#4. Executive Summary: Undergraduate Program Assessment: Alternative Delivery

Course: Math 122, Intro to Stats   Alternative Format: Other   Explain "Other" if selected: Dual Credit   **Department: Math   Date: Fall 2023 – Spring 2024**
Members (must include more than course instructor only) **involved with analysis of artifacts: Brian Albright, Ed Reinke**
See #3 Assessment Plan: Alternative Delivery: Student Outcomes for: *a) Course requirement evaluation; b) Student Outcome; c) Question(s); e) Methodology*
Analysis of artifacts: 1). Student Outcome*: **PERFORMANCE CRITERIA*** - How was data analyzed? (attach rubrics/scoring tools if used).* Each dual credit teacher submitted responses to a Chi-square hypothesis testing problem given on a test or quiz. These problems were graded using a rubric. The same problem from face-to-face students were also graded using the rubric. Scores for each category were averaged on a Likert-type scale. Scores from the dual credit students were compared to those from face-to-face students using a 2-sample T-test.   2). **COMPARABILITY** – *How did you determine if the outcomes of the traditional and alternative deliver modes were comparable?* (note "na" if delivery modes were not compared). Scores were compared using a 2-sample T-test
Summary of RESULTS*:   1). *Restate the assessment question(s) (from the Assessment plan):* Can students properly perform a Chi-square hypothesis test?   2). *Summarize the assessment results. A narrative summary is required. Charts, tables or graphs are encouraged but optional.* Detailed scores are shown in the attached Excel workbook. The scores are summarized below   Face-to-Face Students   <table><tr><td>Category</td><td>n</td><td>Mean</td><td>StDev</td></tr><tr><td>States Hypotheses</td><td>34</td><td>2.58</td><td>0.857</td></tr><tr><td>Calculates Test Stat</td><td>34</td><td>2.62</td><td>0.739</td></tr><tr><td>Conclusion</td><td>34</td><td>2.56</td><td>0.704</td></tr></table>   Dual Credit Students   <table><tr><td>Category</td><td>n</td><td>Mean</td><td>StDev</td></tr><tr><td>States Hypotheses</td><td>34</td><td>2.38</td><td>0.954</td></tr><tr><td>Calculates Test Stat</td><td>34</td><td>2.53</td><td>0.896</td></tr><tr><td>Conclusion</td><td>34</td><td>2.00</td><td>0.985</td></tr></table>   The results of the 2-sample T-tests are shown below (we tested the hypotheses that means are equal vs means are not equal)   <table><tr><td>Category</td><td>P-value</td></tr><tr><td>States Hypotheses</td><td>0.353</td></tr><tr><td>Calculates Test Stat</td><td>0.659</td></tr><tr><td>Conclusion</td><td>0.009</td></tr></table>   3). **INTERPRETATION*** - *Discuss how the results answer the assessment question(s).* We conclude that there is not a statistically significant difference between scores in the categories of States Hypotheses and Calculates Test Stat. There is, however, a difference in the category of Conclusion.

4). Observations made that were not directly related to the question(s). (*i.e. interrater reliability of the scoring tool was low*) Dual credit students did not do as well overall as compared to previous years. The decline, is small and not concerning.

5). ***How did the outcomes of the traditional and alternative format analysis compare?*** (note "na" if delivery modes were not compared). **They were not significantly different from a practical standpoint.**

Sharing of Results:
When were results shared? Date: **6/5/2024**
How were the results shared? (i.e. met as a department) Shared via email.
Who were results shared with? (List names): Brian Albright, Ed Reinke

Discussion of Results –Summarize your conclusions including:
1. **ACTION*****-** *How will what was learned from the assessment impact the alternative format teaching of this course starting the next academic year?* Dual credit students did fine this year, so no change is required.
2. **IMPACT*****-** *What is the anticipated impact of the* **ACTION*** *on student achievement of the learning outcome in the next academic year?* N/A
3. **BUDGET IMPLICATIONS** *– Indicate budget requirements necessary for the successful implementation of the* **ACTION*** (i.e. an additional staff person, new equipment, additional sections of a course). None

Submitted via email to Assessment Committee Chair by: 6/5/2024
Reviewed by the Assessment Committee (date): 6/24/24

Submitter notified/additional action needed: BUDGET IMPLICATIONS – Assessment Committee Chair notified appropriate Dean: na Approved & Posted to Assessment site: 6/24/24