

Spring 2018
Core Curriculum Assessment Report

of

Skills 2 – Critical Thinking

from the

Mathematics

Core Curricular Area



submitted by

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on behalf of the

Mathematics

Core Area Assessment Committee

Methods

How was student work (artifacts) collected for assessment?

The assessment information was obtained from two extra credit questions on the common final exam that ALL students take. Teachers turned in their student results for these questions on a response sheet designed by the liaison.

What type of artifacts were collected?

Student responses on the 2 questions placed on the final exam.

How were the artifacts sampled for assessment?

All results were used. There was no sampling.

How were the artifacts scored?


LO #1 – Interpret, identify, and analyze appropriate applied math models, data and graphs. This information was obtained from an extra credit question on the final exam where students had to match 4 written scenarios with 4 different graphs.

- ☞ All 4 matches correct = ADVANCED.
- ☞ Three of the matches correct = PROFICIENT.
- ☞ Two of the matches correct = NOVICE.
- ☞ One of the matches correct = NOT MET.
- ☞ None were correct or student didn't answer the question = NOT SCORABLE.

LO #2 – Develop abstract and quantitative reasoning ability.

This information was obtained from an extra credit question on the final exam where students had to determine the range of the graphs of the 4 written scenarios (College Algebra). The students had to match information about a data set to a given description (QMR).

- ☞ All 4 matches correct = ADVANCED.
- ☞ Three of the matches correct = PROFICIENT.
- ☞ Two of the matches correct = NOVICE.
- ☞ One of the matches correct = NOT MET.

 None were correct or student didn't answer the question = NOT SCORABLE.

How was reliability in scoring determined and ensured?

Based on the scoring method above, results were inherently reliable.

Reflection

What was learned from the assessment results?

A/P/N = Advanced, Proficient, Novice

We are assuming that these 3 categories represent acceptable outcomes.

Areas that need improvement!

i. Skills 2 – LO #1: Interpret, identify, and analyze appropriate applied math models, data and graphs.

College algebra online (64% A/P/N) – These students NEED more exposure in solving problem types that increase their skills in this area.

ii. Skills 2 - LO#2: Develop Abstract and quantitative reasoning ability.

College algebra F2F (58% A/P/N) and Online (48% A/P/N) - These students NEED more exposure in solving problem types that develop their abstract and quantitative reasoning ability.

Areas that are meeting the requirement.

i. Skills 2 – LO #1: Interpret, identify, and analyze appropriate applied math models, data and graphs.

College Algebra F2F (76% A/P/N) and Concurrent (94% A/P/N), QMR F2F (71% A/P/N) and Online (81% A/P/N) students are doing well in this area.

ii. Skills 2 – LO#2: Develop Abstract and quantitative reasoning ability.

QMR students in both F2F (88% A/P/N) and online (93% A/P/N) courses are doing GREAT in this skill. This is what we would hope for in a Quantitative Reasoning Course!

Continuous Improvement

What changes will be made based upon the assessment results?

The data suggests that the Quantitative and Mathematical Reasoning (QMR) students are doing quite well in the area of Skills 2: Critical Thinking, Quantitative Reasoning, and Solving Problems individually and Collaboratively. We believe this is due to the nature of the course and its design.

The data indicates that the College Algebra students in the F2F and Online courses are not doing as well as the QMR students with respect to Skills 2. We will create "gradable" opportunities for College Algebra F2F and online students to develop their skills in interpreting, identifying, and analyzing applied math models, data and graphs, as well as developing abstract and quantitative reasoning ability. A committee will be assigned the task of creating these problems. Once the problems are designed, they will be implemented in both F2F and online College Algebra courses.

Feedback

What changes are recommended for Core assessment?

I am at a TOTAL LOSS on how we will use activities that are currently done in our courses to assess Values 1 - Personal responsibility and ethical behavior. Please advise us on the best way to assess this goal. I see this goal as one that can easily be assessed in any course that involves the writing of papers and citing of resources since they can be analyzed using plagiarism checkers. I do not see how we can assess this goal in the area of mathematics. I suggest that it be removed from mathematics.

I feel Values 3 - Global and Cultural Understanding is not a necessary educational goal for core mathematics courses. I suggest that it be removed from mathematics, as well.

Comments

Other comments?

All concurrent courses are doing better than UALR courses in all areas. This is probably due to the fact that concurrent students have much more "in class" time than UALR students.

Our process of assessing Skills 2 went really well. I feel like we obtained useful information from the results and, based on these results, we will implement creative ways to address any short comings.

END OF REPORT