Standardized Assessment Measures for the Ferris Learning Outcomes

3) **Pre-test / Post-test**

**DESCRIPTION:** An assessment instrument based upon the primary course materials is given to all students near the beginning and end of instruction. The number of student scores meeting or exceeding a threshold score of 70% correct is determined for each time point. The average class score at each time point is calculated and compared using a paired t-test. Cohen's $d$ is used to determine the magnitude of any effect sizes found. The raw student scores on these tests are recorded using the PREPOST data workbook.

**SCORING:** The student post-test scores are then transformed into rubric scores as indicated in the following scheme:

- **0) Deficient** $0\% \leq \text{post-test} < 40\%$ correct
- **1) Beginning** $40\% \leq \text{post-test} < 55\%$ correct
- **2) Progressing** $55\% \leq \text{post-test} < 70\%$ correct
- **3) Proficient** $70\% \leq \text{post-test} < 85\%$ correct
- **4) Advanced** $85\% \leq \text{post-test} \leq 100\%$ correct

**ANALYSIS:** The number of student scores meeting or exceeding a threshold rubric score of 3.0 is determined for each time point. The average and 95% confidence interval of the class rubric scores is calculated and classified as indicated in the following scheme:

- **0) Deficient** $0.0 \leq \text{class average} < 1.0$
- **1) Beginning** $1.0 \leq \text{class average} < 1.8$
- **2) Progressing** $1.8 \leq \text{class average} < 2.6$
- **3) Proficient** $2.6 \leq \text{class average} < 3.4$
- **4) Advanced** $3.4 \leq \text{class average} \leq 4.0$

A one factor, two-tailed t-test is used to evaluate the statistical significance of differences between class average and the threshold score of 2.6 points. Cohen's $d$ is used to determine the magnitude of any effect sizes found.

**CRITERION LEVELING:** The expectations of the criteria of success depend upon the level of the course assessed. The target thresholds for each level are defined as follows:

- **100-level**
  - 50% of individuals should be proficient or better (3 on the rubric) by the end of instruction
  - The class average should fall within the progressing level (threshold $\geq 1.8$

- **200-level**
  - 60% of the individuals should be proficient or better (3 on the rubric) by the end of instruction
  - The class average should fall within the proficient level (threshold $\geq 2.6$

- **300-level**
  - 70% of individuals should be proficient or better (3 on the rubric) by the end of instruction
  - The class average should fall within the proficient level (threshold $\geq 2.6$

- **400-level**
  - 80% of individuals should be proficient or better (3 on the rubric) by the end of instruction
  - The class average should fall within the proficient level (threshold $\geq 2.6$)