Introduction:

The Tulsa Curriculum Pilot Study is designed to assess Institutional Learning Outcomes in the block and core curriculum. Presently, TU assesses student essays in Blocks I, II, and II (General Curriculum), however, the University Assessment Committee identified that ILO1 may not be effectively assessed by reviewing a random sample of essays from the three Blocks. To fill this gap the committee decided to implement course embedded assessment in the General and Core Curriculum. The Office of Continuous Improvement and faculty teaching block and core courses in summer sessions one and two agreed to facilitate the pilot study. The purpose of the study is to create a Tulsa Curriculum Map, align course embedded student learning outcomes with ILOs, identify direct measures of learning, evaluate student learning in the Tulsa Curriculum, evaluate student achievement of the ILOs in General and Core curriculum, develop preliminary Block and Core outcomes (Appendix A), and use the results to advance student learning and improve assessment practices.

Findings:

Results from the curriculum map for summer session one revealed that 100% or 24 courses in Blocks I, II, and III assess ILO1, ILO2, and ILO3, and 4 courses or 17% assessed ILO4, and 4 courses or 17% assessed ILO5. After further discussion by the UAC Pilot Study Subcommittee, it was determined that ILO4 and ILO5 were primarily being assessed by co-curricular activities and First Year Experience course activities.

General Curriculum:

During summer session one, 19 faculty volunteered to complete course assessment reports for 16 Block courses. The student sample for the General Curriculum was 289 students, 72 students in Block I, 170 students in Block II, and 47 students in Block III. Student artifacts in Block I were evaluated to determine achievement in ILO1, ILO2, and ILO3. Artifacts in Block II addressed learning in ILO1, ILO2, ILO3, ILO4, and ILO5. Block II was the only Block to assess all five Institutional Learning Outcomes. Block III artifacts were evaluated learning in Block ILO1, ILO 2, ILO3, and ILO 5.

Students in Block I achieved the key performance indicators for critical thinking, writing clearly, and present clearly, but failed to achieve literacy in the arts. Students in Block II achieved the benchmark in literacy in the humanities, critical thinking, writing clearly, ethical reasoning, and problem-solving in the local or global community. Students in Block III achieved literacy in the sciences, but failed to achieve the benchmark in critical thinking. Students were successful in writing clearly, present clearly, and problem-solving in the local or global community. Results are reported in Table 1.

Faculty in each Block identified continuous improvement strategies, which advance learning weakness in the ILOs. However, faculty also provided continuous improvement strategies, which benefit all students. A total of 16 changes and learning activities were provided. Continuous improvement strategies address changes in the course, changes in pedagogy, adjustments to the summer session schedule, the use of student services to help students address learning challenges, and instructional changes. Continuous improvement strategies are listed below.

Continuous improvement changes and activities for Block I, II, and III include:

- increase the number of texts for information inquiry to build further skills;
- increase the number of assignments, but shorten the length;
- opportunities for mastery with two-draft model and graded rehearsals for final presentations;
- increase engagement with the writing lab and explore a supplemental support writing lab attached to Block I courses;
- refer students to early alert for absenteeism and missed assignments;
- increase clarity of assignment instructions;
- remind students regularly of course expectations and the importance of keeping up with class materials and readings;
- encourage group studying; update rubrics so they align specifically with assignment expectations and content;
- increase lectures where students can synthesize content and connect learning segments;
- change the level of learning activities to ensure students recognize their importance;
- provide numerous opportunities for students to engage with content through critical analysis and class discussions;
- reorganize course construction for shorter course length;
- increase discussion and coverage of the course material;
- implement learning activities that advance course content and student achievement;
- update laboratory manual with greater clarity and specific procedures; and
- increase clarity of assignment expectations and description of learning competencies.

**Core Curriculum:**

During summer session one, 4 faculty volunteered to complete course assessment reports for 2 English and 2 Math courses. The student sample for the Core Curriculum was 52 students, 29 students in English and 23 in Mathematics. Student artifacts in English were evaluated to determine achievement in ILO2 and ILO3. Artifacts in Mathematics addressed learning in ILO2. Students in English achieved the key performance indicators for critical thinking and writing clearly. Students in Mathematics achieved the benchmark in critical thinking. Results are reported in Table 2.

Faculty in the Core Curriculum identified continuous improvement strategies, which advance learning weakness in the ILOs. A total of 10 changes and learning activities were provided. Continuous improvement strategies address changes in pedagogy, instruction, adjustments to the summer session schedule, and increased opportunities to practice the material and increase skills. Continuous improvement strategies are listed below.

**Continuous improvement** changes and activities for Core Curriculum include:

- reorganize course construction for shorter course length;
- incorporate more practice and discussion sessions;
- locate real world writing models from the field of study;
- incorporate targeted activities to practice style guides;
- more examples using problem-solving skills;
- explanation and assistance from the instructor;
- more time should be spent on mathematical functions;
- consolidate sections to create more time to focus on material;
- split exam material; and
- allow students to focus on smaller sections of the material at a time.

**Conclusions:**

The Tulsa Curriculum effectively prepares students to achieve the desired level of learning in critical thinking, written and oral communication, problem-solving in the real world, ethical reasoning, literacy in the arts, humanities, and sciences, and quantitative reasoning. Some students did experience difficulty in critical thinking, information inquiry and application of knowledge, and quantitative reasoning. To address the learning challenges, faculty implemented or will implement strategies to advance student knowledge and skills, as well as make changes to the course format and structure.

The evidence based strategies identified by faculty include changes in pedagogy, instructional changes that help students to better understand the content, increase opportunities to practice the material and improve skills and knowledge, adjust course format to better serve the students, improve the quality of the course by increasing clarity and detail when describing course expectations and requirements, and the use of student services to help at risk students. Learning areas that need further attention include gathering, analyzing, synthesizing, and evaluating information, grammar and syntax, applying content to real-world examples, and mathematic functions.
Overall, students were successful with a compressed summer schedule, however, for some students they demonstrated difficulty adjusting to the fast-paced learning experience. Difficulty was manifested through excessive absenteeism and failure to complete assignments or submit assignments on time. Faculty were observant to both learning needs and student challenges with the semester schedule, which were discussed in the continuous improvement changes.

The summer session pilot study is proving successful. In cycle one, the faculty and the Office of Continuous Improvement, as well as assistance from the University Assessment Committee, achieved the following outcomes: (1) a Tulsa Curriculum Map was developed, (2) course student learning outcomes were aligned with the university ILOs, (3) direct measures of learning were identified in each course that measure ILOs, (3) student artifacts were evaluated, (4) student learning results were analyzed, (5) the results were used to advance student learning and improve assessment practices, and (6) preliminary Block and Core outcomes were developed.
Appendix A
Tulsa Curriculum Block and Core Proposed Student Learning Outcomes
University Assessment Committee
June 27, 2018

The statements below are the proposed student learning outcomes for the core curriculum in mathematics and English as well as Blocks I, II, and III.

Students will:

Core Curriculum: Mathematics

1. Demonstrate independent learning of mathematics by connecting math concepts and problem solving skills to solve new problems.
2. Demonstrate critical thinking in mathematics by exploring examples, posing questions, and analyzing results.
3. Communicate ideas and solutions effectively using mathematical vocabulary, notation, and technology.

Core Curriculum: English

1. Demonstrate the values and conventions of academic and professional writing
   - Document sources, use appropriate and consistent voice, format according to discipline-specific standards
2. Apply a process-based approach to achieve successful written communication
   - Brainstorm, research, draft, peer review, reflect, share/publish
3. Assess writing situations to read, analyze, and compose texts appropriate for various purposes, audiences, and genres
   - Analyze, evaluate, integrate, synthesize.

Block I: Aesthetic Inquiry and Creative Experience

1. Write and communicate clearly about human creativity and aesthetic experience.
2. Demonstrate foundational knowledge of the arts and humanities through investigation and analysis of creative artifacts, such as texts, works of art or music, or systems of thought, or by learning how to produce or perform creative works.
3. Critically engage with the existential value of human creativity and aesthetic experience within your own or other societies, past or present, through production/performance of creative works or through analysis of creative products.

Block II: Historical and Social Interpretation

1. Apply tools of analysis and critical thinking to understand problems related to human behavior and societies.
2. Make connections to other times and peoples, including their works, beliefs, and cultures.
3. Write effectively as appropriate for the discipline using credible, adequate, and relevant evidence.
4. Demonstrate foundational knowledge and skills in the methods of investigating, expressing, and evaluating concepts as appropriate for the discipline.

Block III: Scientific Investigation

1. Describe the scientific method and apply it to methods of study.
2. Discuss examples of challenging and controversial scientific works.
3. Describe major theories that underlie an area of scientific study.
4. Articulate the relevant ethical framework for scientific investigation.
5. Explain how science impacts everyday life.