CBE AOL Closing the Loop Form

Program: MS Business Analytics   Date: 10/15/20

Learning Goal: 1. Students who graduate will be effective users of technologies for decision-making.

Learning Objective: 1A. Students who graduate will develop advanced knowledge and skills in using business analytics technology and applications.

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Faculty Members: Surendra Sarnikar, Peng Xie, Yuanyuan Gao, Zinovy Radovilsky, Balaraman Rajan, Steve Peng, Somak Paul, Jia Guo, Jiming Wu, Chongqi Wu, and Jyotishka Ray

Closing-the-Loop

1. Review Learning Objective (LO) assessment data in the current Assessment Report.

N = 20	Conceptual Knowledge	Business Application	Information System Usage	Big Data Application Development
Exceeds	30%	15%	25%	0%
Meets	70%	85%	55%	65%
Needs	0%	0%	20%	35%
Below	0%	0%	0%	0%

2. Review previous LO assessment data and improvement actions taken since then in the AOL Summary Report.

n = 15	Trait 1: Conceptual Knowledge	Trait 2: Business Application	Trait 3: Info System Usage	Trait 4: Big Data App
Exceeds Expectation (4)	0%	0%	47%	13%
Meets Expectation (3)	100%	100%	47%	73%
Needs Improvement (2)	0%	0%	7%	13%
Below Expectation (1)	0%	0%	0%	0%

3. Document below the effectiveness of past improvement actions in improving student learning or the AOL process (this is what is known as "closing-the-loop").

Learning Objective 1A was measured the first time in spring 2016 and the second time in spring 2019. The past improvement actions are effective.
- Trait 1: in 2016, 100% students met expectation but no one exceeded expectation; in 2019, 70% students met and 30% students exceeded expectation.
- Trait 2: in 2016, 100% students met expectation but no one exceeded expectation; in 2019, 85% students met and 15% students exceeded expectation.
- Trait 3: in 2016, 47% and 47% students exceeded and met expectation, respectively, whereas 7% needed improvement. In 2019, 25% and 55% students exceeded and met expectation, respectively, whereas 20% needed improvement.
- Trait 4: in 2016, 13% and 73% students exceeded and met expectation, respectively, whereas 13% needed improvement. In 2019, 0% and 65% students exceeded and met expectation, respectively, whereas 35% needed improvement.

It appears no improvement in Traits 3 and 4. We believe it is caused by the randomness (n = 20 in spring 2019 and n =15 in spring 2016; different activities used for assessment) and the significant adjustments both faculty member and students must make for Quarter-to-Semester conversion which took place in fall 2018. We also expect that the COVID-19 pandemic could have an impact on the next assessment results because all courses was forced online with little preparation time for students and faculty members. We will address the issues of measurability, comparability and consistency in assessment results in Box 5.

4. Document below your evaluation of current LO assessment data compared to the benchmark and the need for new improvement actions. Consider not just the overall average LO score but also score on individual traits shown in the Assessment Report and derived from the LO rubric.

The benchmark (performance targets) states that 70% of students will meet expectations and less than 10% score "1" (below expectation) or any trait of the rubric. The benchmark is met in each of the four traits of the rubric.

- Trait 1: 70% students met and 30% students exceeded expectation and no students were below expectation.
- Trait 2: 85% students met and 15% students exceeded expectation and no students were below expectation.
- Trait 3: 25% and 55% students exceeded and met expectation, respectively; 20% needed improvement; but no students were below expectation.
- Trait 4: 65% students met expectation, 35% needed improvement, but no students were below expectation.

Although we met all the benchmarks, there is still plenty of room for improvement, particularly in traits 3 and 4, where 20% and 35% of students needed improvement, respectively. We will discuss the ideas for improvement in Box 5.

5. Record below a list of recommended course-level or programmatic actions to improve student learning or the AOL process.
    a. Sort the list from most recommended to least.
    b. Given our mature AOL system, ideas should not be limited to just AOL system improvements.
    c. For each improvement action proposal, list the project leader, timeline to completion, required resources, expected ease of implementation (hard, medium, easy), and expected impact on student learning (low, medium, high).
    d. You may use ease of implementation and impact on student learning to rank improvements.
    e. There is no guarantee that improvement ideas will be approved. They need to be reviewed by the program director, curriculum committee and dean.

1. Revise PLO 1 assessment rubric and methods for better measurability, comparability and consistency
    - project leader: Chongqi Wu
    - timeline to completion: by Dec. 2021
    - required resources: faculty time
    - ease of implementation = easy
    - impact on student learning = medium
2. Make BAN 601 required and more Python focused
    - project leader: Chongqi Wu and Surendra Sarnikar
    - timeline to completion: by Dec. 2021
    - required resources: faculty time
    - ease of implementation = medium
    - impact on student learning = high
3. Spend more lecture hours and more assignments on programming languages and logics.
    - project leader: Chongqi Wu and Surendra Sarnikar
    - timeline to completion: by Dec. 2021
    - required resources: faculty time
    - ease of implementation = medium
    - impact on student learning = high
4. Make BAN 632 Python-driven
    - project leader: Surendra Sarnikar
    - timeline to completion: by Dec. 2021
    - required resources: faculty time; financial resources; Python-based textbooks and materials for Big Data Technologies
    - ease of implementation = hard
    - impact on student learning = high
5. Supplemental Instruction Model
    - project leader: Bala Rajan and Surendra Sarnikar
    - timeline to completion: by Dec. 2021
    - required resources: recruit excellent students who are capable of tutoring other students; financial resources; faculty time
    - ease of implementation = hard
    - impact on student learning = medium