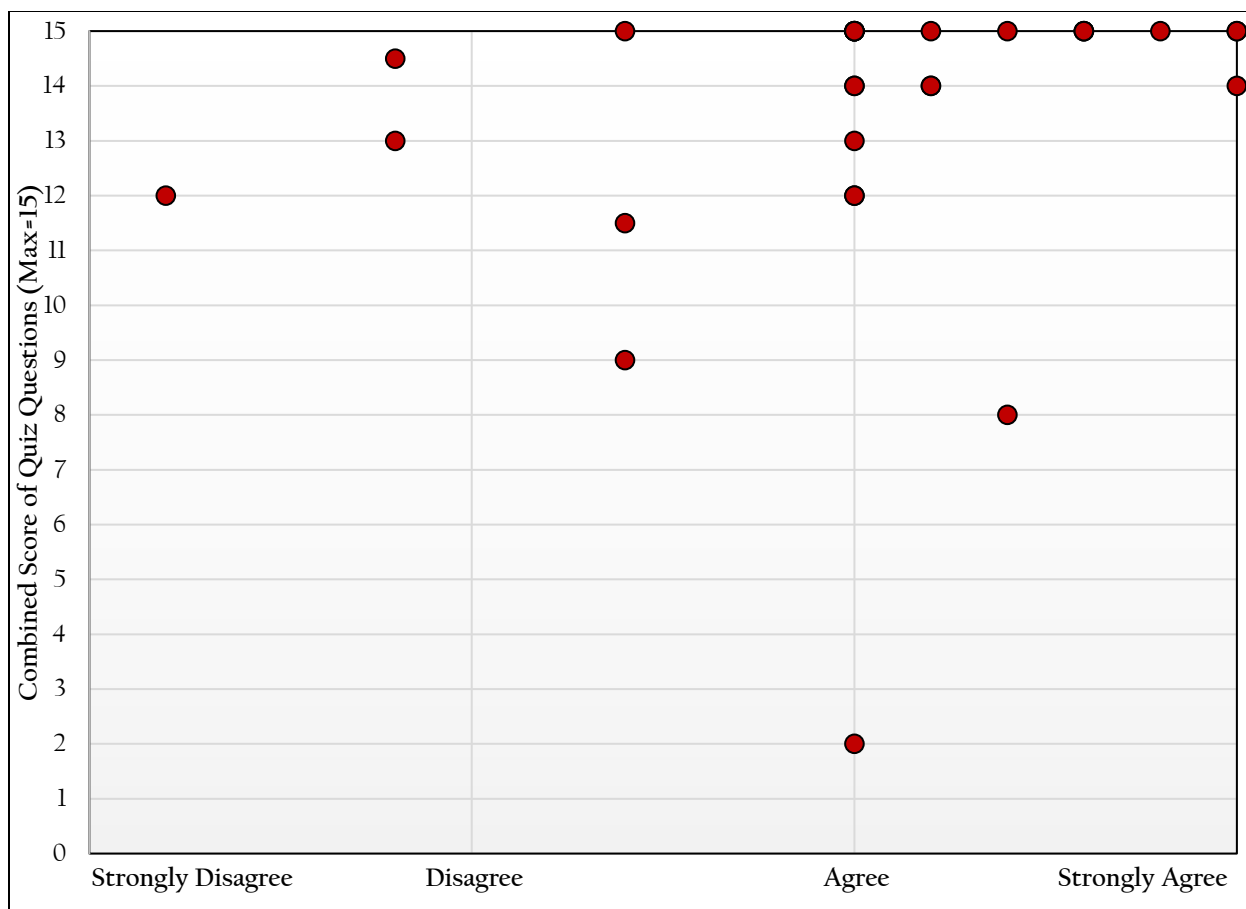


Figure 6. Scatter plot of combined (total) scores based on general response to survey questions.

2.2.3.2 Longitudinal Study

Further description of achievement over time in FRE 1120 is provided in Table 4. Both demographics of students and student count vary by semester it may be more reasonable to compare like semesters (Fall vs. Fall, Spring vs. Spring) (see <http://www.fsw.edu/facultystaff/assessment/history> for further details). In six terms, LOs 1 through 5 for the Spring 2022 term rank 2nd, 2nd, 3rd, 3rd, and 1st, respectively.

	LO 1	LO 2	LO 3	LO 4	LO 5	Overall
Fall 2019 (n=14)	2.9	2.7	2.9	2.8	~	~
Spring 2020 (n=17)	2.4	2.5	2.1	2.2	2.4	11.6
Fall 2020 (n=6)	2.8	2.1	2.7	1.8	2.2	11.6
Spring 2021 (n=45)	2.8	2.7	2.6	2.7	2.5	13.3
Fall 2021 (n=4)	2.0	1.5	1.8	1.5	1.0	7.8
Spring 2022 (n=32)	2.8	2.7	2.7	2.6	2.6	13.4

Table 2. Comparison of mean scores for FRE 1121 over time.

3 SPANISH

3.1 SPN 1120

3.1.1 Descriptive Statistics, Learning Outcomes, and Learning Objectives

During the Spring 2022 semester 9 sections of SPN 1120 *Beginning Spanish I* were offered. Of those, artifacts from a common final were collected from 9 sections. A total of 167 students were enrolled in SPN 1120. Of those, 110 artifacts were collected representing a sample size of 66% of the population.

Using a common course assessment, the FSW Spanish faculty defined three areas of interest for evaluation that apply to SPN 1120. The Student Learning Outcomes (SLOs) and their objectives or measures of success are:

- SLO 1: Students will be able to understand spoken Spanish. The faculty established measure of success for this SLO is for 80% of students to demonstrate competency with a score of 70% or better in the oral comprehension exam sections (Section I).
- SLO 2: Students will be able to understand written Spanish. The faculty established measure of success for this SLO is for 80% of students to demonstrate competency with a score of 70% or better in the reading comprehension exam sections (Section II and III).
- SLO 3: Students will be able to write effectively in the Spanish language. The faculty established measure of success for this SLO is for 80% of students to demonstrate competency with a score of 70% or better in the writing competency exam sections (Section IV and V).

The faculty established measure of success for SLO 1, 80% of students scoring 70% or higher in Section I, was nearly met as results exhibit 71% of artifacts score 70% or higher in the oral competency exam section (Section I) (Table 5). The faculty established measure of success for SLO 2, 80% of students scoring 70% or higher in Sections II and III, was partially met. Results exhibit 35% of artifacts scored 70% or higher in Section II and 81% of artifacts scored 70% or higher in Section III. The faculty established measure of success for SLO 3, 80% of students scoring 70% or higher in Sections IV and V, was partially met. Results exhibit 51% of artifacts scored 70% or higher in Section IV and 85% of artifacts scored 70% or higher in Section V. For a graphical representation of SLO achievement, see Figure 7.

n = 110	Section I (Oral)	Section II (Reading)	Section III (Reading)	Section IV (Written)	Section V (Written)	Combined (Overall)
Goal	80% of artifacts scored $\geq 70\%$ for all sections					
% above 70%	71%	35%	81%	51%	85%	
Mean (as %)	76%	54%	84%	67%	82%	66%
Median (as %)	87%	58%	93%	72%	90%	69%
Section Score Max	15	60	15	15	20	125
Section Mean	11.4	32.2	12.7	10.0	16.4	82.7
Section Median	13	35	14	10.75	18	85.8

Table 3. Percentage of student achievement level as per SLOs (SPN 1120).

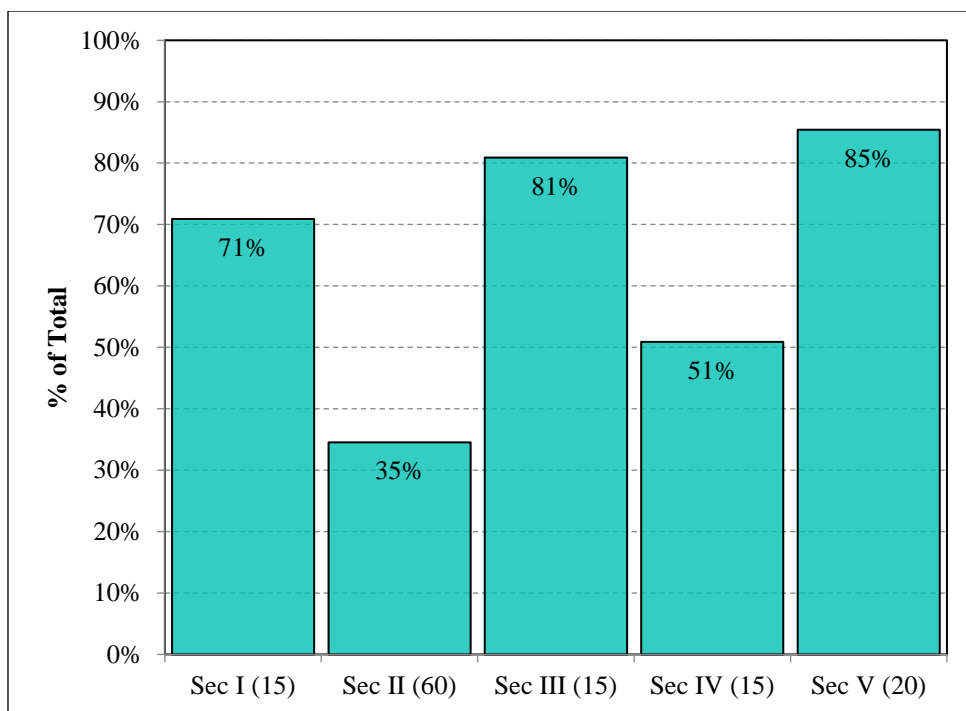


Figure 7. SLO achievement for SPN 1120 by exam section (Percentage of student achievement level as per SLOs). Purple denotes having met objective.

3.1.2 Exploratory Analysis & Significance Testing

Multiple comparisons of artifact scores across varying formats, campuses, and student types were made to detail the assessment data more thoroughly. Each course was divided into appropriate subgroups such as by campus or enrollment status to perform the analysis. Where possible, additional methods of analysis were conducted to provide a broader picture of these comparisons.

3.1.2.1 Dual Enrollment (Concurrent) to Non-Dual Enrollment Comparison

No dual enrollment (concurrent) sections of the course were run during spring 2022 so no comparison study between dual enrollment and traditional courses could be completed.

3.1.2.2 Modality Comparison

During the Spring 2022 semester, 79 total asynchronous online artifacts were collected, along with 0 live online, 21 flex, 0 blended, and 10 traditional. A comparison of basic statistics is provided in Table 6. Traditional artifacts are 0.3%-points higher than the next highest, flex, followed by asynchronous online at 64.8%. Results of the ANOVA do not exhibit a statistically significant difference between sites (see Table 7). Therefore, we cannot reject the null hypothesis that the mean scores in each modality are equal to each other and we cannot conclude with a 95% confidence that the differences in scores are not solely due to chance. A score distribution by modality is shown in Figure 8.

	<i>Traditional</i>	<i>Async Online</i>	<i>Live Online</i>	<i>Flex</i>	<i>Blended</i>
n	10	79	0	21	0
Mean Score	87.4	81.0	~	87.1	~
Mean Score (as %)	69.9%	64.8%	~	69.7%	~

Table 4. Comparison of descriptive statistics by modality.

Source of Variation	Sum of squared differences	df	Mean Squares	F _{obs}	p-value	F _{crit}
Between Sites	553.9	2	277.0	0.54	0.583	3.08
Within Sites	54,727.8	107	511.5			
Total	55,281.8	109				

Table 5. Results of one-way ANOVA of mean scores in each modality for SPN 1120.

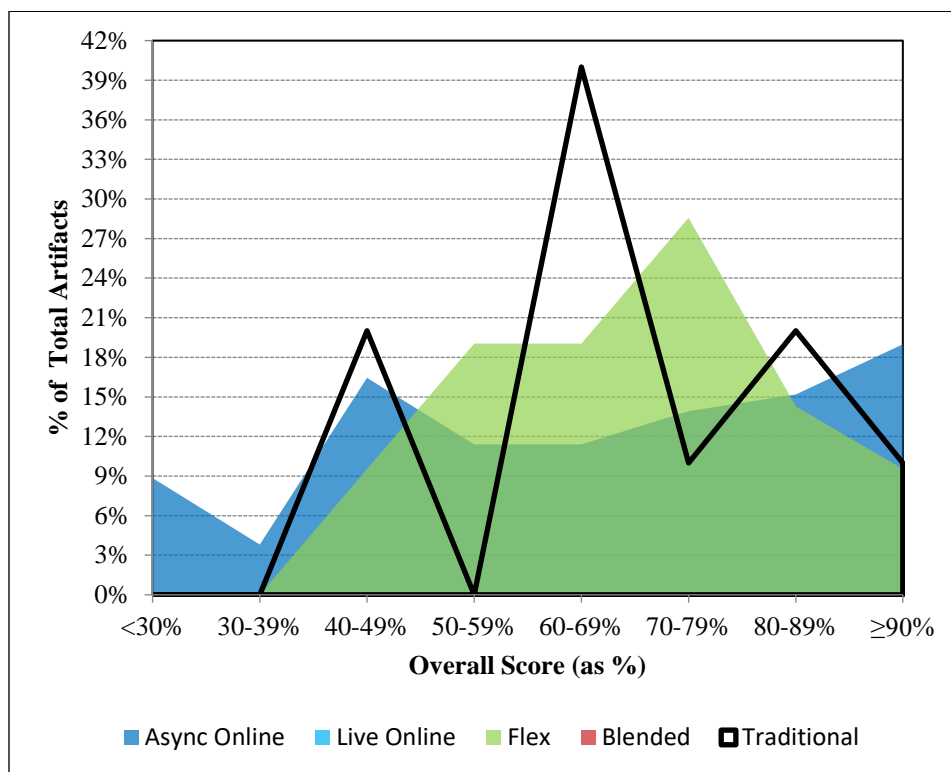


Figure 8. Score distribution by modality for SPN 1120.

3.1.2.3 Comparison by Campus/Site

Only one traditional site offered course sections during the Spring 2022 term, so no comparison could be completed.

3.1.3 Data Distribution & Longitudinal Study

3.1.3.1 Data Distribution

A histogram depicting the distribution of scores across each exam section is shown in Figure 9. All sections exhibit peaks above 90% except for Section II. Section II exhibits a more widely distributed set of scores with a peak at <30%.

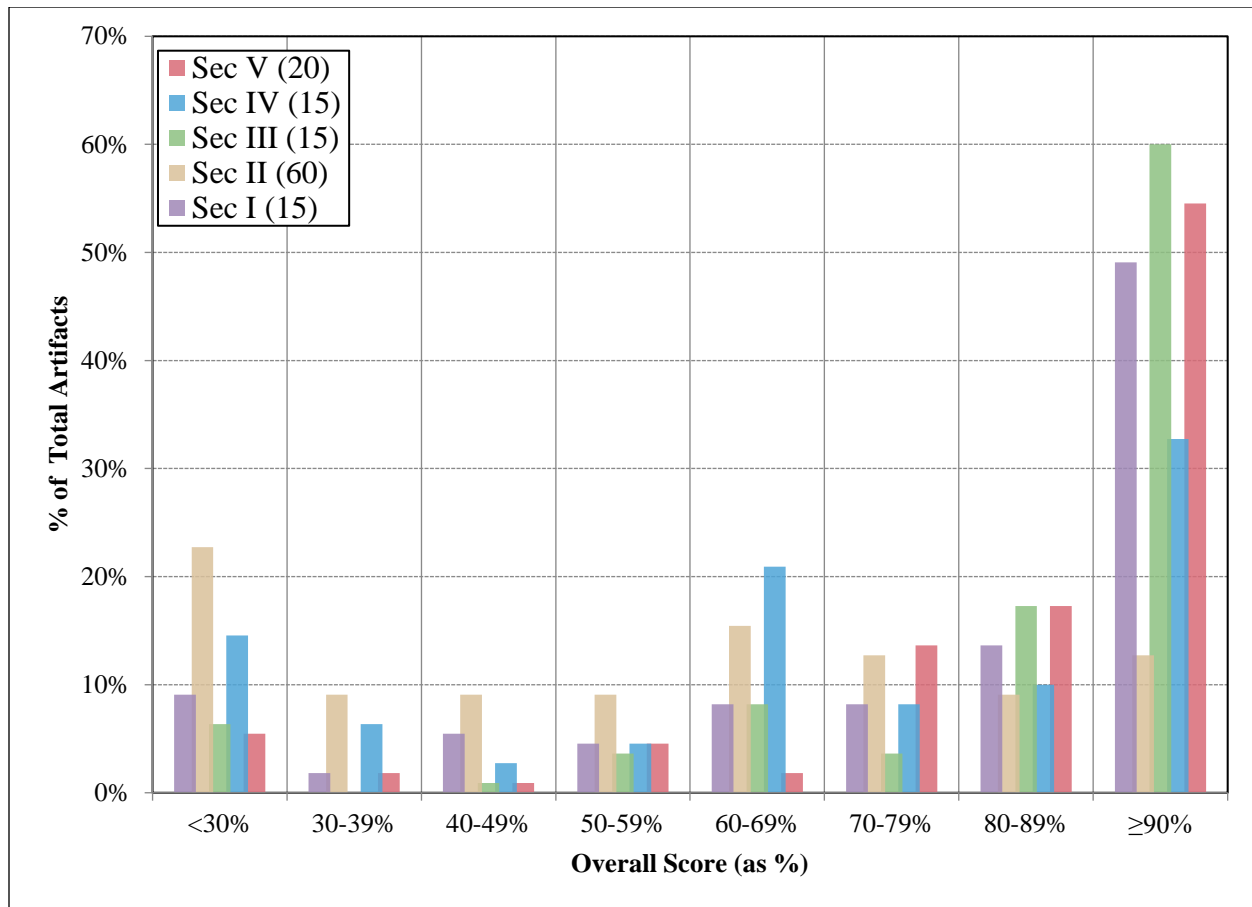


Figure 9. Histogram of SPN 1120 exam sections scores for spring 2022. Purple – Section I, Brown – Section II, Green – Section III, Blue – Section IV, and Red – Section V.

To describe the behavior of the section scores based on overall achievement, a color map, or binary raster image, was created by calculating the mean scores for each exam section as a function of combined score (Figure 10). The color represents the mean section score achieved overall score as shown in the x-axis as a percentage.

A review of the colormap is shown in Figure 10. At mid-level to low-level achievement, we can see that Section III exhibits the highest achievement, followed by Section V, and then Section I. Section II and IV exhibit declines even among higher overall performing students. For example, at an average overall score of 90-94%, Section II exhibits a mean score of 80%, while the other four sections range from 93% to 98%. Similarly, at 85-89%, Section II exhibits a mean score of 69%, while the others range from 88% to 95%.

	Section I	Section II	Section III	Section IV	Section V	
≥ 95%	99%	90%	99%	100%	97%	Scale
90-94%	98%	80%	95%	93%	94%	100%
85-89%	95%	69%	90%	88%	91%	90%
80-84%	89%	65%	94%	75%	86%	80%
75-79%	80%	53%	95%	69%	90%	70%
70-74%	73%	45%	87%	72%	85%	60%
65-69%	71%	34%	86%	55%	87%	50%
60-64%	72%	28%	86%	37%	84%	40%
55-59%	42%	15%	89%	63%	75%	30%
50-54%	31%	40%	74%	44%	72%	
< 50%	31%	23%	33%	14%	34%	

Figure 10. (Top) Colormap of mean scores for each exam section based on overall scoring bin for SPN 1121. An exam section with hotter colors (reds) compared with other sections means section achievement is stronger in that area than others. An exam section with colder colors (blues) compared with other sections means section achievement is weaker in that area than others.

3.1.3.2 Longitudinal Study

Further description of achievement over time in SPN 1120 is provided in Table 6 and Figure 11. Demographics and sample size vary by semester so it may be more reasonable to compare like semesters (Fall vs. Fall, Spring vs. Spring) (see <http://www.fsw.edu/facultystaff/assessment/history> for examples). In 18 terms, Sections I through V for the Spring 2022 term rank 13th, 18th, 11th, 18th, and 5th, respectively.

	Section I	Section II	Section III	Section IV	Section V	Overall
Fall 2013 (n=58)	12.1	40.4	12.0	10.6	16.2	91.3
Spring 2014 (n=90)	12.4	45.1	13.2	11.7	16.8	99.2
Fall 2014 (n=93)	11.8	40.5	12.8	11.1	16.5	92.8
Spring 2015 (n=73)	11.5	39.8	12.8	10.9	16.4	91.4
Fall 2015 (n=122)	10.8	41.8	12.4	11.5	15.2	91.6
Spring 2016 (n=141)	11.5	38.4	13.3	10.5	15.7	89.5
Fall 2016 (n=240)	11.9	39.8	12.8	10.9	15.2	90.6
Spring 2017 (n=89)	11.9	41.0	13.0	11.0	16.7	93.6
Fall 2017 (n=266)	11.9	41.1	12.9	11.5	15.4	92.8
Spring 2018 (n=107)	12.0	43.7	12.8	11.6	16.4	96.6
Fall 2018 (n=212)	10.9	39.4	12.5	10.4	15.9	89.1
Spring 2019 (n=80)	11.6	41.3	12.4	10.3	16.3	91.8
Fall 2019 (n=240)	12.0	37.7	13.2	11.3	16.7	90.8
Spring 2020 (n=123)	11.4	36.7	12.8	11.0	15.8	87.7
Fall 2020 (n=197)	11.2	36.9	12.4	10.1	15.7	86.4
Spring 2021 (n=109)	11.6	38.9	12.5	10.1	15.2	88.3
Fall 2021 (n=145)	11.2	37.6	12.4	10.2	15.5	86.9
Spring 2022 (n=110)	11.4	32.2	12.7	10.0	16.4	82.7

Table 6. Comparison of mean scores for SPN 1120 for fall 2013 through the present.

Because some exam sections have different maximum scores (15, 20, and 60), to see which of the five sections of the exam exhibits the strongest achievement it may be best to relate them in terms of percent. As a percentage, Section III exhibit the highest mean scores in 17 of 18 terms including the Spring 2022 term. Section II exhibits the lowest mean scores in 17 of 18 terms, spring 2019 being the only term in which it is not the lowest. For spring 2019, Section IV exhibits the lowest mean score. Overall mean scores have declined in recent years below 70% after hovering from fall 2013 through spring 2018 at around 75%.

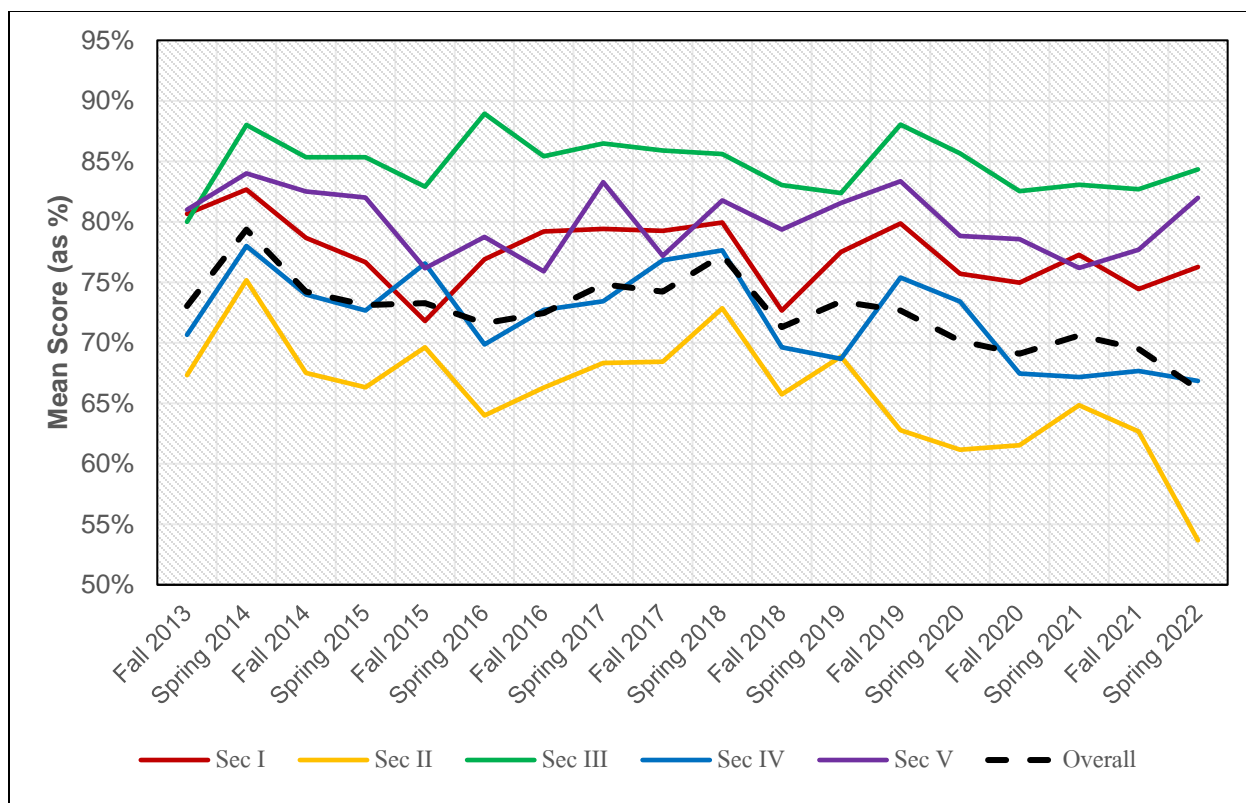


Figure 11. Comparison of mean scores (as percentage) for SPN 1120 through time from fall 2013 through the present.

3.2 ENTRANCE SKILLS STUDY

In the spring 2016 term, a brief assessment was piloted in two sections of SPN 1121 on the Thomas Edison campus prior to entering into any engaged study in the course. The purpose of the assessment was to assess student skills and retention of materials from SPN 1120 prior to beginning SPN 1121. The assessment consists of a 15-minute reading comprehension quiz mirroring that which is seen in Section II of the SPN 1120 common final exam. The study compared study skill level based on the instructor they had for the previous course (SPN 1120) in an effort to align student skill level upon entry into SPN 1121. The pilot program for this study was first included in the fall 2015 assessment report. This program continues and was most recently administered at the beginning of spring 2022, before the writing of this report and is included here. The assessment has now been administered in all traditional sections of SPN 1121 beginning with summer 2016 through spring 2022 on the Charlotte, Collier, and Thomas Edison campuses. Results of the cumulative study are shown in Figure 12.

In concept, upon entry to SPN 1121, all students should have at least a passing score (or nearly so) of the final exam from SPN 1120. The entrance skills study exhibits a range of mean scores across instructor that is diminished since previous years (Figure 12). Over time, the range between highest and lowest instructors has narrowed. In fall 2016, the range was 17.8. Following spring 2022, that gap has narrowed to 6.7.

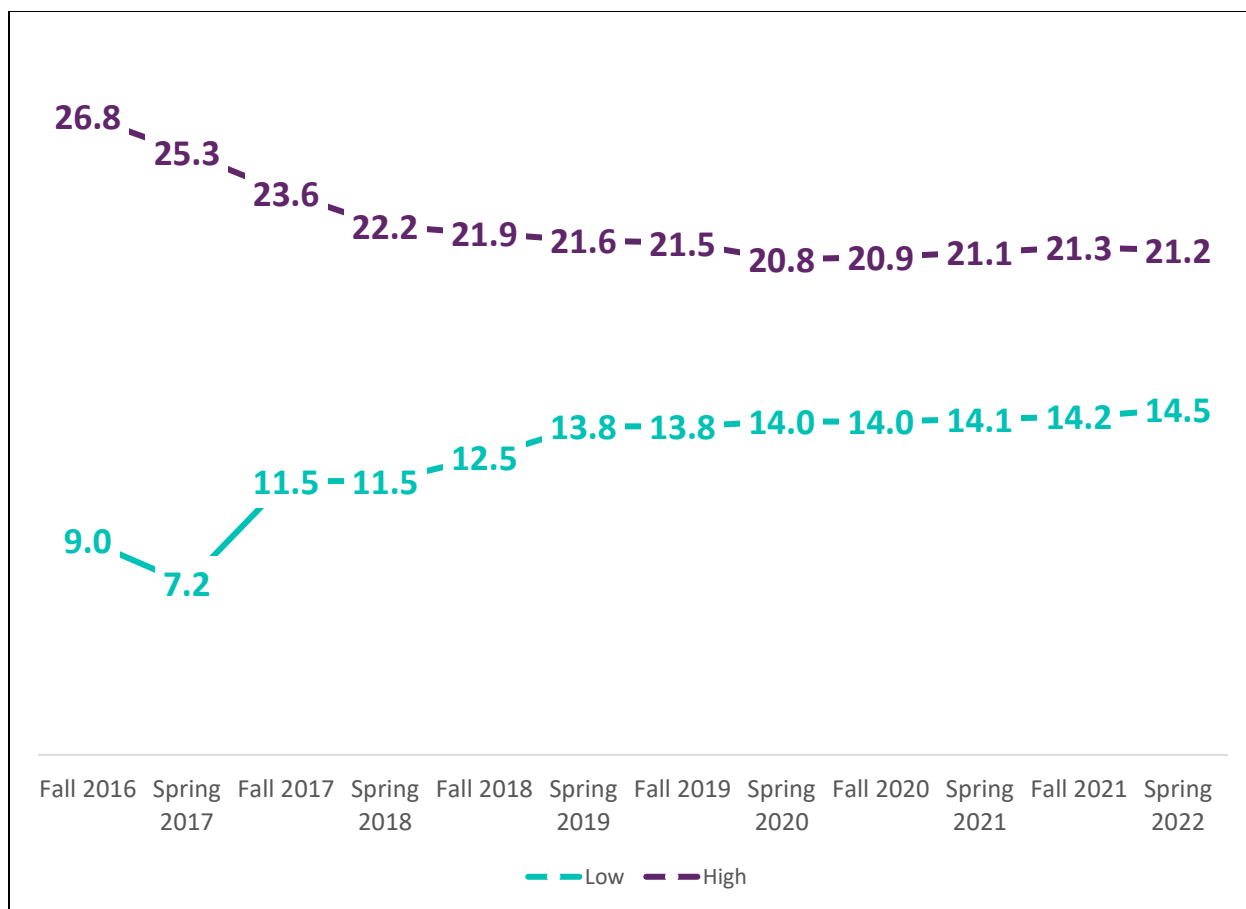


Figure 12. Comparison of achievement in entrance skills study assessment over time between highest scoring instructor (score listed is mean score) and lowest.

3.3 SPN 1121

3.3.1 Descriptive Statistics, Learning Outcomes, and Learning Objectives

Eight sections of SPN 1121 Beginning Spanish II were offered in spring 2022. Of those, artifacts were collected from a common final from 5 of 8 sections. There was no data available to collect from one section, and two others used a different set of questions for Section II, making analysis incomplete for those sections. A total of 144 students were enrolled in SPN 1121. Of those, 70 artifacts were collected representing a sample size of 48%.

Using a common course assessment, the FSW Spanish faculty defined the same three areas of interest for evaluation that apply to SPN 1121 as those used for SPN 1120. For details on each SLO, see 3.1.1. The only difference between SPN 1121 and SPN 1120 in terms of measuring these outcomes is that the exam sections differ slightly and are noted in Table 7 below.

The faculty established measure of success for SLO 1, 80% of students scoring 70% or higher in Section I, was not met as results exhibit 69% of artifacts score 70% or higher in the oral competency exam section (Section I) (Table 7, Figure 13). The faculty established measure of success for SLO 2, 80% of students scoring 70% or higher in reading only sections, Sections II, and VI, was not met. Results exhibit 46% of

artifacts scored 70% or higher in Section II and 77% of artifacts scored 70% or higher in Section VI. The faculty established measure of success for SLO 3, 80% of students scoring 70% or higher in writing only sections, Sections V and VII, was partially met. Results exhibit 71% of artifacts scored 70% or higher in Section V and 91% of artifacts scored 80% or higher in Section VII.

n = 56	Section I (Oral)	Section II (Reading)	Section III (Read/ Write)	Section IV (Read/ Write)	Section V (Writing)	Section VI (Reading)	Section VII (Writing)	Combined (Overall)
Goal	80% of artifacts scored $\geq 70\%$ for all sections							
% above Goal	69%	46%	74%	77%	71%	54%	91%	
Mean (as %)	76%	64%	77%	79%	76%	69%	85%	
Median (as %)	83%	67%	86%	85%	82%	73%	90%	
Section Score Max Possible	15	15	40	15	12	15	20	132
Section Mean	11.3	9.6	30.6	11.9	9.1	10.3	17.0	99.8
Section Median	12.5	10	34.25	12.75	9.875	11	18	106

Table 7. Percentage of student achievement level as per SLOs (SPN 1121).

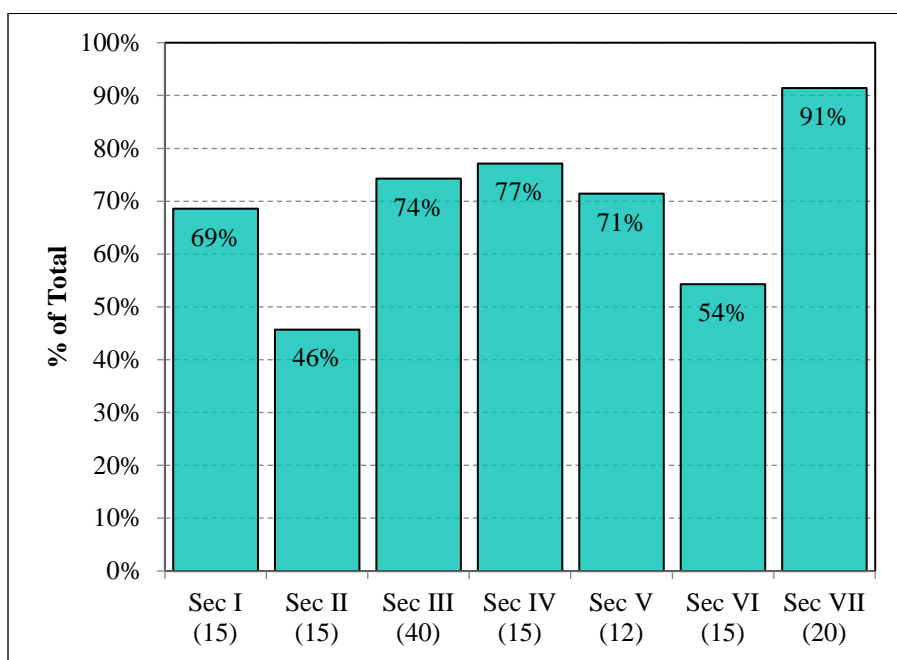


Figure 13. SLO achievement for SPN 1121 by exam section (Percentage of student achievement level as per SLOs). Purple denotes having met objective.

3.3.2 Exploratory Analysis & Significance Testing

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

3.3.2.1 Dual Enrollment (Concurrent) to Non-Dual Enrollment Comparison

No dual enrollment (concurrent) sections of the course were run during spring 2022 so no comparison study between dual enrollment and traditional courses could be completed.

3.3.2.2 Instructional Method Comparison

During the Spring 2022 semester, 36 total asynchronous online artifacts were collected, along with 0 live online, 0 flex, 0 blended, and 34 traditional. A comparison of basic statistics is provided in Table 8. Traditional artifacts mean scores are 81.1% points, which is 11.1%-points higher than the next highest, asynchronous online. Results of the ANOVA exhibit a statistically significant difference between modalities (see Table 9). Therefore, we can reject the null hypothesis that the mean scores at each site are equal, and we can conclude with a 95% confidence that the differences in scores are not solely due to chance. A distribution of scores by modality is shown in Figure 14.

	<i>Traditional</i>	<i>Async Online</i>	<i>Live Online</i>	<i>Flex</i>	<i>Blended</i>
n	34	36	0	0	0
Mean Score	107.1	92.9	~	~	~
Mean Score (as %)	81.1%	70.4%	~	~	~

Table 8. Comparison of descriptive statistics by instructional method.

Source of Variation	Sum of squared differences	df	Mean Squares	F _{obs}	p-value	F _{crit}
Between Sites	2013.2	1	2013.2	6.34	0.014	3.98
Within Sites	21604.9	68	317.7			
Total	23618.1					

Table 9. Results of one-way ANOVA of mean scores by instructional method for SPN 1121.

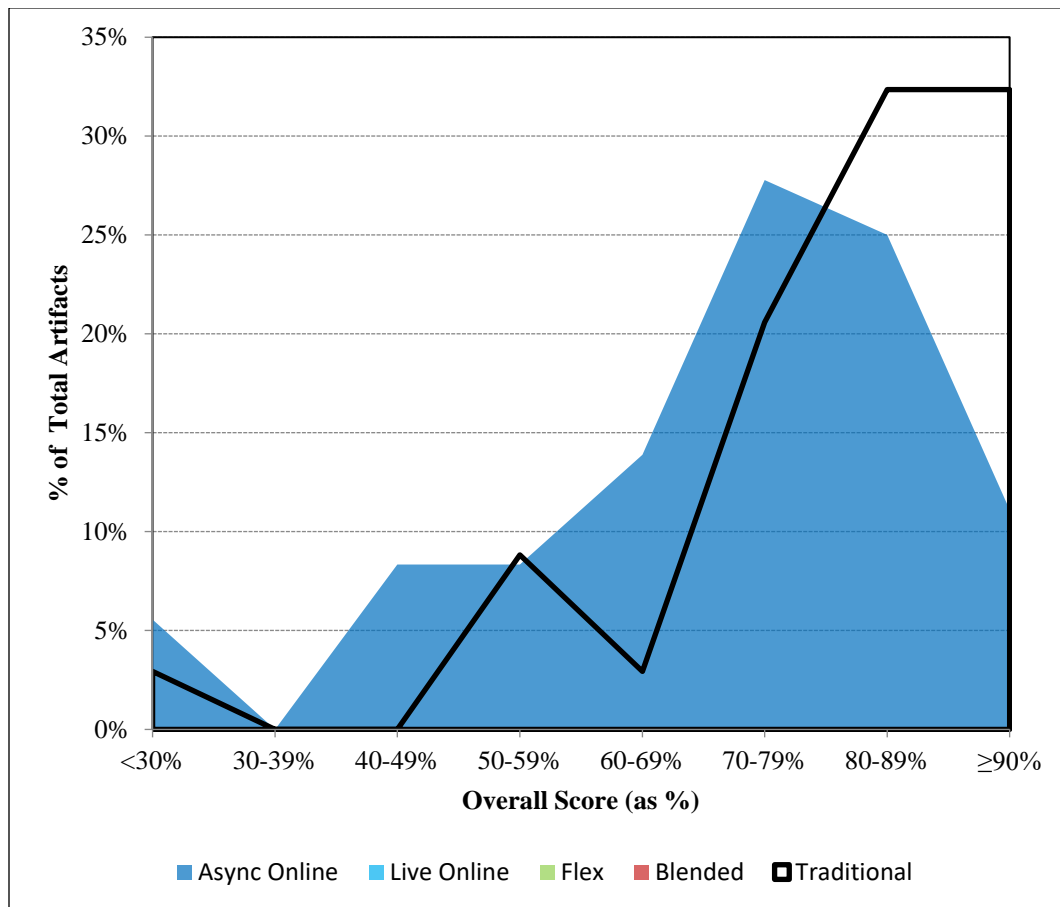


Figure 14. Score distribution by modality for SPN 1121.

3.3.2.3 Comparison by Campus/Site

During the Spring 2022 semester, 0 Charlotte campus artifacts were collected, along with 13 Collier campus, 0 Hendry Glades, and 21 Thomas Edison (Lee) campus. A comparison of basic statistics is provided in Table 10. The Thomas Edison (Lee) campus artifacts are 2%-points higher than Collier campus. Results of the ANOVA do not exhibit a statistically significant difference between sites (see Table 11). Therefore, we cannot reject the null hypothesis that the mean scores in each site are equal and we cannot conclude with a 95% confidence that the differences in scores are not solely due to chance. A score distribution by modality is shown in Figure 15.

	Charlotte	Collier	Hendry Glades	Lee
n	0	13	0	21
Mean Score	~	105.5	~	108.0
Mean Score (as %)	~	79.9%	~	81.9%

Table 10. Comparison of descriptive statistics by site.

Source of Variation	Sum of squared differences	df	Mean Squares	F _{obs}	p-value	F _{crit}
Between Sites	29.9	1	29.9	0.12	0.733	4.15
Within Sites	8078.2	32	252.4			
Total	8108.1					

Table 11. Results of one-way ANOVA of mean scores in each modality for SPN 1121.

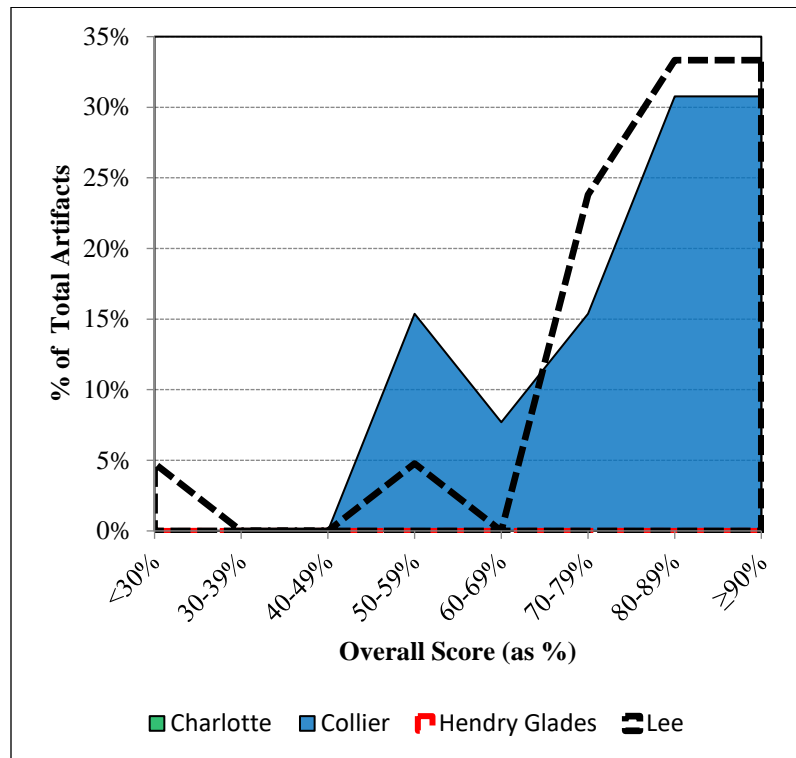


Figure 15. Score distribution by modality for SPN 1121.

3.3.3 Data Distribution & Longitudinal Study

3.3.3.1 Data Distribution

A histogram depicting the distribution of scores across each exam section is shown in Figure 16. Sections I, III, IV, V, and VII exhibit peaks centered on $\geq 90\%$. Sections II, III, V, and VI exhibit multiple peaks at both higher scoring ranges and lower. For example, Section II exhibits a peak at both $\geq 90\%$ and 40-49%.

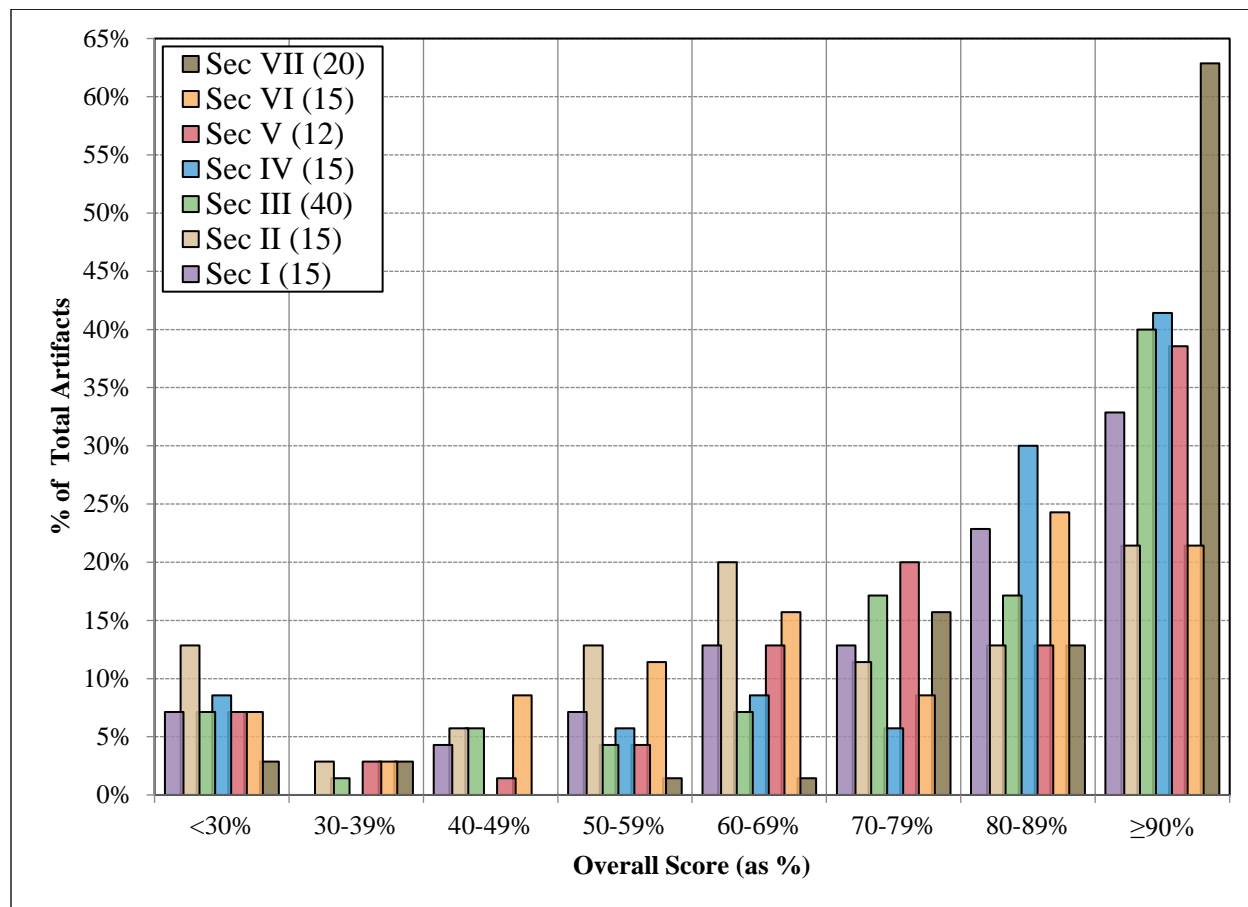


Figure 16. Histogram of SPN 1121 exam sections scores for spring 2022. Purple – Section I, Brown – Section II, Green – Section III, Blue – Section IV, Red – Section V, Orange – Section VI, and Black – Section VII.

To describe the behavior of the section scores based on overall achievement, a color map, or binary raster image, was created by calculating the mean scores for each exam section as a function of combined score (Figure 17). The color represents the mean section score achieved overall score as shown in the x-axis as a percentage.

A review of the colormap is shown in Figure 17. Here, we can see that Sections IV and VII overperform at low overall scores compared to the other sections. For example, for artifacts with an overall mean score of 65-69%, the two sections exhibit mean scores of 82% and 82%, respectively, while the other sections range from 42% to 76%. Similarly, Sections II and VI underperform at higher levels compared with other sections. At 80-84%, these sections exhibit mean scores of 68% and 78%, while all others range from 83%-91%.

	Section I	Section II	Section III	Section IV	Section V	Section VI	Section VII	Scale
≥ 95%	98%	93%	98%	96%	100%	94%	99%	100%
90-94%	94%	90%	95%	96%	95%	83%	93%	90%
85-89%	94%	77%	89%	93%	82%	82%	92%	80%
80-84%	83%	68%	86%	85%	84%	78%	91%	70%
75-79%	78%	70%	74%	80%	84%	65%	89%	60%
70-74%	61%	60%	74%	79%	67%	72%	88%	50%
65-69%	61%	42%	60%	82%	76%	54%	82%	40%
60-64%	63%	42%	54%	69%	69%	53%	77%	30%
55-59%	59%	42%	66%	69%	31%	53%	78%	
50-54%	50%	29%	54%	48%	49%	31%	50%	
< 50%	24%	13%	28%	21%	38%	25%	38%	

Figure 17. (Top) Colormap of mean scores for each exam section based on overall scoring bin for SPN 1121. An exam section with hotter colors (reds) compared with other sections means section achievement is stronger in that area than others. An exam section with colder colors (blues) compared with other sections means section achievement is weaker in that area than others.

3.3.3.2 Longitudinal Study

Further description of achievement over time in SPN 1121 is provided in Table 14 and Figure 18). Both demographics of students and student count vary by semester. It may be more reasonable to compare like semesters (Fall vs. Fall, Spring vs. Spring) (see <http://www.fsw.edu/facultystaff/assessment/history> for further details). In 18 terms, Sections I through VII for spring 2022 ranks 10th, 6th, 6th, 1st, 2nd, 5th, and 2nd highest, respectively.

	Section I Oral	Section II Reading	Section III Read/Write	Section IV Read/Write	Section V Writing	Section VI Reading	Section VII Writing	Overall
F 2013 (n=10)	11.5	9.5	34.2	9.5	7.5	9.6	14.2	96.0
Sp 2014 (n=115)	12.3	9.6	32.3	11.4	5.7	10.3	15.4	97.0
F 2014 (n=25)	11.9	10.7	30.0	10.6	9.5	11.6	16.1	100.5
Sp 2015 (n=58)	12.2	10.6	31.1	11.4	8.5	10.7	16.4	100.9
F 2015 (n=17)	11.5	10.6	29.9	11.3	8.1	9.9	16.4	97.7
Sp 2016 (n=109)	10.7	9.5	30.8	10.5	8.3	9.0	14.6	93.5
F 2016 (n=42)	11.5	9.8	25.9	10.7	7.2	9.7	15.6	90.3
Sp 2017 (n=140)	11.8	8.6	29.2	10.3	7.9	8.7	15.1	91.6
F 2017 (n=45)	10.6	9.1	27.3	11.8	8.1	10.2	15.7	92.8
Sp 2018 (n=136)	12.2	9.3	29.0	11.2	8.4	10.1	16.7	96.9
F 2018 (n=67)	10.4	8.7	27.9	10.2	8.2	8.3	15.9	89.6
Sp 2019 (n=185)	11.7	9.2	30.8	11.1	8.9	9.8	17.3	98.7
F 2019 (n=63)	10.9	9.2	24.3	10.7	8.0	9.5	15.5	88.0
Sp 2020 (n=168)	10.5	7.7	24.9	11.5	7.4	9.3	16.3	87.4
F 2020 (n=83)	11.2	8.8	22.5	11.3	7.4	10.7	16.1	87.9
Sp 2021 (n=138)	10.3	8.8	24.7	10.8	7.3	8.9	15.2	86.0
F 2021 (n=56)	11.1	8.6	25.2	10.4	8.2	9.6	15.6	88.6
Sp 2022 (n=70)	11.3	9.6	30.6	11.9	9.1	10.3	17.0	99.8

Table 12. Comparison of mean scores for SPN 1121 for fall 2013 through the present.

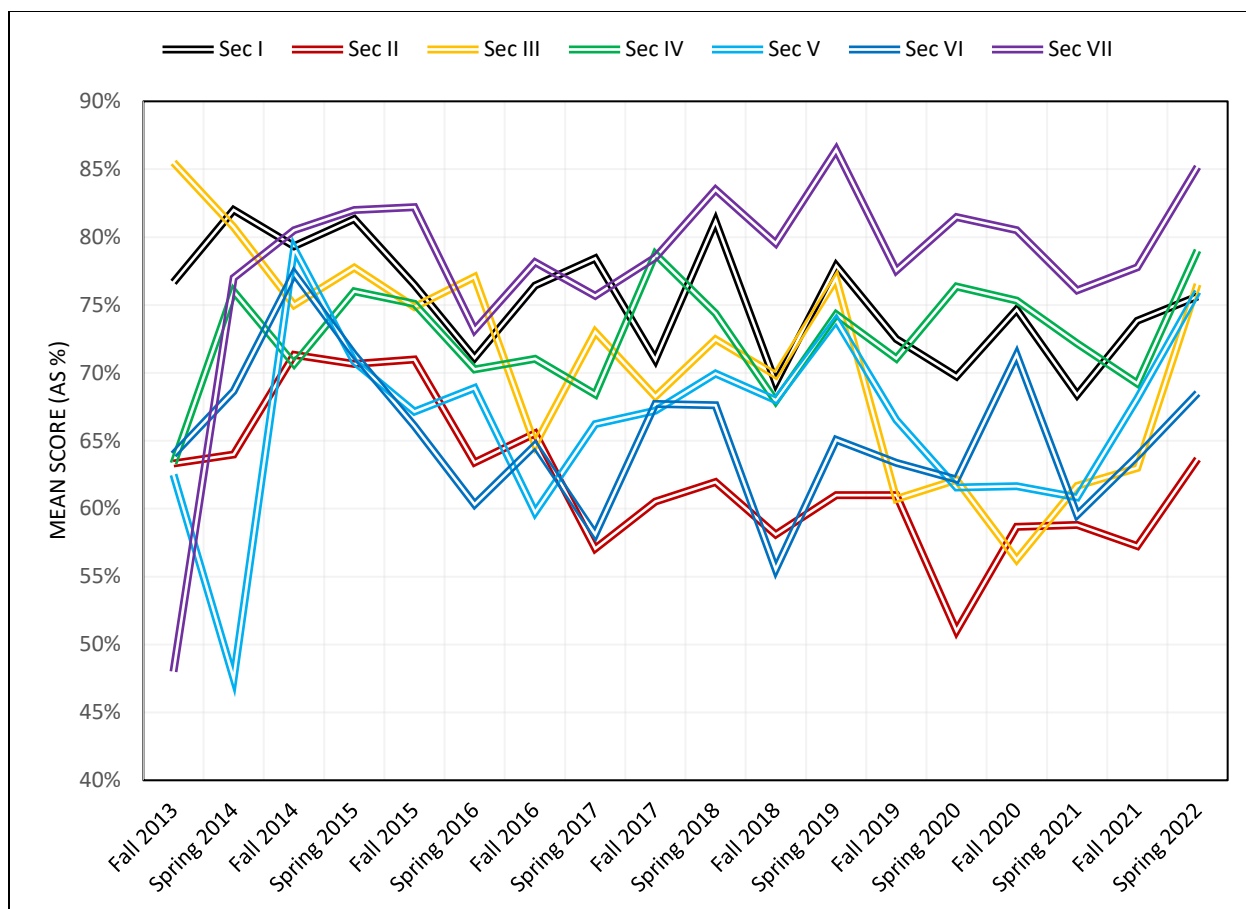


Figure 18. Comparison of mean scores (as percentage) for SPN 1121 through time.

4 CONCLUSIONS

Florida SouthWestern's Foreign Language Department employs a common course assessment in both French and Spanish courses to measure student progress in course level objectives to improve instruction. What follows is a drilldown of findings for both disciplines (French and Spanish) for the spring 2022 assessment.

4.1 FRENCH

A drill-down of FRE 1120 results are as follows:

1. During the Spring 2022 term, two sections of FRE 1120 were offered, although there was no data available in one of the sections to collect. A total of in AY 2017-18 was recorded in all sections of FRE 1120 accounting for 15 artifacts, or 43% of the population.
2. In a study of Learning Outcome (LO) achievement, results exhibit mean scores across the five LOs ranging from 2.2 to 2.6 (Figure 1), compared with 2.5-2.8 in fall 2021, 2.8-3.0 in spring 2021, 2.0-2.3 in fall 2020, 2.7-3.0 of spring 2020, 2.2-2.6 in fall 2019, 2.3 to 2.7 in fall 2018. It is important to note that each LOs in this study are arranged in order of advancement for the course. LO 1 is encountered early in the term with each LO encountered sequentially to LO 5, which is studied near the term's end.

3. Only one section of data was reported, so no dual enrollment to traditional comparison could be completed.
4. Only one section of data was reported, so no modality comparison could be completed.
5. Only one section of data was reported, so no site comparison could be completed.
6. In a study of score distribution, scores are centered on centered on 15/15 with a strong negative skew meaning scores are tending strongly towards higher values. In total, 33% of artifacts score 15/15.
7. In a study of achievement based on disposition survey question response, results indicate a weak-to-moderate sense of students self-reporting a strong understanding of the topic that correlates with actual achievement.
8. In a longitudinal study, in eight terms, LOs 1 through 5 for the Spring 2022 term rank 5th, 6th, 6th, 6th, and 7th respectively.

A drill-down of FRE 1121 results are as follows:

1. During the Spring 2022 term, one section of FRE 1121 was offered. The data collection accounts for 32 artifacts, or 67% of the population of 48. One course section did not utilize the full assessment.
2. In a study of Learning Outcome (LO) achievement, results exhibit mean scores across the five LOs ranging from 2.6 to 2.8. It is important to note that each LOs in this study are arranged in order of advancement for the course. LO 1 is encountered early in the term with each LO encountered sequentially to LO 5, which is studied near the term's end.
3. While one dual enrollment (concurrent) section was run during spring 2022, the assessment in full was not utilized, so no comparison study between dual enrollment and traditional courses could be completed.
4. While two sections were offered, one in Flex, and one Traditional, sample size is limited in one case, making comparisons limited in interpretation.
5. Only one site offered sections other than online sections, so no comparison by site could be completed.
6. In a study of achievement based on disposition survey question response, results yield a clearer sense of just how many students self-report a strong understanding of the topic and if they appear to be capable of demonstrating it. There is a moderate correlation between self-report and achievement.
7. In a longitudinal study, in six terms, LOs 1 through 5 for the Spring 2022 term rank 2nd, 2nd, 3rd, 3rd, and 1st, respectively.

4.2 SPANISH

A drill-down of SPN 1120 results are as follows:

1. During the Spring 2022 semester 9 sections of SPN 1120 *Beginning Spanish I* were offered. Of those, artifacts from a common final were collected from 9 sections. A total of 167 students were enrolled in SPN 1120. Of those, 110 artifacts were collected representing a sample size of 66% of the population.
2. Achievement of 80% of artifacts scoring 70% or better (SLO 1): Achievement was nearly met as results exhibit 71% of artifacts score 70% or higher in the oral competency exam section.
3. Achievement of 80% of artifacts scoring 70% or better (SLO 2): Achievement was partially met. Results exhibit 35% of artifacts scored 70% or higher in Section II and 81% of artifacts scored 70% or higher in Section III.

4. Achievement of 80% of artifacts scoring 70% or better (SLO 3): Achievement was partially met. Results exhibit 51% of artifacts scored 70% or higher in Section IV and 85% of artifacts scored 70% or higher in Section V.
5. No dual enrollment (concurrent) sections of the course were run during spring 2022 so no comparison study between dual enrollment and traditional courses could be completed.
6. During the Spring 2022 semester, 79 total asynchronous online artifacts were collected, along with 0 live online, 21 flex, 0 blended, and 10 traditional. Traditional artifacts are 0.3%-points higher than the next highest, flex, followed by asynchronous online at 64.8%. Results of the ANOVA do not exhibit a statistically significant difference between sites.
7. Only one traditional site offered course sections during the Spring 2022 term, so no site comparison could be completed.
8. In a study of score distribution by section, all sections exhibit peaks above 90% except for Section II. Section II exhibits a more widely distributed set of scores with a peak at <30%.
9. In a study of section score distribution based on overall score, at mid-level to low-level achievement, we can see that Section III exhibits the highest achievement, followed by Section V, and then Section I. Section II and IV exhibit declines even among higher overall performing students. For example, at an average overall score of 90-94%, Section II exhibits a mean score of 80%, while the other four sections range from 93% to 98%. Similarly, at 85-89%, Section II exhibits a mean score of 69%, while the others range from 88% to 95%.
10. In a longitudinal study of data distribution through time, in 18 terms, Sections I through V for the Spring 2022 term rank 13th, 18th, 11th, 18th, and 5th, respectively.
11. In a study assessing student skills and retention of materials from SPN 1120 prior to beginning SPN 1121, over time, the range between highest and lowest instructors has narrowed. In fall 2016, the range was 17.8. Following spring 2022, that gap has narrowed to 6.7.

A drill-down of SPN 1121 results are as follows:

1. Eight sections of SPN 1121 Beginning Spanish II were offered in spring 2022. Of those, artifacts were collected from a common final from 5 of 8 sections. There was no data available to collect from one section, and two others used a different set of questions for Section II, making analysis incomplete for those sections. A total of 144 students were enrolled in SPN 1121. Of those, 70 artifacts were collected representing a sample size of 48%.
2. Achievement of 80% of artifacts scoring 70% or better (SLO 1): Achievement was not met as results exhibit 69% of artifacts score 70% or higher in the oral competency exam section.
3. Achievement of 80% of artifacts scoring 70% or better (SLO 2): Achievement was not met. Results exhibit 46% of artifacts scored 70% or higher in Section II and 77% of artifacts scored 70% or higher in Section VI.
4. Achievement of 80% of artifacts scoring 70% or better (SLO 3): Achievement was partially met. Results exhibit 71% of artifacts scored 70% or higher in Section V and 91% of artifacts scored 80% or higher in Section VII.
5. No dual enrollment (concurrent) sections of the course were run during spring 2022 so no comparison study between dual enrollment and traditional courses could be completed.
6. During the Spring 2022 semester, 36 total asynchronous online artifacts were collected, along with 0 live online, 0 flex, 0 blended, and 34 traditional. Traditional artifacts mean scores are 81.1% points, which is 11.1%-points higher than the next highest, asynchronous online. Results of the ANOVA exhibit a statistically significant difference between modalities.
7. During the Spring 2022 semester, 0 Charlotte campus artifacts were collected, along with 13 Collier campus, 0 Hendry Glades, and 21 Thomas Edison (Lee) campus. The Thomas Edison (Lee)

campus artifacts are 2%-points higher than Collier campus. Results of the ANOVA do not exhibit a statistically significant difference between sites.

8. In a study of score distribution by section, Sections I, III, IV, V, and VII exhibit peaks centered on $\geq 90\%$. Sections II, III, V, and VI exhibit multiple peaks at both higher scoring ranges and lower. For example, Section II exhibits a peak at both $\geq 90\%$ and 40-49%.
9. In a study of section score distribution based on overall score, we can see that Sections IV and VII overperform at low overall scores compared to the other sections. For example, for artifacts with an overall mean score of 65-69%, the two sections exhibit mean scores of 82% and 82%, respectively, while the other sections range from 42% to 76%. Similarly, Sections II and VI underperform at higher levels compared with other sections. At 80-84%, these sections exhibit mean scores of 68% and 78%, while all others range from 83%-91%.
10. In a longitudinal study of data distribution through time, in 18 terms, Sections I through VII for spring 2022 ranks 10th, 6th, 6th, 1st, 2nd, 5th, and 2nd highest, respectively.

5 REFERENCES

- Cohen, J. 1988. Statistical power analysis for the behavioral sciences (2nd ed.). Lawrence Earlbaum Associates, Hillsdale, NJ.
- Davis, J.C. 1973. Statistics and Data Analysis in Geology. John Wiley & Sons, New York, New York, 564 pp.
- 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.
- Starkweather, J. D. 2010. Introduction to Statistics for the Social Sciences. In: Research and Statistical Support. Retrieved from http://www.unt.edu/rss/class/Jon/ISSS_SC/.
- Wilkinson, L. 1999. APA Task Force on Statistical Inference. Statistical Methods in Psychology Journals: Guidelines and Explanations. *American Psychologist* 54 (8), 594–604.