2016 Summer Assessment Institute: Critical Thinking

A faculty institute was conducted in August 2016 to assess LCC's progress with student achievement of Critical Thinking. The institute consisted of eight faculty participants with one serving as both a reader and coordinator. Participants were selected by the Vice President of Instruction. Artifacts were evaluated based on a rubric developed by the LCC Faculty and maintained by the Instructional Assessment Committee. Participants for the Critical Thinking Institute included: **Trey Batey, Hiedi Bauer, Merry Bond, Janell Haynes-Hughes, Terri Skeie, Holly McShane and Chelsea Vaughn**. **Brad Benjamin** served as a reader and faculty coordinator.

Overview

Three hundred and eighty three assessable artifacts were contributed by faculty during the 2015-16 academic year from a wide variety of disciplines. Of the 383, 139 randomly selected artifacts were evaluated. Evaluation was conducted using a 5-point scale (using a rubric developed by LCC faculty and maintained by the Instructional Assessment Committee) on four associated outcomes. Each outcome was evaluated by a minimum of two readers.

Results

Critical Thinking *Apply* objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.

Outcome	Average Score	Number of Completed Evaluations
A) Students will identify and define primary problems or issues.	3.3	304
B) Students will present relevant, accurate, and objective information from a variety of sources and will draw valid inferences from that information.	3.1	297
C) Students will use techniques or processes appropriate to the subject to analyze and make judgments.	3.1	304
D) Students will propose and evaluate solutions based on the criteria of logic, evidence, ethical principles, and coherence.	2.9	294
Overall	**3.1**	**1,198**

Inter-Rater Reliability

Inter-rater reliability was addressed in multiple ways. First, the institute began with an intensive norming (calibration) session during which faculty read and discussed artifacts to ensure that the rubric was being interpreted similarly by all participants. Next, score sheets were evaluated as they were completed in order to ensure that scores did not deviate by more than a point (for example, a 3 and a 4 would be considered an acceptable deviation). If scores deviated by more than a point (for example, a 2 and a 4) a third read was required. Scores were also monitored throughout to ensure that specific individuals were not consistently scoring differently. At one point two readers were pulled aside to discuss (and come together on) their interpretation of a particular outcome in order to ensure consistency.

Outcome	Number of Completed Evaluations	Required Third Reads due to Scoring Deviation
A) Students will identify and define primary problems or issues.	304	12 (less than 4%) – all due to 2-point difference*
B) Students will present relevant, accurate, and objective information from a variety of sources and will draw valid inferences from that information.	297	5 (less than 2%) – all due to 2-point difference*
C) Students will use techniques or processes appropriate to the subject to analyze and make judgments.	304	12 (less than 4%) – all due to 2-point difference*
D) Students will propose and evaluate solutions based on the criteria of logic, evidence, ethical principles, and coherence.	294	15 (5%) – 14 due to 2-point difference, 1 due to 3-point difference
Overall	1,198	44 (less than 4%) – 43 due to 2-point difference, 1 due to 3-point difference

*2-point difference = 2 and 4, for example. 3-point difference = 1 and 4, for example.

Recommendations/Notes

- Participants felt that the two-day format (vs. spreading out over three or four days) was beneficial. Starting early in the day and ending in early afternoon is also preferable to ending late in the day.
- Taking discussion breaks throughout the institute is also recommended. For example, a break early in day two to discuss suggested revisions to the rubric was beneficial.
- For participants attending their first institute, it might be helpful to have a pre-norming exercise to demonstrate the process. This could either be done as a group, or could involve pairing new participants with returning faculty.
- It was recommended that scoring expectations (e.g. the institutional target of 3.0) be relayed to the group during the initial norming session.
- Participants thought it might be helpful to receive the rubric ahead of time.
- A few minor revisions to the outcomes were suggested. See attached for specific recommendation.
- The language within the rubric was discussed at length, and several corresponding recommendations related to clarifying the delineation between each outcome were made. Specifically, the participants felt that the rubric language caused some overlap between outcomes B and C. See attached for specific recommendations.
- Although the institutional target of 3.0 was met, it was recommended that faculty be provided with professional development to encourage the development of assignments more geared toward drawing out critical thinking (e.g. backward design). Several options for the format of the upcoming Assessment Day activity were discussed, including something related to an exercise on "Making Arguments" currently posted on the University of Louisville website: https://louisville.edu/ideastoaction/-/files/featured/halpern/critical-thinking.pdf

Critical Thinking *Apply* objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.

Outcomes (desired performances)	INDICATORS (observable characteristics describing levels of performance)					
	*	1	2	3	4	5
A) Students will identify and define primary problems or issues.		- Identification of problem or issue is significantly flawed.		- Identifies main problem or issue, but parts may be obscured.		- Clearly identifies main problem or issue and describes its key parts.
B) Students will incorporate relevant, accurate and objective information from a variety of sources (as appropriate) and will draw valid inferences from that information.		- Incorporates irrelevant or inaccurate information from questionable sources, or fails to substantiate assertions.		- Incorporates a variety of relevant, objective information mostly from valid sources. - May contain minor inaccuracies.		- Incorporates a variety of relevant, accurate and objective information. - Conclusions are supported with objective evidence. - Judgments are based on subject-appropriate criteria.
C) Students will use techniques or processes appropriate to the subject to analyze and make judgments.		- Analyzes problems using emotional, illogical, or otherwise inappropriate processes or techniques, or makes judgments based solely on personal preference.		- Analyzes problems using appropriate processes or techniques, but lacks sufficient objective evidence to draw valid conclusions. - Analysis of information may be incomplete.		- Analyzes problems using logical, rational, and coherent processes or techniques to arrive at a reliable solution. - Bases assertions on accurate, comprehensive analysis. - Judgments are consistent.
D) Students will propose and evaluate solutions or conclusions based on the criteria of logic, evidence, ethical principles, and coherence.		- Proposes or evaluates a solution or conclusion, but reasoning has frequent or major errors. - Fails to examine key factors of the solution (weaknesses or ethical problems, for example).		- Examines and evaluates solutions or conclusions using credible and appropriate reasoning. Any errors in reasoning are minor and infrequent. - Ethical factors may be addressed superficially.		- Examines and evaluates solutions or conclusions coherently and comprehensively using valid reasoning; considers and refutes alternate solutions. Commits few if any errors in reasoning. - Analyzes the ethical implications of solutions.

Suggested revisions noted in red
Blue text denotes change in suggested location of (existing) text