SAINT LOUIS UNIVERSITY.

Program Assessment: *Annual Report*

Program(s): MS in Health Data Science

Department: SLUCOR

College/School: SLUCOR

Date: 6/1/2018

Primary Assessment Contact: Dr. Leslie Hinyard

1. Which program student learning outcomes were assessed in this annual assessment cycle?

We assessed the following learning outcomes:

I. Apply appropriate statistical methods

II. Apply appropriate data management strategies

III. Critically evaluate methodological designs

2. What data/artifacts of student learning were collected for each assessed outcome? Were Madrid student artifacts included?

I. Apply appropriate statistical methods

- We utilized the final exam from HDS 5310 Analytics and Statistical Programming.
- We utilized the final brief report from HDS 5960 Capstone.

II. Apply appropriate data management strategies

- We utilized the final project ORES 5160 Data Management.
- We utilized the final brief report from HDS 5960 Capstone.

III. Critically evaluate methodological designs

- We utilized the final paper from ORES 5300 Foundations of Outcomes Research I.
- We utilized the final brief report from HDS 5960 Capstone.

3. How did you analyze the assessment data? What was the process? Who was involved?
NOTE: If you used rubrics as part of your analysis, please include them in an appendix.

We analyzed the data using the rubric that we developed (please see appendix). We assessed the maximum of 10% of the students, 5 students, all of the students in the course. All assignments used for assessment were completed by two faculty members and a third faculty member if there was disagreement between the assessors.

4. What did you learn from the data? Summarize the major findings of your analysis for each assessed outcome.
NOTE: If necessary, include any tables, charts, or graphs in an appendix.

We have learned that students need to better define their statistical techniques, outcome variables and provide more data visualization. We also identified that our students were able to apply appropriate data management strategies correctly but they will need to better describe steps taken to clean and extract

data. Lastly, we identified that our students were able to critically evaluate methodological designs but will need to identify more robust techniques and utilize more advance, cutting-edge techniques (please see appendix).

5. How did your analysis inform meaningful change? How did you *use the analyzed data to make or implement recommendations for change* in pedagogy, curriculum design, or your assessment plan?

We plan to meet in August before the start of the semester to discuss changes that need to be implemented to the HDS curriculum.

6. Did you follow up ("close the loop") on past assessment work? If so, what did you learn? *(For example, has that curriculum change you made two years ago manifested in improved student learning today, as evidenced in your recent assessment data and analysis?)*

The HDS program is currently in its second year. This is the first formal assessment.

IMPORTANT: Please submit any revised/updated assessment plans to the University Assessment Coordinator along with this report.

MS in Health Data Science Program Assessment Rubric

#	MS in Health Data Science Program Learning Outcomes	High Mastery (3)	Average Mastery (2)	Low Mastery (1)
1	Identify and define an analytic/operational question.	• Clearly identifies high value question • Question identifies a gap in the current literature/knowledge base • Background and contextual information flow seamlessly into a well stated analytic/operational question that has potential to add to the professional knowledge base • Identifies dataset that can answer the question	• Identifies question correctly but more could have been done with background information and dataset.	• Question lacks clarity and is not answerable • Dataset does not answer the question
2	Apply appropriate statistical methods.	• Utilize appropriate statistical methods to analyze data in the chosen content area • Clearly describes the types of variables used • Clearly describes the outcomes of the data analysis • Display the data analysis visually using a graph, table, etc. • Factors that may have contributed to the data	• Most statistical methods were correctly applied but more could have been done with the data.	• Some statistical methods were applied but with significant errors or omissions.

		obtained • Implications of the data analyzed		
3	Apply appropriate data management strategies.	• Utilizes appropriate data management strategies to analyze data in the chosen content area • Clearly describes steps utilized to extract data • Clearly describes steps utilized to clean data	• Most data management strategies to analyze data in the chosen content area were correctly applied but more could have been done with the data.	• Does no utilize appropriate data management strategies to analyze data in the chosen content area • Does not describe steps utilized to extract data • Does not describe steps utilized to clean data
4	Critically evaluate methodological designs.	• Original, clear, creative, and innovative • Provides thorough and comprehensive description • Flows from question and theory • Uses state-of-the-art tools, techniques, or approaches • Applies or develops new methods, approaches, techniques tools, devices, or instruments • Uses multiple methods • Analysis is sophisticated, robust, and precise • Uses advanced, powerful, cutting-edge techniques	• Appropriate for the problem • Uses existing methods, techniques, or approaches in correct and creative ways • Discusses why method was chosen • Analysis is objective, thorough, appropriate, and correct • Uses standard methods	• Lacks a method • Uses wrong (statistical) method for the problem • Uses (statistical) method incorrectly • Methods do not relate to question or theory • Is fatally flawed or has major confound • Does not describe or describes poorly (insufficient detail) • Is minimally documented Shows basic competence • Analysis is wrong, inappropriate, or incompetent
5	Understand the organization and financing of healthcare, and resulting datasets	• Utilizes datasets correctly • Utilizes codes appropriately	• Utilizes datasets minimally	• Does not utilize appropriate dataset

		• Provides necessary historical and background information on your issue • Includes data that are most important for your audience • Presents different sides of controversial issues, if any • States current state of law or policy • Includes data or information that is necessary to the reader's understanding • Presents necessary data in best format (text, bar graph, line graphs, etc.) • States the policy recommendation that you support • Provides information in favor of the policy option you support • Anticipates and rebuts arguments against likely to be raised against your recommended policy option	• Utilizes codes minimally • Provides minimal background information • Presents one side of the argument • Provides minimum information of policy option	• Does not utilize correct codes • Does not provides background information • Does not provide information of policy option
6	Effectively communicate results of analysis.	• Results are aligned with question and theory • Sees complex patterns in the data • Iteratively explores questions raised by analyses • Results are usable, meaningful, and	• Links results to question and theory • Substantiates the results • Provides plausible arguments and explanations	• Results are correct but not robust • Includes extraneous information and material • Has difficulty making sense of data • Interpretation is too simplistic

		unambiguous • Presents data clearly and cleverly • Makes proper inferences • Provides plausible interpretations • Refutes or disproves prior theories or finding		• Data are wrong, insufficient, fudged, fabricated, or falsified • Data or evidence do not support the theory or argument • Interpretation is too simplistic, and not objective, cogent, or inferences • Overstates the results