

# **HPU Critical Thinking Assessment Report**

## **Overview of the Assessment Project**

In Fall 2018, HPU launched its third, campus-wide initiative designed to assess critical thinking in general education and undergraduate capstone courses. This assessment project is the third in a series of annual assessments of institutional learning outcomes: written communication, oral communication, critical thinking, information literacy, and quantitative reasoning.

### **Method**

During the academic year 2018 – 2019, a total of six General Education course sections and twenty undergraduate capstone course sections participated in this critical thinking assessment project.

The committee then sent out instructions to participating instructors to identify an assessment within their course that fulfilled all requirements of the critical thinking common rubric. A total of 442 artifacts of authentic student work were collected, and these artifacts were archived in the Critical Thinking Assessment Project in Aqua.

In Fall 2019, each college convened an assessment committee to score these artifacts. These college-level committees normed their evaluations to a common rubric adapted from the American Association of Colleges and Universities (AAC&U) Written Communication Rubric. The college-level evaluators successfully scored 100% of the 440 scorable artifacts submitted for this project: 172 general education artifacts, 246 undergraduate capstone artifacts, and 22 graduate capstone artifacts.

In Summer 2020, HPU presented its assessment findings at the university assessment day in hopes of engaging deans, department and program chairs, and members of the academic assessment and program review shared governance committee in a thoughtful discussion of the implication of these results for continuous, quality improvements to the curriculum. The committee presented these assessment results as the percentage of students who performed at a given performance level for each rubric criterion. Also, the committee focused its presentation on actionable data. Finally, the committee set targets for performance by which to reflect on these findings.

The committee provided participating program chairs with detailed instructions about how to filter the results by capstone course, along with the template for creating a graphic display of their results. The committee will ask program chairs to interpret these findings and to create an action plan, as needed.

## Assessment Findings

### General Education Critical Thinking Assessment Findings

The committee set the following target for the general education population participating in this project: 85% of students enrolled in general education courses will achieve an initial, emerging, developed, or highly developed score for each criterion.

An analysis of these findings revealed the following:

- Problem/Question Summary (89%)
- Student's Own Perspectives and Positions (91%)
- Other Perspectives and Positions (82%)
- Evidence from Sources (72%)
- Contextual Analysis (86%)
- Conclusions, Implications, and Consequences (84%)

These results approached the target in all areas, except for Evidence from Sources and Conclusions, Implications, and Consequences, suggesting that General Education instructors should place additional focus in these areas.

The general education critical thinking assessment results are depicted in Table 1 below. To increase the sample size for future critical thinking assessment projects, the committee recommends that instructors collect artifacts from all general education critical thinking courses during both the Fall and Spring semesters. It also recommends comparing the results of online and face to face delivery modalities.

**Table 1. General Education Critical Thinking Assessment Results by Criterion**

Critical Thinking Rubric Criteria (N = 172)	Score				
	4	3	2	1	0
	Highly Developed	Developed	Emerging	Initial	Not Present
	%	%	%	%	%
Problem/Question Summary	3%	10%	32%	44%	10%
Student's Own Perspectives and Positions	2%	11%	35%	43%	8%
Other Perspectives and Positions	1%	9%	32%	40%	18%
Evidence from Sources	3%	9%	28%	32%	28%
Contextual Analysis	1%	9%	30%	46%	15%
Conclusions, Implications, Consequences	2%	8%	27%	47%	16%

## Undergraduate Capstone Critical Thinking Assessment Findings

The committee set the acceptable target for the undergraduate capstone critical thinking assessment results as follows: 85% of students enrolled in undergraduate capstone courses will achieve an emerging, developed, or highly developed score for each criterion.

An analysis of these findings revealed that undergraduate capstone students performed for each criterion as follows:

- Problem/Question Summary (82%)
- Student's Own Perspectives and Positions (81%)
- Other Perspectives and Positions (77%)
- Evidence from Sources (73%)
- Contextual Analysis (77%)
- Conclusions, Implications, and Consequences (72%)

These results approached the target in all areas, suggesting that capstone instructors should increase their focus in these areas.

While the undergraduate capstone critical thinking assessment results depicted in Figure 2 represent a relatively large small sample size, the committee recommends that instructors collect artifacts from all capstone courses during both the Fall and Spring semesters so that these results may also be used for program-level assessment and review purposes. The committee also recommends that any comparing any results from online and face to face delivery modalities.

**Table 2. Undergraduate Capstone Critical Thinking Results by Criterion**

Critical Thinking Rubric Criteria (N = 246)	Score				
	4	3	2	1	0
	Highly Developed	Developed	Emerging	Initial	Not Present
	%	%	%	%	%
Problem/Question Summary	11%	35%	36%	13%	6%
Student's Own Perspectives and Positions	8%	33%	40%	17%	2%
Other Perspectives and Positions	12%	30%	35%	17%	5%
Evidence from Sources	13%	32%	28%	15%	11%
Contextual Analysis	13%	30%	34%	18%	4%
Conclusions, Implications, Consequences	11%	23%	38%	24%	4%

## Graduate Capstone Critical Thinking Assessment Findings

The committee set the acceptable target for the undergraduate capstone critical thinking assessment results as follows: 85% of students enrolled in graduate capstone courses will achieve an emerging, developed, or highly developed score for each criterion.

An analysis of these findings revealed that undergraduate capstone students performed for each criterion as follows:

- Problem/Question Summary (100%)
- Student's Own Perspectives and Positions (95%)
- Other Perspectives and Positions (77%)
- Evidence from Sources (64%)
- Contextual Analysis (86%)
- Conclusions, Implications, and Consequences (86%)

These results exceeded the target in all areas, except for Other Perspectives and Positions, and Evidence from Sources, suggesting that capstone instructors should increase their focus in these areas.

The graduate capstone critical thinking assessment results depicted in Figure 2 represent an extremely small sample size, so the committee recommends that instructors collect artifacts from all capstone courses during both the Fall and Spring semesters so that these results may also be used for program-level assessment and review purposes. The committee also recommends that any comparing any results from online and face to face delivery modalities.

**Table 3. Graduate Capstone Critical Thinking Results by Criterion**

Critical Thinking Rubric Criteria (N = 22)	Score				
	4	3	2	1	0
	Highly Developed	Developed	Emerging	Initial	Not Present
	%	%	%	%	%
Problem/Question Summary	9%	36%	55%	0%	0%
Student's Own Perspectives and Positions	14%	45%	36%	5%	0%
Other Perspectives and Positions	9%	23%	45%	18%	5%
Evidence from Sources	9%	23%	32%	14%	23%
Contextual Analysis	18%	27%	41%	14%	0%
Conclusions, Implications, Consequences	9%	18%	59%	9%	5%

## Discussion

In closing the loop on this assessment project, as depicted in Figure 1 below, the committee posed several questions:

- How accurately do we think these findings reflect the actual level of competence of our students?
- Were there certain artifacts that were not appropriate for the kind of assessment conducted?
- Were there other problems with the process?
- How shall we use these findings?
- Are we satisfied with the results?
- If not, what are we going to do about it?

In response to these questions, the committee formulated several recommendations.

1. General education critical thinking course instructors should increase their focus in the areas of Evidence from Sources and Conclusions, Implications, and Consequences.
2. Undergraduate capstone instructors should increase their focus in all areas.
3. Graduate capstone instructors should increase their focus in the areas of Other Perspectives and Positions, and Evidence from Sources.
4. To increase the sample size for the purposes of assessment and program review, the committee recommends that instructors collect artifacts from all general education critical thinking courses and all undergraduate and graduate capstone courses during both the Fall and Spring semesters.
5. The committee recommends comparing any results from online and face to face delivery modalities.
6. To set the stage for a thoughtful reflection on the performance of students on this assessment across the university, the committee recommends that, in future critical thinking assessment projects, each degree program should provide the committee with an analysis of the data from their own program. In future critical thinking assessment projects, the program chairs may wish to respond to the following questions:
  - Does the program-level data accurately reflect the critical thinking competency of students enrolled in the program over the long term?
  - If it does reflect the reality of the critical thinking competency of the students enrolled in the program, are there changes that should be implemented in the degree program?
  - If it does not reflect the reality of the critical thinking competency of the students enrolled in the program, can the program faculty explain why they came to this conclusion?
  - What changes should be implemented to achieve more accurate results in the future?

Future program-level analyses may yield yielded varying results:

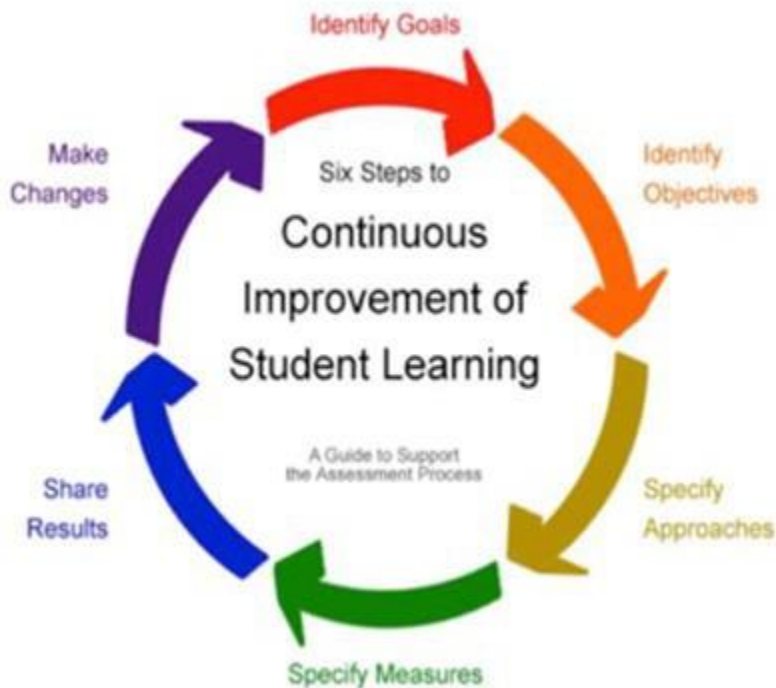
- In some cases, the program will agree that the artifact used for this assessment project was suitable and the results met expectations for critical thinking. Therefore, no further action would be needed.
- In other cases, the program may find that the artifact was not suitable for assessment with the established rubric, thus the results may not reflect an accurate representation of the students' critical thinking abilities. In these cases, the programs may wish to repeat this assessment with a more suitable artifact to determine how well their students met expectations for critical thinking.
- Finally, in a few cases, the program may feel that the artifact was suitable for this assessment project, but the results were unexpectedly low. In these cases, the programs would want to develop an action plan for improvement of critical thinking within their program curriculum.

## Conclusion

In sum, as members of a learning institution, the committee will endeavor to follow the six steps of the assessment process in its future inquiries into our students' performance on this and other institutional learning outcomes:

1. Identify in broad terms what mission and educational goals are valued.
2. Articulate measurable objectives for each goal.
3. Select appropriate approaches to assess how well students are meeting articulated objectives.
4. Select appropriate measures that can be administered, analyzed, and interpreted for evidence of student learning outcomes.
5. Communicate assessment findings to those involved in the process.
6. Use feedback to make changes and inform curricular decisions and reevaluate the assessment process with the intent to continuously improve the quality of student learning.

**Figure 1. Six Steps to Continuous Improvement of Student Learning**



“Six Steps to Continuous Improvement of Student Learning (Closing the Loop).” Accreditation, Assessment and Learning, Kent State University.

<https://www.kent.edu/aal/six-steps-continuous-improvement-student-learning-closing-loop>