General Education Assessment Report

AY 2023-2024

Critical Inquiry

Prepared by: Jacob M. Held, PhD

Assisitant Provost for Academic Assessment and General Education

September 2024

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I. Prefatory

The following report covers assessment efforts for the Critical Inquiry Core competency over the academic year of 2023-2024. Assessment efforts include pre-assessment cycle training, annual artifact collection, scoring, and reporting, as well as end of cycle improvement plans. This report includes a narrative account of the assessment cycle as well as selected data informing the narrative. The intention of this report is to inform the UCA Core Council, or other relevant stakeholders, about the present state of the curriculum as regards the Critical Inquiry competency.

Assessment in higher education ought to be driven by the simple idea that reliable data can be used to inform curricular changes to improve student learning. The goal is always on student performance. But if you want to improve student performance you must know where your students are and whether or not your curricula is impactful on their intellectual development. Thus, there must be moments of assessment where student performance is measured consistently, according to an objective standard, across time. Each of these requirements poses its own challenges. When interpreting assessment data in higher education it is important to note some key points. Firstly, the methodology used is often derived from the behavioral and social sciences. However, the higher education environment makes it difficult, if not impossible, to maintain the conditions necessary for reliable statistical analysis using these methods. Samples are small, or in isolated communities, there are myriad factors influencing any variable, all of which cannot be controlled for, nor is it possible to offer control groups as withholding educational opportunities from students for experimental purposes is unethical. In addition, the data is collected and presented as discrete variables, when learning is clearly continuous. The data collected, therefore, must be interpreted in light of these structural barriers, which are endemic to the nature of the study. But while these barriers cannot be removed, they can be ameliorated.

We can get reliable data in terms of identifying trends so long as we know wherein the problems lie and work intentionally to mitigate them. With Core assessment, we have striven to lessen these barriers where possible. We collect student work from the entire population in order to derive a representative sample. These artifacts are scored on the same rubric, by a single team of calibrated, trained, faculty scorers, thus increasing interrater reliability. We offer training to faculty on assignment design prior to artifact collection, thus allowing faculty to use individual assignments, not standardized ones, while maintaining a consistency of expectation. Thus, we can see trends and we can see high points and low points. That being said, if a general education program is to be assessed for common student learning outcomes at a university the size of UCA, the means by which we are doing so addresses, as well as can be addressed, the limitations inherent in assessment in higher education.

The intention of this report is to be advisory to the UCA Core Council and all relevant stakeholders of the general education program at UCA. This report was compiled by Dr. Jacob Held, Assistant Provost for Academic Assessment and General Education in his capacity as primary administrator of the UCA Core curriculum and chair of the UCA Core Council.

II. Introduction

The UCA Core is assessed on a four-year cycle. Each year one competency area is addressed. For AY 2023-2024, Critical Inquiry was the area scheduled to be assessed. This is the second cycle of assessment for Critical Inquiry. Therefore, alongside the current data, we are able to offer a comparison with the first cycle's data.

During AY 23-24, the Office of Assessment attempted to collect artifacts from all courses designated under the Critical Inquiry Core competency including all Lower and Upper division courses so designated. Faculty teaching these courses were identified through ARGOS. All identified faculty were contacted. They were provided with a link to a google form. The form asked for information regarding what artifact would be chosen, when it would be administered to students, and when and how it would be delivered to the Office of Assessment.

Evaluation of the artifacts took place August 7-9, 2024. The evaluation team was recruited from faculty who had participated in the assessment process by teaching a course in the designated area as well as having completed the survey and submitted artifacts. The evaluation team consisted of:

Rubric A (Inquiry and Analysis)

- Rania Al-Bawwab (Economics)
- Dwayne Coleman (School of Language and Literature)

Rubric B (Scientific)

- Faith Yarberry (Chemistry)
- Krista Peppers (Biology)

Rubric C (Quantitative)

- Garth Johnson (Mathematics)
- Kathyrn Carroll (Nutrition and Family Sciences)

Evaluators were remunerated $250 per day. During the three day evaluation period, evaluators participated in calibration exercises as well as artifact scoring. Days consisted of routine evaluation work from 8:00 am until 4:30 pm with intermittent breaks as evaluators deemed appropriate.

III. Results

RUBRIC A (Inquiry and Analysis)

Critical Inquiry: the ability to analyze new problems and situations to formulate informed opinions and conclusions.

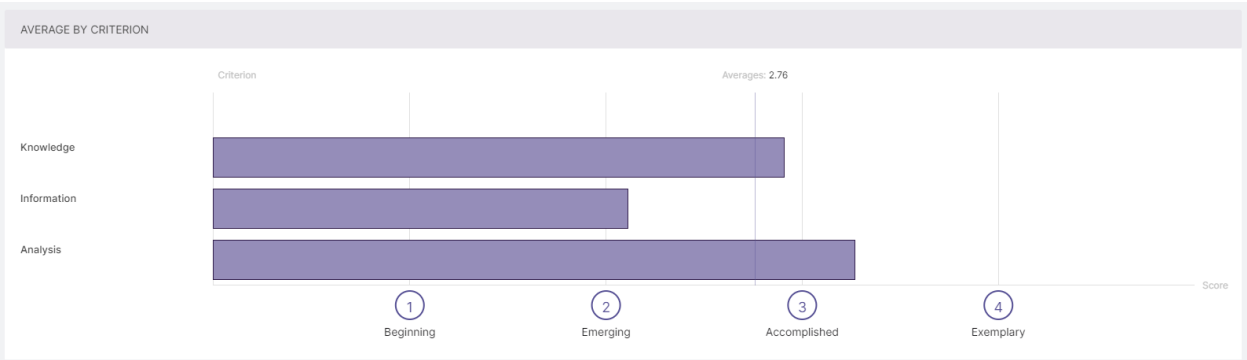
Goal A: Demonstrate a knowledge base to ask more informed questions and learn more complex concepts. This rubric assesses the following three specific skill or knowledge areas related to Goal A:

- Knowledge: An understanding of the concepts and/or principles in the discipline and how they relate to important questions.
- Information: Selecting appropriate and credible information based on knowledge of topic and discipline.
- Analysis: Evaluating a position and/or drawing conclusions on significant questions in the discipline.

UCA CORE – Critical Inquiry Rubric A (Inquiry and Analysis)

Specific Skill or Knowledge Area Related to the Goal	Student Learning Outcomes				
	4	3	2	1	0
Knowledge	Shows both a broad and deep understanding of the concepts/principles and their relevance to important questions in the discipline.	Shows a general grasp of the concepts/principles and how they relate to important questions in the discipline.	Shows some knowledge of the concepts/principles and can begin to relate them to important questions in the discipline.	Shows some knowledge of the concepts/principles and limited ability to relate them to important questions in the discipline.	Assign a zero for performance that does not meet a score of one (1).
Information	Selects information from the most relevant and credible sources, without critical omissions of key sources.	Selects relevant information from a variety of sources, but may lack some appropriate and credible sources.	Selects information from limited and similar sources.	Selects information randomly that lacks relevance and quality; or was given the information by instructor.	
Analysis	Justifies a position and/or draws a logical conclusion using appropriate disciplinary analysis on a significant question or problem.	Presents a position and/or conclusion on a significant question/problem using appropriate disciplinary analysis, but lacks depth and/or draws a weak/illogical conclusion	Summarizes different perspectives used in the discipline but does not evaluate a position and/or draw a conclusion.	Recognizes there are multiple approaches to academic questions/problems.	

Lower Division Average by Criterion

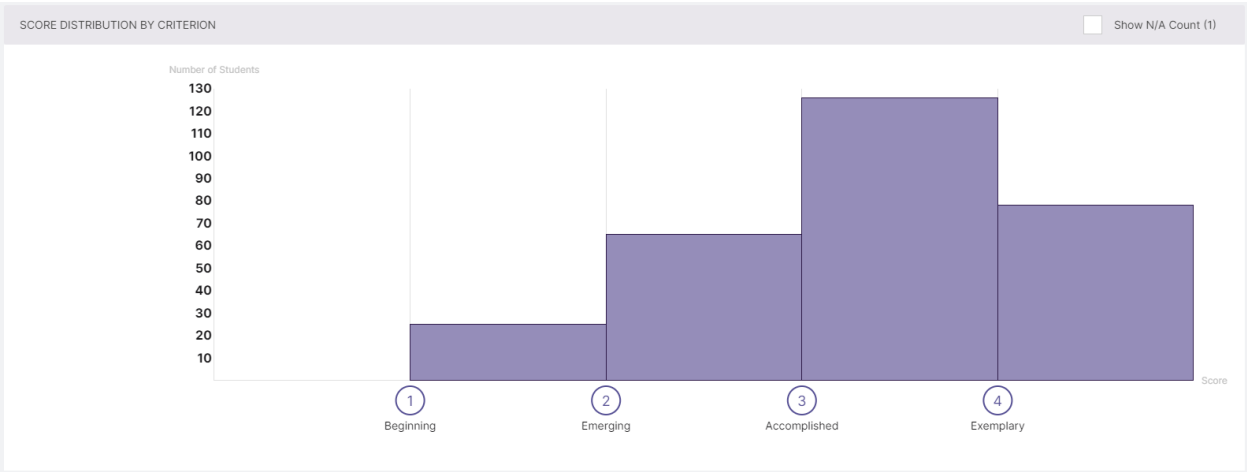


Outcome	Average
Knowledge	2.91
Information	2.11
Analysis	3.27

Lower Division by Student Learning Outcome (SLO)

SLO 1: Knowledge

An understanding of the concepts and/or principles in the discipline and how they relate to important questions.

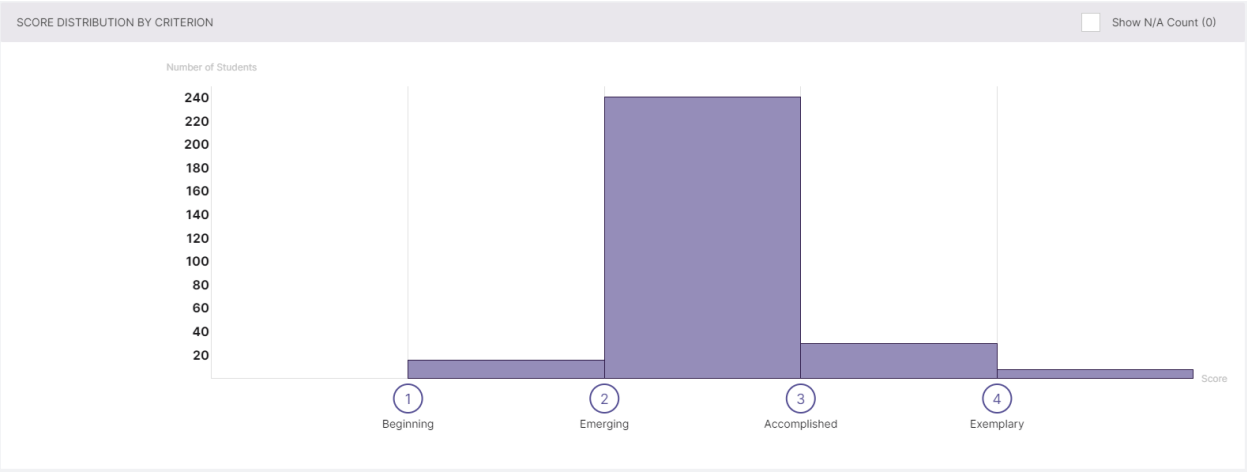


n=294

Rubric score	1	2	3	4
# of scores	25	26	126	78

SLO 2: Information

Selecting appropriate and credible information based on knowledge of topic and discipline.

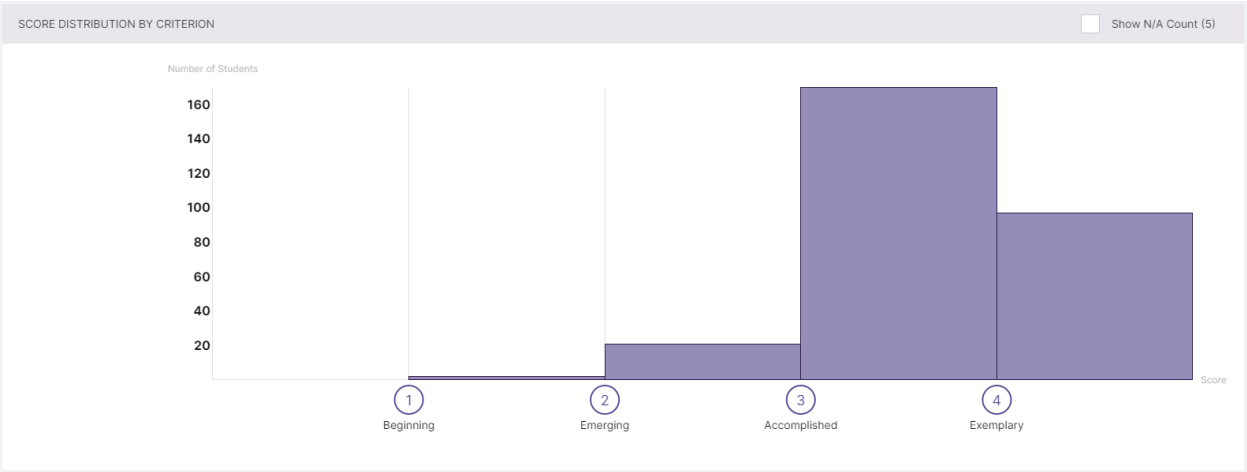


n=295

Rubric score	1	2	3	4
# of scores	16	241	30	8

SLO 3: Analysis

Evaluating a position and/or drawing conclusions on significant questions in the discipline.



n=290

Rubric score	1	2	3	4
# of scores	2	21	170	97

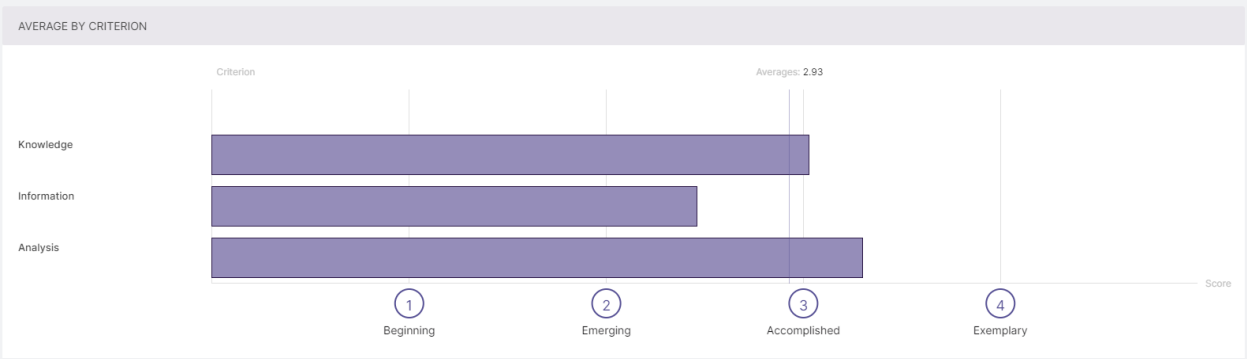
At the lower division we expect to see consistent scores at low (1) to mid-level (2-3) on the rubric. We expect to see this for various reasons. First, these are introductory level classes with first or second year students so one would not anticipate them to excel on a rubric designed to gauge student performance through a student's entire college career. In addition, the assignments in these courses are often designed to introduce and reinforce basic skills thus usually not requiring or even affording students the opportunity to demonstrate mastery. As foundational courses, we would expect assignments to prompt students to demonstrate basic level competence, and we would hope students would be able to perform at a basic level. The data supports the statement that our students, at the lower level, consistently demonstrate competence across all learning outcomes for Goal A. The majority of students score a 3, indicating skill levels at the "accomplished" level, except for SLO 2 wherein the majority score at 2, or "emerging;" a result consistent with our expectations. We ought to be reassured that the data verifies our hope that students at the lower level are receiving a solid education in oral communication.

One point of interest is the lower, on average, score for SLO 2, or information. This outcome evaluated students' ability to select appropriate and credible information based on knowledge of topic and discipline. The data are not instructive as to why students might perform better on other outcomes than this one, nor were there any scorer comments indicating a flaw with this rubric or poor assignment design. With no evidence providing support for a hypothesis any conclusion drawn from this anomaly would be baseless speculation. Thus, the only conclusion to be drawn is that students do not perform as

well on this outcome as the others, even though their performance is consistent with expectations for introductory level courses.

	1	2	3	4	N/A	Total	Average
Knowledge	25	65	126	78	1	294	2.91
Information	16	241	30	8	0	295	2.11
Analysis	2	21	170	97	5	290	3.27

Upper Division Distribution by Criterion



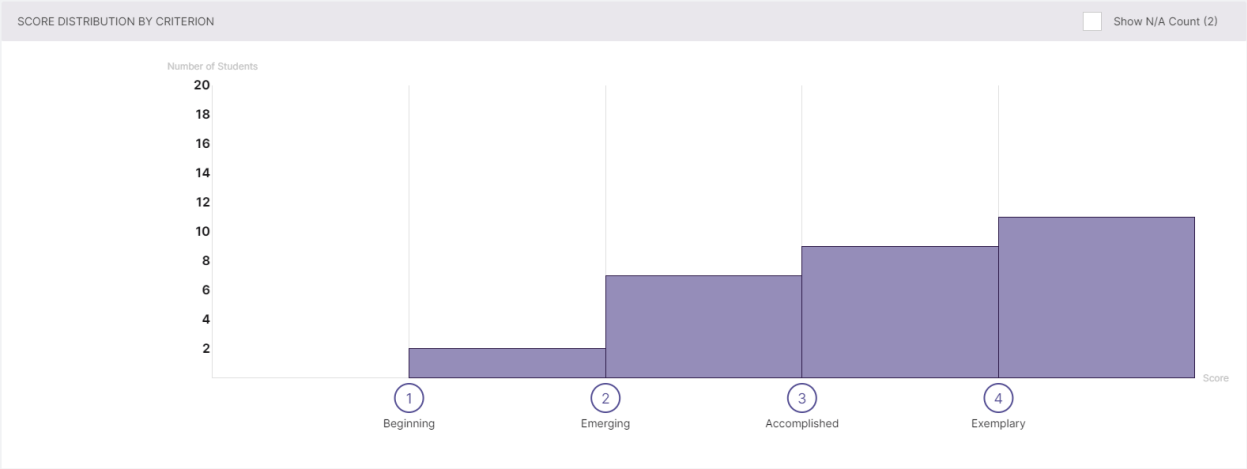
Outcome	Average
Knowledge	3.03
Information	2.46
Analysis	3.30

Assessing student performance at the upper division theoretically allows us to discern whether students improve from their performances at the lower division. In reality, the scores are more appropriately seen as a benchmark, or window onto student performance at the point of matriculation, namely, in advanced level courses near the end of their studies. However, two factors complicate matters. First, our curriculum, although designed to be scaffolded is not in reality so. The reasons for this are twofold: 1) Not all upper level courses have pre-requisites. So students may be able to take upper level courses before having had the lower level variant or related experience. 2) Our Core curriculum is not rigorously aligned. That is, students do not necessarily have to take courses in the same Goal at both the lower and upper level. Students have to take a course under the competency, but they can take one under goal A at the lower level and under goal B at the upper level. Thus, their performance does not reflect the effectiveness of intentional curriculum alignment.

In addition, due to persistent issues of low levels of faculty participation, namely, a small selection of courses from which we receive student artifacts, these data may be unreliable.

SLO 1: Knowledge

An understanding of the concepts and/or principles in the discipline and how they relate to important questions.

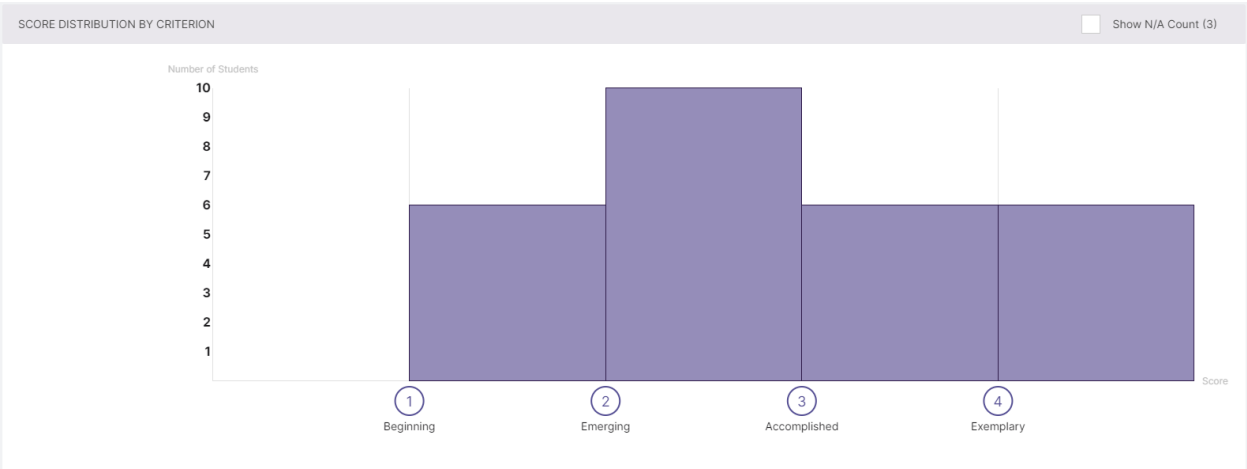


n=31

Rubric Score	1	2	3	4	N/A
# of scores	2	7	9	11	2

SLO 2: Information

Selecting appropriate and credible information based on knowledge of topic and discipline.

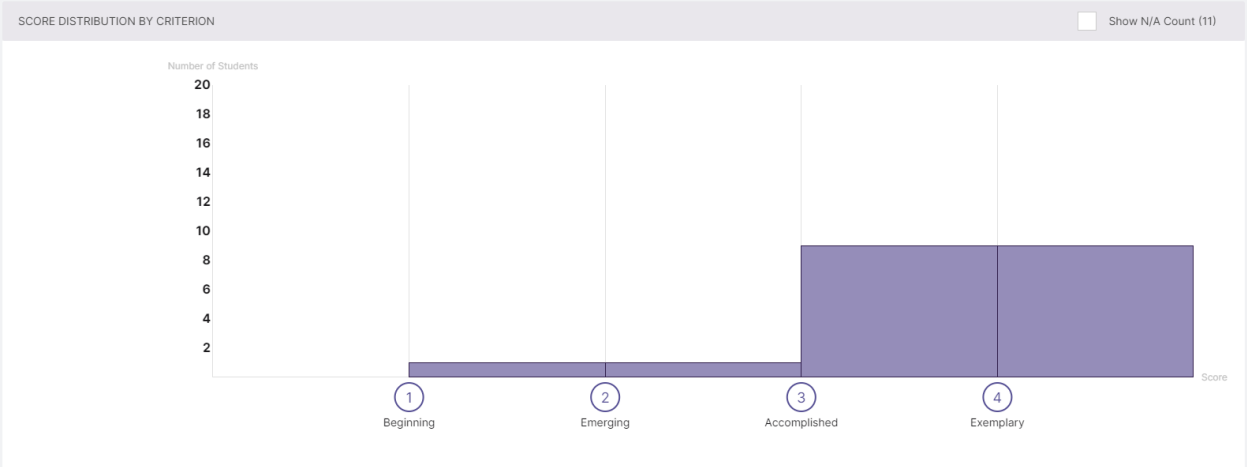


n=31

Rubric Score	1	2	3	4	N/A
# of scores	6	10	6	6	3

SLO 3: Analysis

Evaluating a position and/or drawing conclusions on significant questions in the discipline.



n=31

Rubric Score	1	2	3	4	N/A
# of scores	1	1	9	9	11

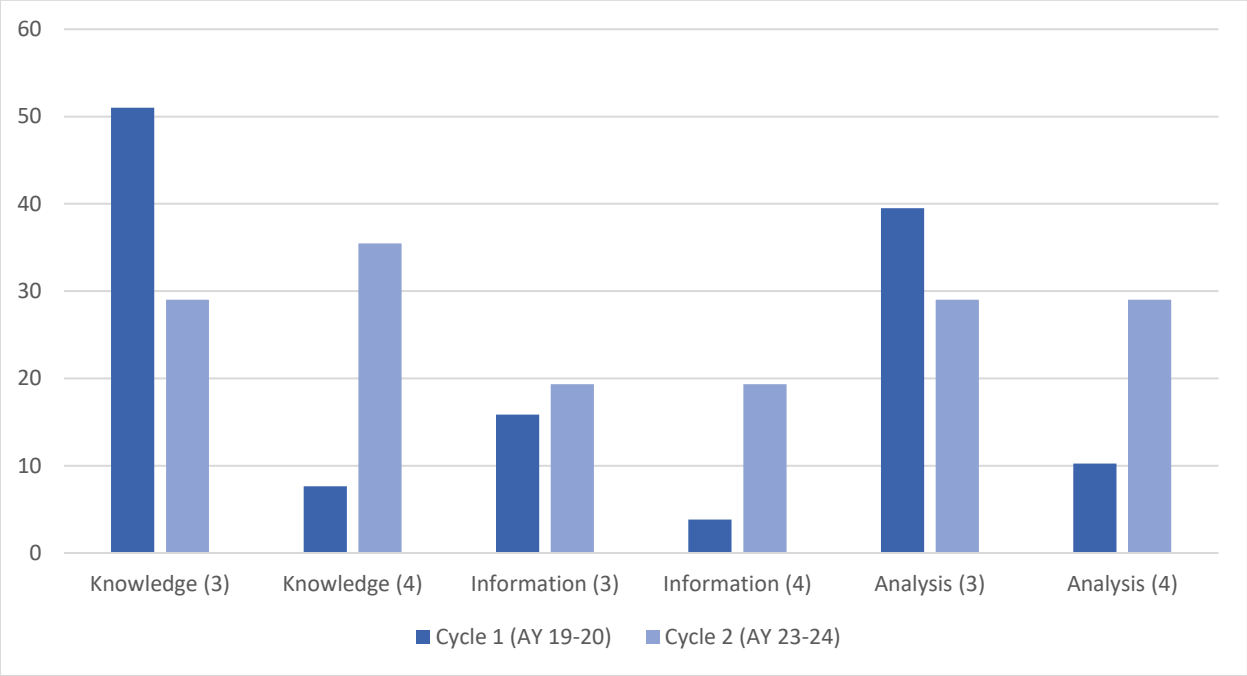
First, it is important to note the lack of artifacts for upper level Goal A courses. Even though there are ample courses in this category, and all courses were asked to submit artifacts, we received so few that at the end of our scoring period we only had 31 usable scores. This small of a sample size makes any interpretation of the data dubious. That being said, at all outcomes, the most notable trend is the vast improvement in percentage of "Exemplary" scores from the previous cycle of assessment. Even though we had low numbers of artifacts at the upper division, the artifacts scored demonstrated "Exemplary" performances at much higher rates than the previous cycle. Although one sees a drop in percentage of students scoring a "3" in most outcomes, this is offset by a significant increase in students scoring a "4." In addition, if one takes the upper division student experience to demonstrate acumen at point of matriculation, it is reassuring to note that, according to these data, well over 50% of students scored at "Accomplished" or higher, with the exception of the "Information" outcome. The table below provides the relevant percentages.

	1	2	3	4	N/A	(3 + 4)	Total	% at (3+4)	% at 4
Knowledge	2	7	9	11	2	20	31	64.51	35.48
Information	6	10	6	6	3	12	31	38.7	19.35
Analysis	1	1	9	9	11	18	31	58.06	29.03

Percent of Scores at Accomplished and Exemplary Levels by Assessment Cycle Year

Outcome (Score)	Cycle 1 (AY 19-20)	Cycle 2 (AY 23-24)
Knowledge (3)	51.02	29.03
Knowledge (4)	7.65	35.48
Information (3)	15.85	19.35
Information (4)	3.82	19.35
Analysis (3)	39.49	29.03
Analysis (4)	10.25	29.03

Percentage of scores at Accomplished (3) and Exemplary (4) per Learning Outcome by Assessment Year Cycle (AY 19-20 and AY 23-24)



Although the data is suspect, given the small sample size, it is reassuring that our students are scoring at the higher end of the rubric (3 and 4) near the point of matriculation. If our curriculum is designed to develop, reinforce, and assist students in mastering fundamental academic skills, then in terms of critical inquiry (analysis) we are serving our students well.

RUBRIC B (SCIENTIFIC)

Critical Inquiry: the ability to analyze new problems and situations to formulate informed opinions and conclusions.

Goal B: Apply scientific processes to solve problems/answer questions.

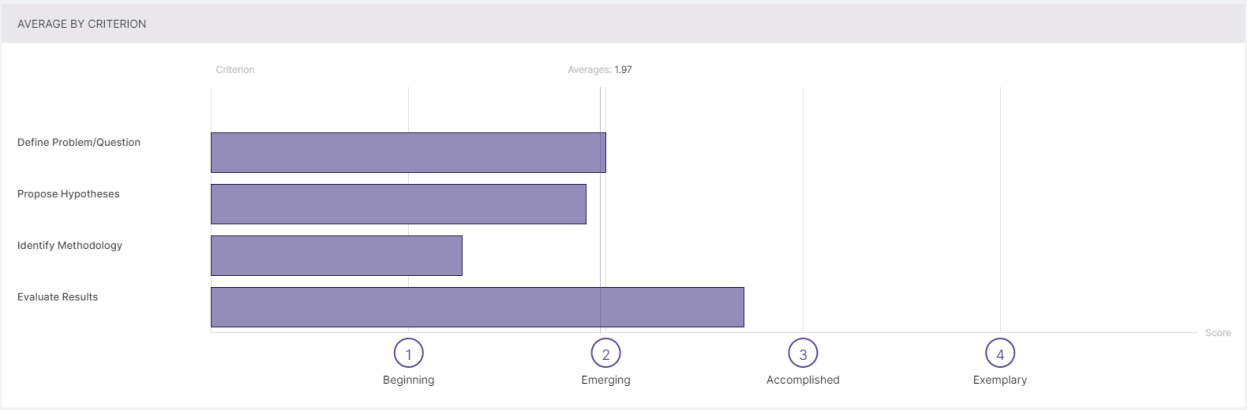
This rubric assesses the following four specific skill or knowledge areas related to Goal B:

- Define Problem/Question: A statement or summary that identifies a problem or raises a question that is relevant to the topic or assignment, appropriate to the discipline, and open to empirical inquiry (i.e., objective observation).
- Propose Hypotheses: Formulating testable propositions that follow from one particular solution/answer to the problem/question.
- Identify Methodology: Selecting the appropriate set of procedures to test the hypotheses.
- Evaluate Results: An objective assessment of the hypotheses based on the empirical evidence gathered from the methodology.

UCA CORE – Critical Inquiry Rubric B (Scientific)

Specific Skill or Knowledge Area Related to the Goal	Student Learning Outcomes				
	4	3	2	1	0
Define Problem/Question	Communicates comprehensive, contextual understanding of the problem/question.	Compares problem/question statements to determine which best summarizes the problem.	Composes a basic, accurate problem/question statement.	Recognizes an applicable problem/question statement.	Assign a zero for performance that does not meet a score of one (1).
Propose Hypotheses	Communicates a hypothesis reflecting a comprehensive understanding of the problem/question.	Develops a hypothesis that links variables.	Composes a testable hypothesis from a scenario.	Recognizes a testable hypothesis.	
Identify Methodology	Proposes complex, multi-level strategic approaches for solving the problem or addressing the question.	Devises a complete appropriate strategic plan including controls to address the problem/question.	Distinguishes between valid options to select the best strategic plan to address the problem/question.	Recognizes appropriate strategic steps that address the problem/question.	
Evaluate Results	Articulates a comprehensive evaluation of results including next steps.	Produces an accurate interpretation of data including a consideration of sources of error.	Selects the best interpretation of results.	Recognizes an accurate interpretation of results.	

Lower Division Average by Criterion

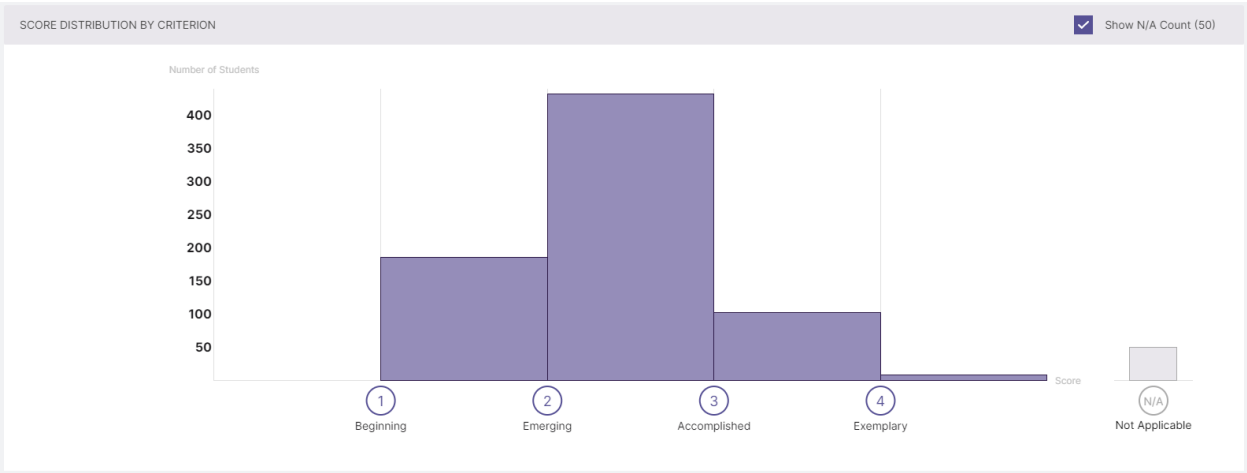


Outcome	Average
Define Problem/Question	2.0
Propose Hypothesis	1.9
Identify Methodology	1.27
Evaluate Results	2.7

Lower Division by Student Learning Outcome (SLO)

SLO 1: Define Problem/Question

A statement or summary that identifies a problem or raises a question that is relevant to the topic or assignment, appropriate to the discipline, and open to empirical inquiry (i.e., objective observation).

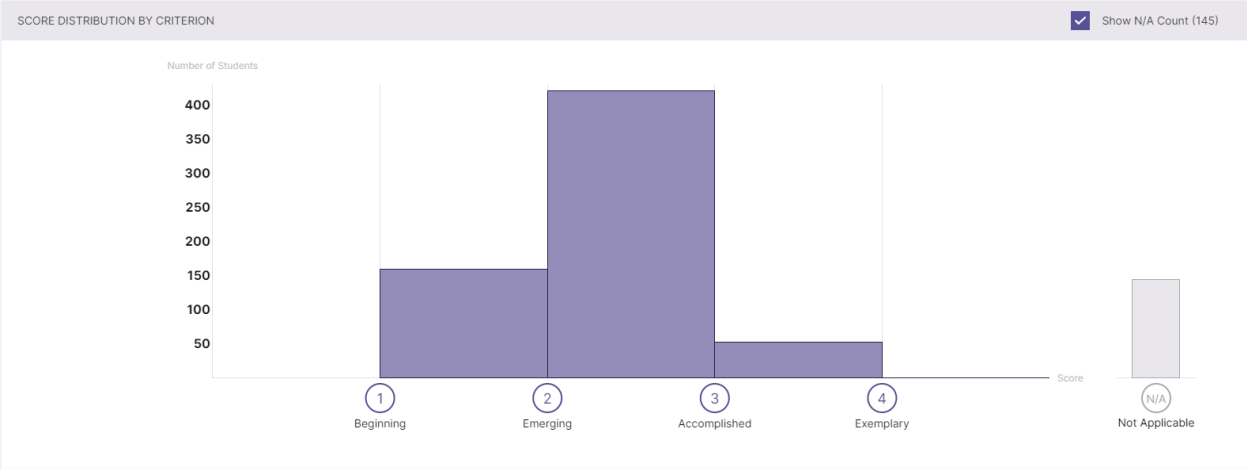


n=780

Rubric Score	1	2	3	4	N/A
# of scores	186	432	103	9	50

SLO 2: Propose Hypothesis

Formulating testable propositions that follow from one particular solution/answer to the problem/question.

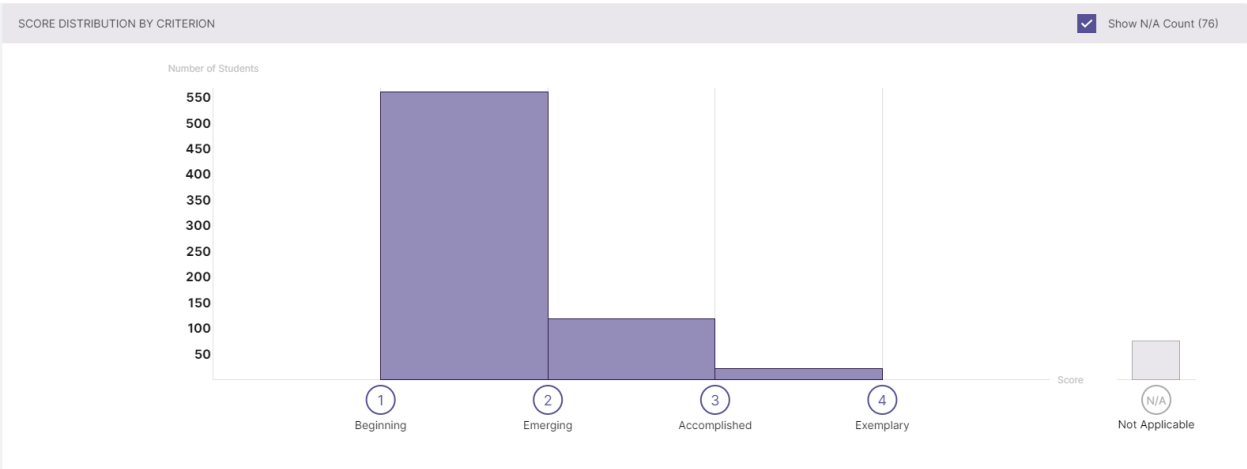


n=779

Rubric Score	1	2	3	4	N/A
# of scores	160	421	53	0	145

SLO 3: Identify Methodology

Selecting the appropriate set of procedures to test the hypotheses.

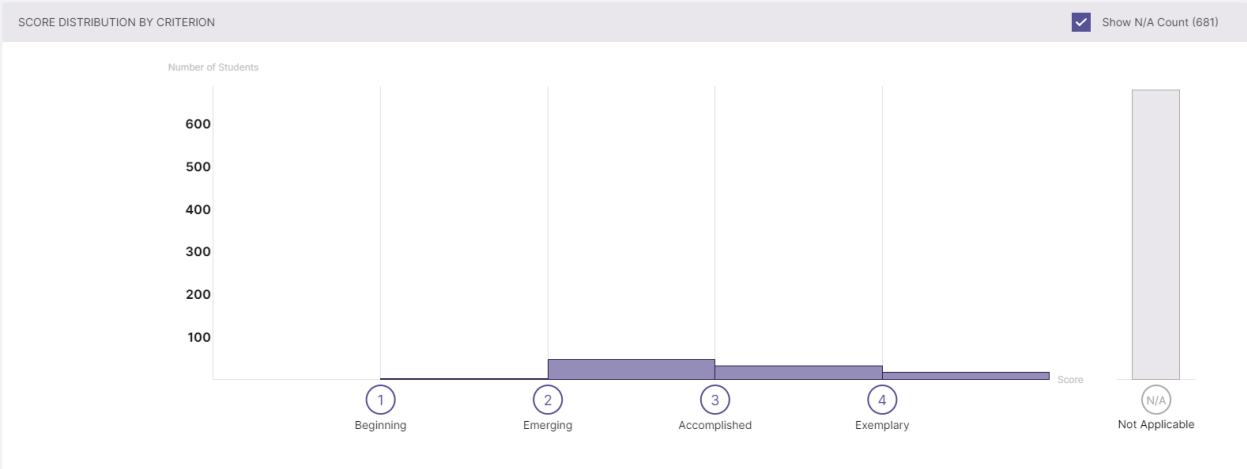


n=780

Rubric Score	1	2	3	4	N/A
# of scores	562	120	22	0	76

SLO 4: Evaluate Results

An objective assessment of the hypotheses based on the empirical evidence gathered from the methodology.



n=780

Rubric Score	1	2	3	4	N/A
# of scores	3	47	32	17	681

As with goal A, at the lower division we expect to see consistent scores at low (1) to mid-level (2-3) on the rubric. We see this trend for SLOs 1-3, basically. SLO 3 has the vast majority of students scoring a 1 or "Beginning" on the rubric. This could readily be explained by assignment design. As noted above, in introductory courses often assignments don't afford students the opportunity to demonstrate mastery. In the scorer comments (Appendix B) we see frequent comments indicating that artifacts simply didn't allow a student to perform the skill being assessed. Often these artifacts are lab reports or quizzes from introductory level courses, such as BIOL 1400. These courses are often designed to familiarize a student with the scientific method and processes, and labs are frequently designed to simply expose students to a laboratory environment without affording an opportunity to make decisions on their own regarding method, hypothesis formation, etc. Thus, the data reflect students performing the tasks of laboratory experimentation and the scientific method but not the critical skills of determining them, a process they may very well be ill prepared to do at the introductory level. Our introductory level courses can't begin presuming a level of scientific acumen our students don't possess because they were ill served by public education from K-12.

One clear trend, and one that can readily be addressed, is the significant number of artifacts scored "Not Applicable." Especially with in the "Propose Hypothesis" and "Evaluate Results" outcomes. As noted in the scorer comments, many artifacts simply did not address these skills, and thus we were not able to evaluate students competency in these regards. This may be a simple issue of assignment design or choice. If our introductory level science courses are designed to introduce these specific sets of skills to students, as they are, then there should be an artifact, a student assignment, that allows us to gauge how our students are doing on these outcomes.

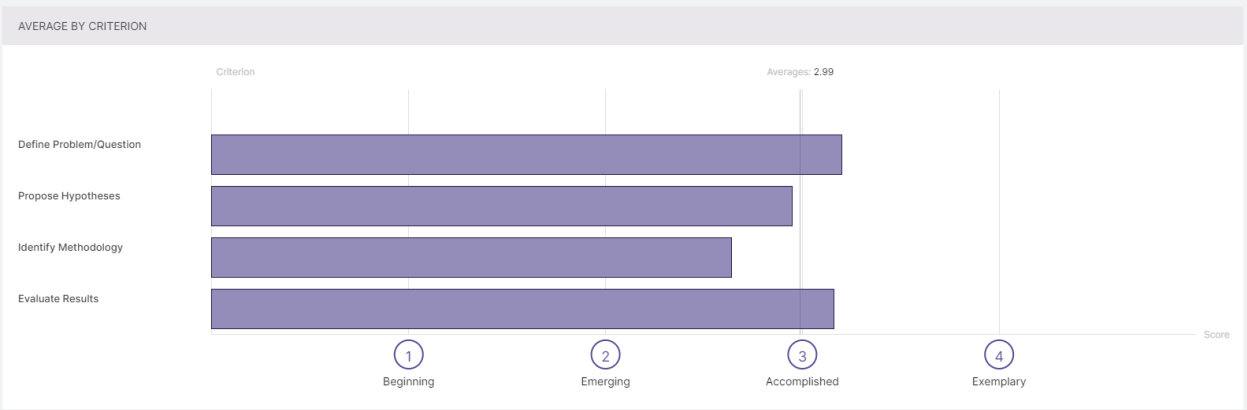
	1	2	3	4	N/A	Total	Average
Define Problem/Question	186	432	103	9	50	780	2.0
Propose Hypothesis	160	421	53	0	145	779	1.9
Identify Methodology	562	120	22	0	76	780	1.27
Evaluate Results	3	47	32	17	681	780	2.7

Upper Division Distribution by Criterion

Assessing student performance at the upper division theoretically allows us to discern whether students improve from their performances at the lower division. The scores are more appropriately seen as a benchmark, or window onto student performance at point of matriculation, namely, in advanced level courses near the end of their studies. However, two factors complicate matters. First, our curriculum, although designed to be scaffolded is not in reality so. The reasons for this are twofold: 1) Not all upper level courses have pre-requisites. So students may be able to take upper level courses before having had the lower level variant or related experience. 2) Our Core curriculum is not rigorously aligned. That is, students do not necessarily have to take courses in the same Goal at both the lower and upper level. Students must take a course under the competency, but they can take one under goal A at the lower level and under goal B at the upper level. Thus, their performance does not reflect the effectiveness of intentional curriculum alignment.

Due to persistent issues of low levels of faculty participation, namely, a small selection of courses from which we receive student artifacts, these data may be unreliable.

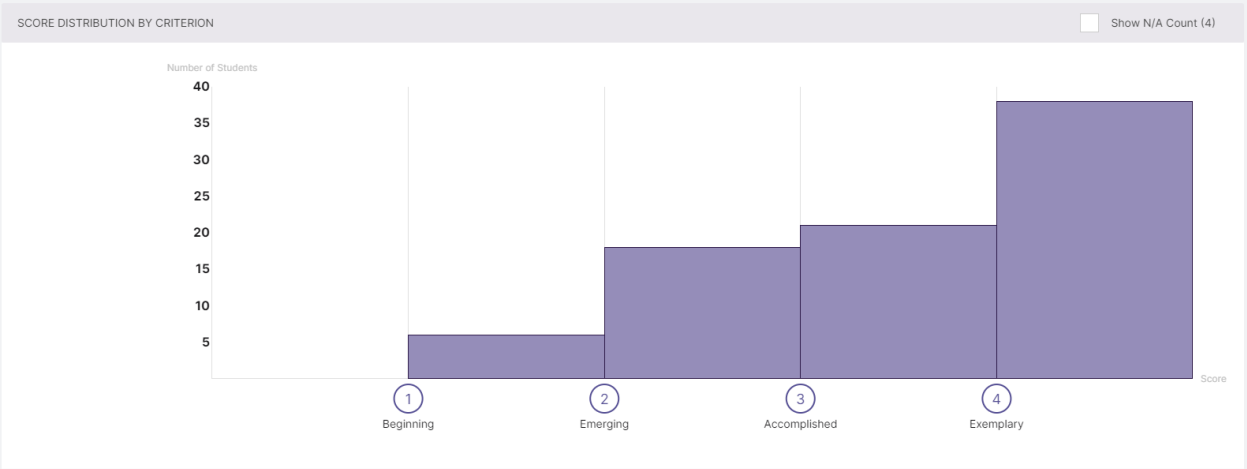
Upper Division Average by Criterion



Outcome	Average
Define Problem/Question	3.20
Propose Hypothesis	2.95
Identify Methodology	2.64
Evaluate Results	3.16

SLO 1: Define Problem/Question

A statement or summary that identifies a problem or raises a question that is relevant to the topic or assignment, appropriate to the discipline, and open to empirical inquiry (i.e., objective observation).

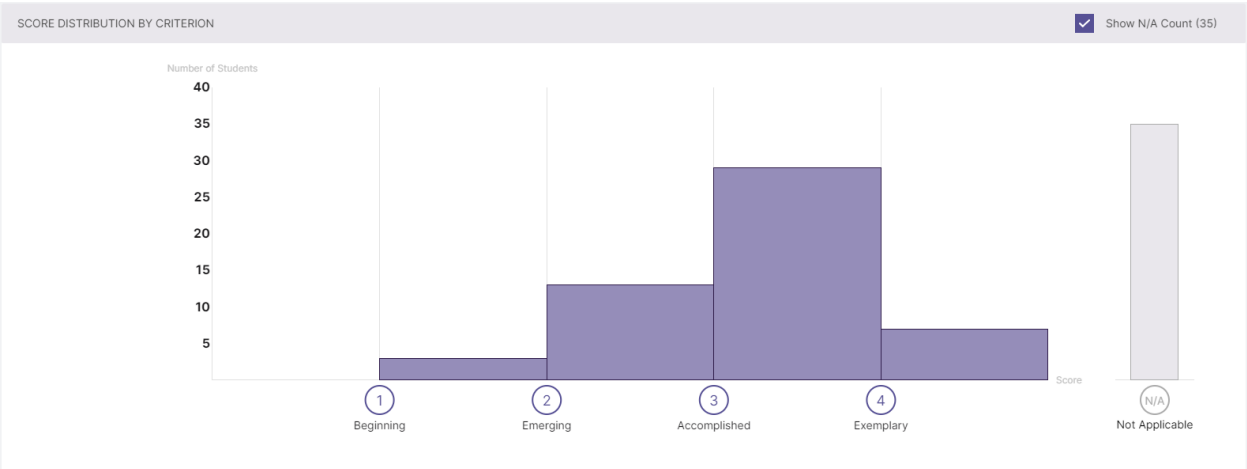


n=87

Rubric Score	1	2	3	4	N/A
# of scores	6	18	21	38	4

SLO 2: Propose Hypothesis

Formulating testable propositions that follow from one particular solution/answer to the problem/question.

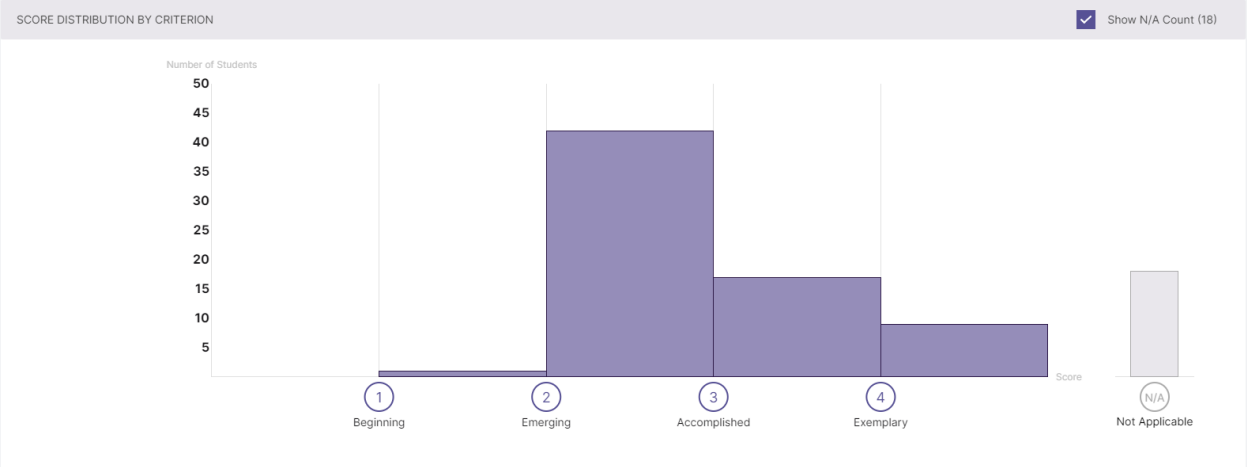


n=87

Rubric Score	1	2	3	4	N/A
# of scores	3	13	29	7	35

SLO 3: Identify Methodology

Selecting the appropriate set of procedures to test the hypotheses.

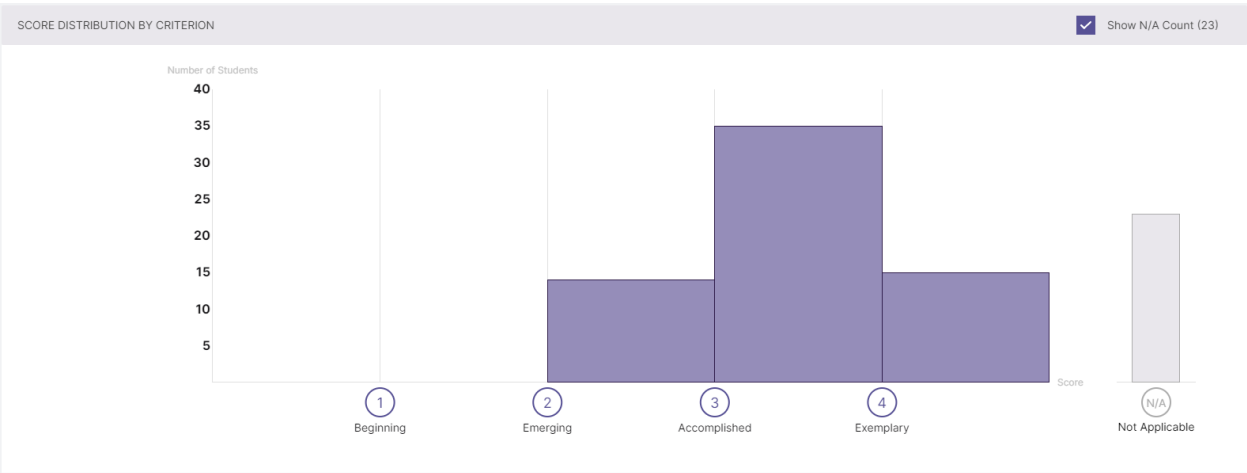


n=87

Rubric Score	1	2	3	4	N/A
# of scores	1	42	17	9	18

SLO 4: Evaluate Results

An objective assessment of the hypotheses based on the empirical evidence gathered from the methodology.



n=87

Rubric Score	1	2	3	4	N/A
# of scores	0	14	35	15	23

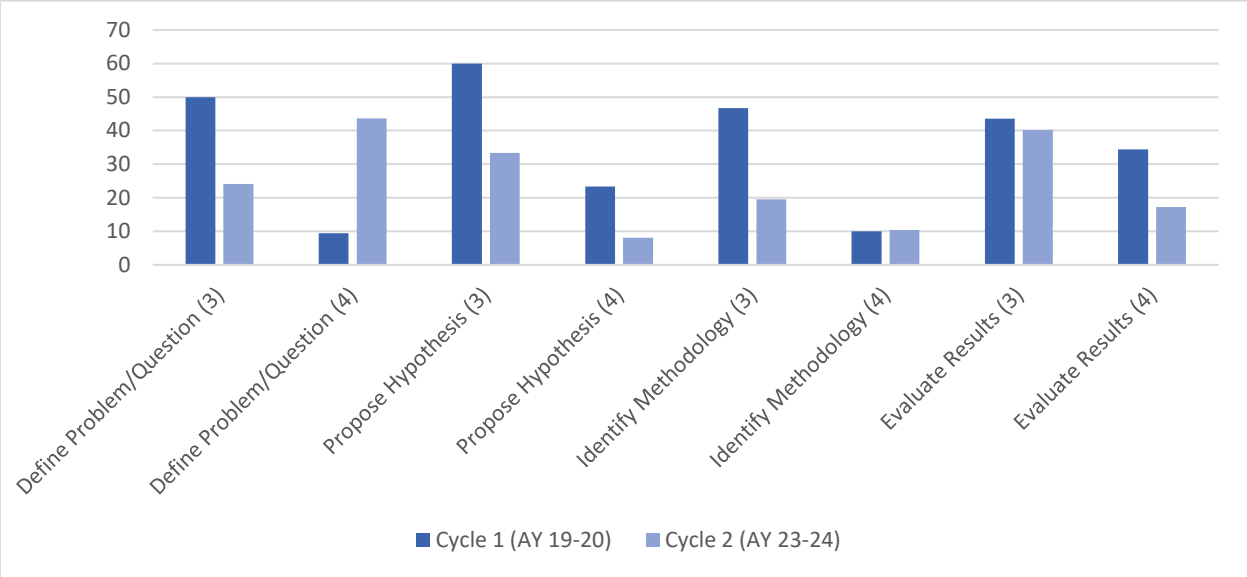
At the upper level we still see a surprising amount of "not applicable" scores. Although at the lower level we saw a similar trend, that could be accounted for by lower expectations for introductory students. That same explanation can't account for the trend at the upper level since expectations of juniors and seniors should be higher. We should expect students at this level to be able to perform as scientists, that is, proposing hypotheses to account for observations and evaluate results of independently designed and run experiments wherein they determine what methodology is best to pursue their line of inquiry. However, we see again that the artifacts provided don't allow them to so perform. This could be an assignment choice issue, wherein students are able to so perform, and perhaps do so in other aspects of their coursework, but the artifact provided simply doesn't afford the opportunity to demonstrate these skills. Regardless, it is worrisome that so many artifacts are so designated. It creates lacunae in the data that may be indicative of weaknesses in our curriculum. In addition, the scores we do have demonstrate that when it comes to the SLOs "Propose Hypothesis," "Identify Methodology," and "Evaluate Results," students perform lower than in past cycles, and less than one fifth of our matriculating students demonstrate "Exemplary" level performances.

	1	**2**	**3**	**4**	**N/A**	**(3 + 4)**	**Total**	**% at (3+4)**	**% at 4**
Define Problem/Question	6	18	21	38	4	59	87	67.82	43.68
Propose Hypothesis	3	13	29	7	35	36	87	41.38	8.05
Identify Methodology	1	42	17	9	18	26	87	29.89	10.34
Evaluate Results	0	14	35	15	23	50	87	57.47	17.24

Percent of Scores at Accomplished and Exemplary Levels by Assessment Cycle Year

Outcome (Score)	**Cycle 1 (AY 19-20)**	**Cycle 2 (AY 23-24)**
Define Problem/Question (3)	50	24.14
Define Problem/Question (4)	9.38	43.68
Propose Hypothesis (3)	60	33.33
Propose Hypothesis (4)	23.33	8.05
Identify Methodology (3)	46.67	19.54
Identify Methodology (4)	10	10.34
Evaluate Results (3)	43.57	40.23
Evaluate Results (4)	34.38	17.24

Percentage of scores at Accomplished (3) and Exemplary (4) per Learning Outcome by Assessment Year Cycle (AY 19-20 and AY 23-24)



In conclusion, between the scores present and the “not scoreable” artifacts there is room for improvement in this Goal.

RUBRIC C (Quantitative)

Critical Inquiry: the ability to analyze new problems and situations to formulate informed opinions and conclusions.

Goal C: Apply quantitative and computational processes to solve problems.

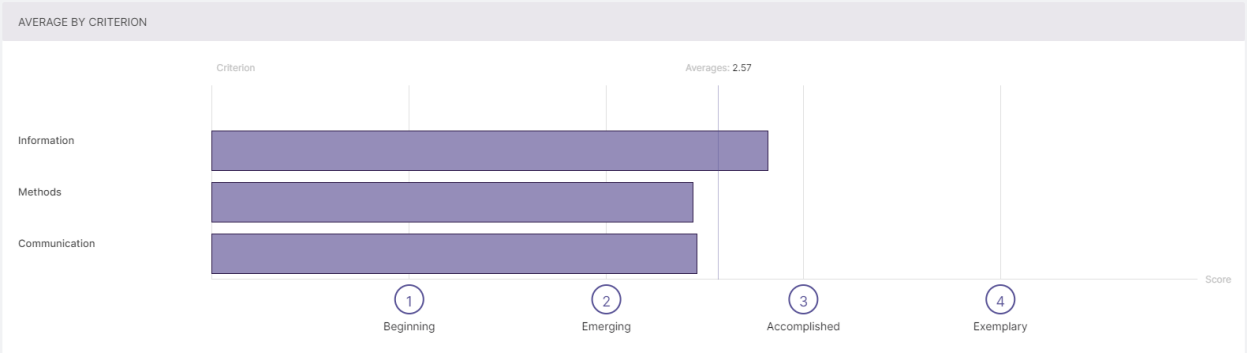
This rubric assesses the following three specific skill or knowledge areas related to Goal C:

- Information: Identifying and extracting relevant information needed to solve the problem.
- Methods: Selecting the appropriate methods to solve the problem.
- Communication: Effectively communicating quantitative concepts or evidence consistent with the purpose of the assignment.

UCA CORE – Critical Inquiry Rubric C (Quantitative)

Specific Skill or Knowledge Area Related to the Goal	Student Learning Outcomes				
	4	3	2	1	0
Information	Justifies solution in terms of relevant information needed to solve a problem.	Extracts all relevant information needed to solve a problem, but cannot justify the solution.	Extracts some, but not all, relevant information needed to solve a problem.	Recognizes relevant information needed to solve the problem, but cannot extract the information.	Assign a zero for performance that does not meet a score of one (1).
Methods	Solves a variety of problems using appropriate methods with consistent accuracy without verbal or supporting cues.	Uses appropriate methods to calculate problems accurately with occasional verbal or supportive cues. Independent calculations. Includes minor errors.	Solves calculations correctly but requires frequent verbal or supportive cues. Independent calculation. Accuracy is erratic.	Performs calculations with minimal accuracy independently. Can perform calculation accurately but only with continuous verbal and supportive cues.	
Communication	Articulates a variety of complex concepts in a logical and comprehensible manner.	Generates explanations of concepts that are detailed and clear.	Defines all major steps with some details missed or some language not completely precise.	Lists basic concepts.	

Lower Division Average by Criterion

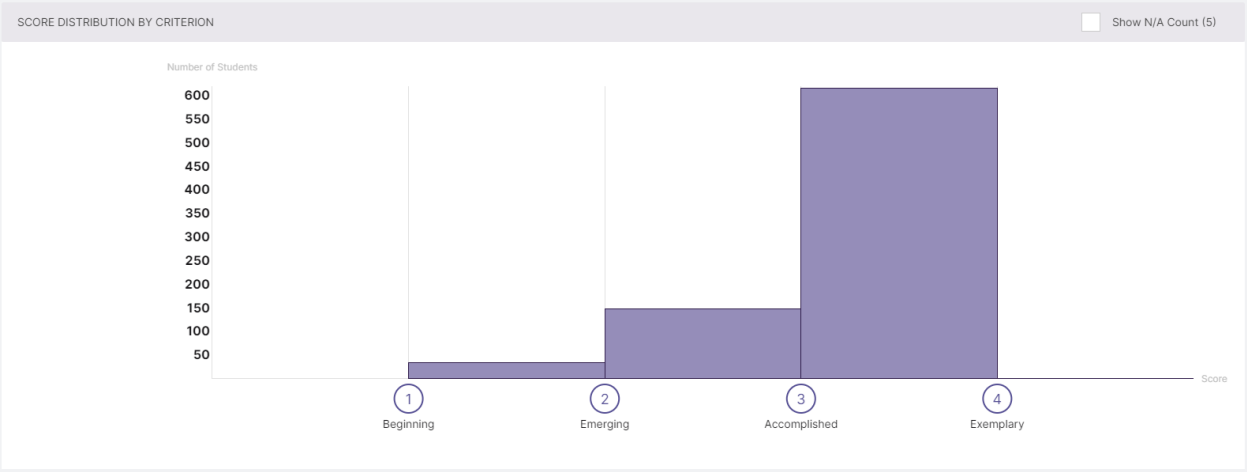


Outcome	Average
Information	2.82
Methods	2.44
Communication	2.46

Lower Division by Student Learning Outcome (SLO)

SLO 1: Information

Identifying and extracting relevant information needed to solve the problem.

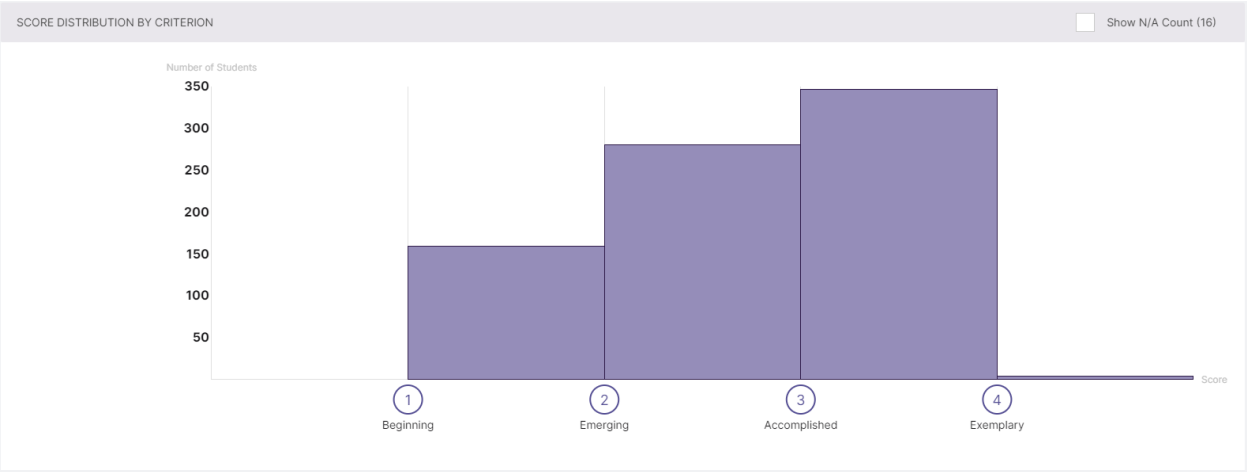


n=800

Rubric score	1	2	3	4	N/A
# of scores	35	149	616	0	5

SLO 2: Methods

Selecting the appropriate methods to solve the problem.

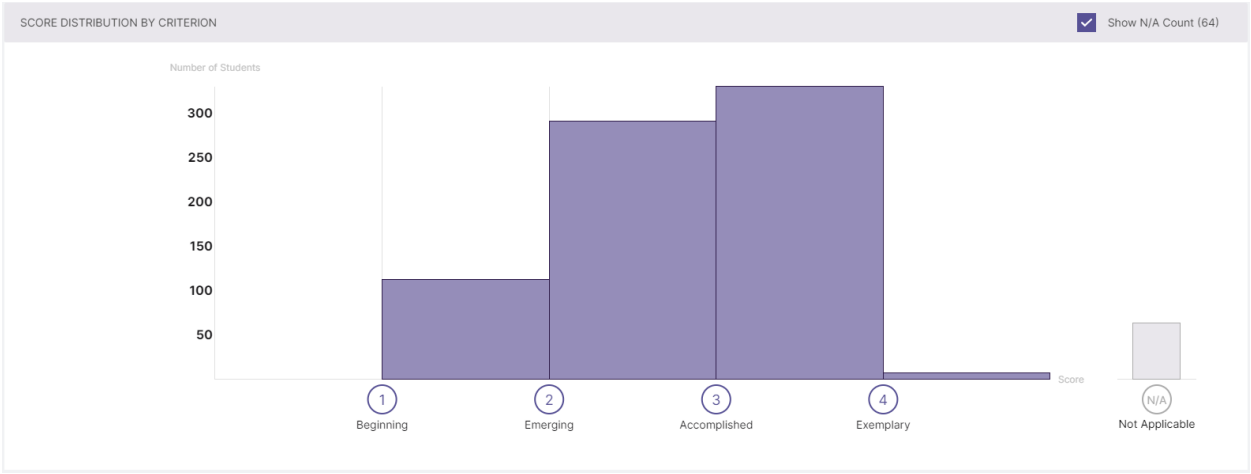


n=790

Rubric score	1	2	3	4	N/A
# of scores	159	280	347	4	15

SLO 3: Communication

Effectively communicating quantitative concepts or evidence consistent with the purpose of the assignment.



n=806

Rubric score	**1**	**2**	**3**	**4**	**N/A**
# of scores	113	291	330	8	64

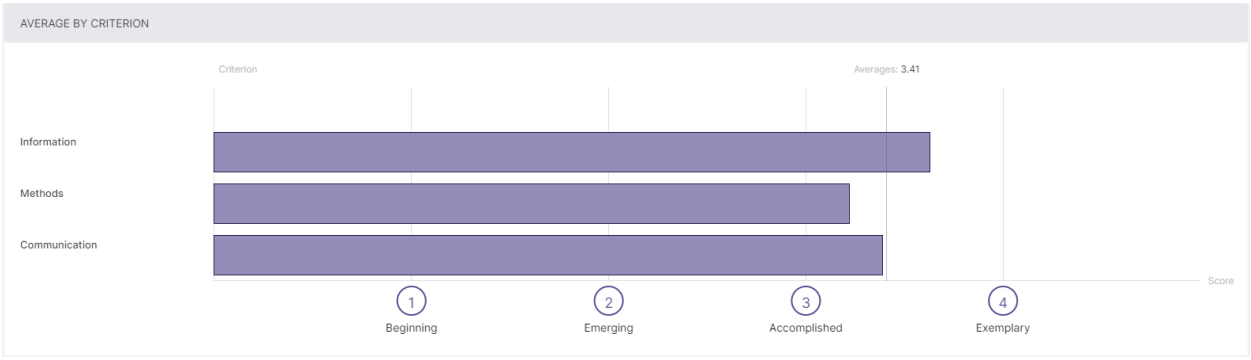
As with Goals A and B, at the lower division we expect to see consistent scores at low (1) to mid-level (2-3) on the rubric. As foundational courses, we would expect assignments to prompt students to demonstrate basic level competence, and we would hope students would be able to perform at a basic level. The data supports the statement that our students, at the lower level, consistently demonstrate competence across all learning outcomes for Goal C.

In general, there are strong averages across all three outcomes with the vast majority of scores resting at the “Emerging” and “Accomplished” levels.

	1	**2**	**3**	**4**	**N/A**	**Total**	**Average**
Information	35	149	616	0	5	800	2.82
Methods	159	280	347	4	15	790	2.44
Communication	113	291	330	8	64	806	2.46

Upper Division Distribution by Criterion

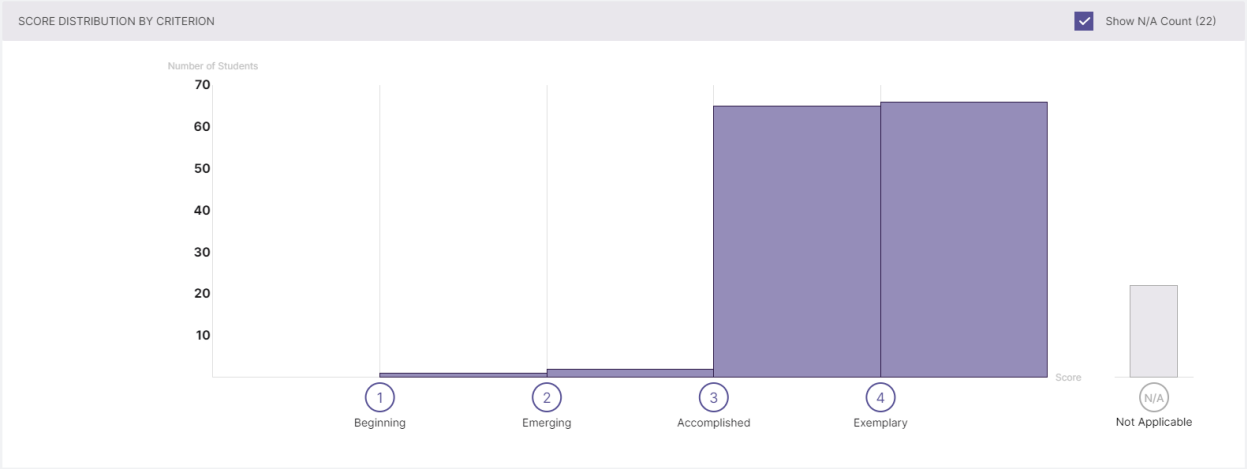
Assessing student performance at the upper division theoretically allows us to discern whether students improve from their performances at the lower division. The scores are more appropriately seen as a benchmark, or window onto student performance at point of matriculation, namely, in advanced level courses near the end of their studies.



Outcome	Average
Information	3.63
Methods	3.22
Communication	3.39

SLO 1: Information

Identifying and extracting relevant information needed to solve the problem.

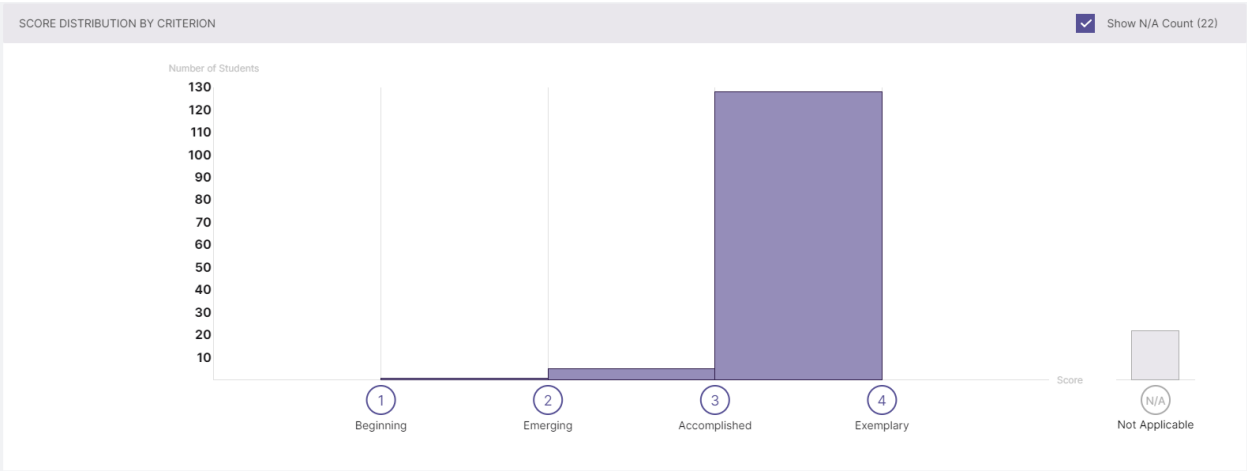


n=156

Rubric Score	1	2	3	4	N/A
# of scores	1	2	65	66	22

SLO 2: Methods

Selecting the appropriate methods to solve the problem.

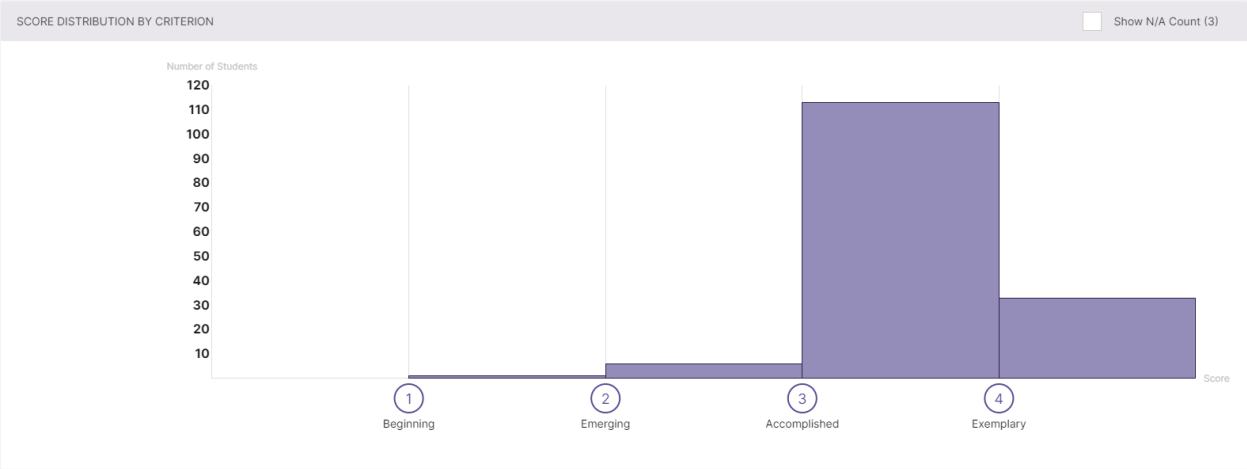


n=156

Rubric Score	1	2	3	4	N/A
# of scores	1	5	128	0	22

SLO 3: Communication

Effectively communicating quantitative concepts or evidence consistent with the purpose of the assignment.



n=156

Rubric Score	1	2	3	4	N/A
# of scores	1	6	113	33	3

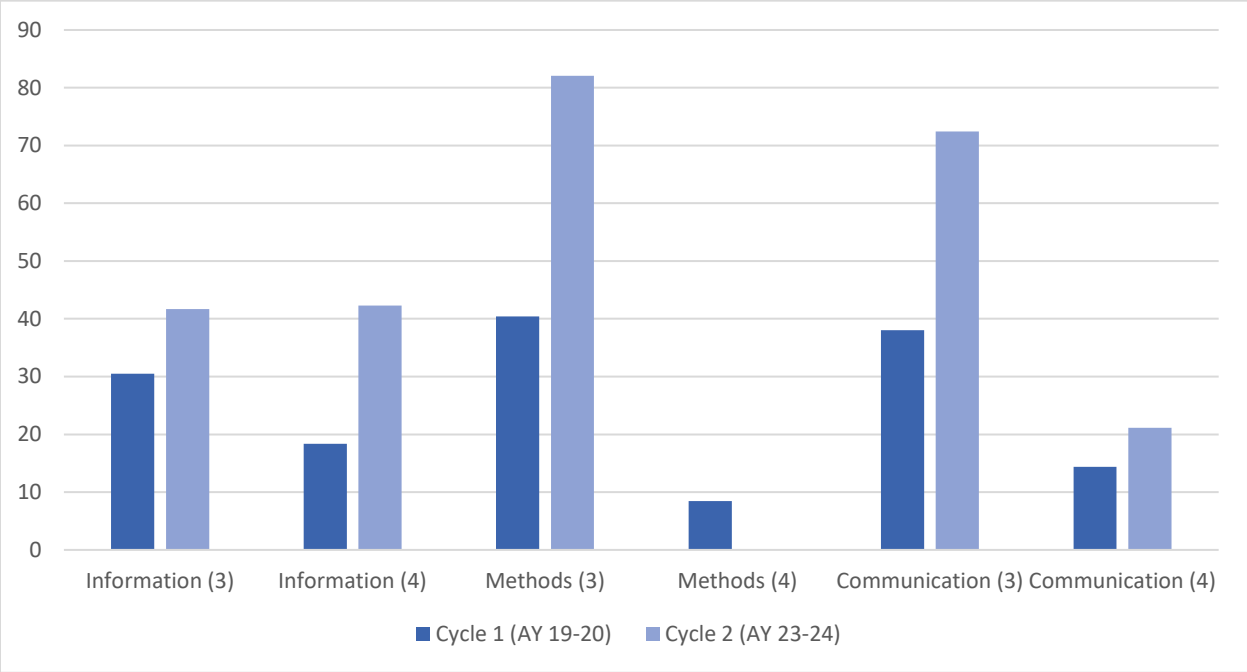
At the upper level we again see some “not applicable” scores as we had seen in goal B, but not enough to be worrisome. What is noticeable is the lack of “Exemplary” scores in both SLO 2 (Methods) and SLO 3 (Communication). There were no artifacts scored at 4 “Exemplary” for “Methods” which is worrisome. Possible explanations are that 1) assignments didn’t allow for a response that would result in a score of 4 or 2) assignments did so but no student scored a 4. This is only demonstrative for these artifacts, but the lack of a single score of 4 among 156 possible scores indicates a weakness in the curriculum, either assignment design and choice, or in student expectations and acumen.

	1	2	3	4	N/A	(3 + 4)	Total	% at (3+4)	% at 4
Information	1	2	65	66	22	131	156	83.97	42.31
Methods	1	5	128	0	22	128	156	82.05	0
Communication	1	6	113	33	3	146	156	93.59	21.15

Percent of Scores at Accomplished and Exemplary Levels by Assessment Cycle Year

Outcome (Score)	Cycle 1 (AY 19-20)	Cycle 2 (AY 23-24)
Information (3)	30.51	41.67
Information (4)	18.38	42.31
Methods (3)	40.44	82.05
Methods (4)	8.46	0
Communication (3)	38.01	72.44
Communication (4)	14.39	21.15

Percentage of scores at Accomplished (3) and Exemplary (4) per Learning Outcome by Assessment Year Cycle (AY 19-20 and AY 23-24)



In conclusion, although scores improved on the whole, the lack of any scores of 4 at Methods, in addition to low levels of scores of 4 in the previous cycle, suggests that either assignments aren't well designed to prompt and so facilitate exemplary level performances, or our students are not prepared to so offer exemplary responses. There is work to be done in this area.

IV. Conclusions and Recommendations

Overall, compliance continues to be an issue. We receive far too few artifacts from far too selective a set of courses from which to generate a stratified, random sample. For example, almost all the artifacts for Goal B came from Biology, whereas Chemistry, Physics, and Geography have sizeable shares of courses in that area. Having a limited, and skewed, sample from which to draw makes the assessment numbers unreliable. They cannot reasonably be generalized to the curriculum as a whole, even if they do indicate certain trends, cautiously interpreted.

From the data received it is clear that assignment design and selection are issues that could improve the quality of artifacts received. As noted above, there were a significant number of artifacts denoted “not scoreable” indicating that the assignment provided was a flawed instrument in measuring student acumen across the outcomes of the goal. Work with departments, CETAL, and others to improve not just faculty involvement and participation, but quality of assignment design is needed. The issue of assignment design and faculty participation will be a crucial component of the upcoming 10 year review of the UCA Core program.

Interpreting the data cautiously, we can say that those artifacts evaluated indicated that at the lower level students are being provided a firm foundation in these fundamental skills across the entire Critical Inquiry competency. At the upper level, there is clear work to be done, and not nearly enough of our students are scoring “Accomplished” or “Exemplary” at the end of their general education curriculum. Insofar as the rationale for the Core curriculum is the provision of a foundational education, and our students do not, on the whole, excel across these outcomes well into their college career, there is work to be done. Whether that is curriculum development, or a full scale audit and re-evaluation of all courses at the upper division, as was recently competed for the lower division, we will wait until the completion of the 10 year review to recommend.

Appendix A

Below are comments from scorers for Goal A, recorded during the assessment session. They have been edited for length and relevance.

- Again, I think this assignment is being directed to the wrong rubric.
- Hard to evaluate the analysis here because the student contradicts themself, first saying that the article they have selected states that rent control reduces "the overall amount of affordable housing and that will not help those who need it the most" but then goes on to say that, according to their notes, rent control creates a surplus of housing. I suspect, if I had to guess, that either the student doesn't know what the word "surplus" means.
- I almost marked this one as unscoreable because there's very little, if anything, here that can be seen as a response except two diagrams. In addition, I'm not sure this assignment fits this rubric. I'm aware that science assignments can address Inquiry and Analysis, but I don't see any evidence that students are being led to demonstrate those skills with this assignment.
- I cannot see that any analysis other than a chart of unprocessed data has been provided. Again, I wonder if this exercise science course should not be assessed under a different rubric.
- I wonder if this assignment is best applied to this rubric. It seems like it would better serve as a response to one of the quantitative/scientific rubrics. I'm not going to kick it out of the queue, but I do think there's an issue here.
- The student didn't respond to the most important part in the assignment which is related to critical thinking and economic reasoning (last question in the list): Given the general direction of the current economy, what do you think the appropriate Fed policy should be in the next 6 months? Defend your answer with statistics and good economic reasoning. (20%)
- This assignment doesn't really invite or lead students to consider a variety of sources, so it may not do a great job of addressing the Information skill area of information or source selection. Perhaps, if the assignment asked the student to respond beyond the bounds of using the textbook or lecture notes, it would better address that area of the rubric. As it is, the students really aren't lead to select much other than 1 or 2 articles from general sources.

Appendix B

Below are comments from scorers for Goal B, recorded during the assessment session. They have been edited for length and relevance.

- Another case in which N/A was used because zero was not an available score option
- Artifact does not allow for the testing of the method. **(x5)**
- Artifact doesn't allow for the evaluation of results **(x6)**
- BIOL 4195 assignment is not a good fit with the rubric, which focuses on scientific inquiry. This assignment is a literature review/standard research paper.
- Portion of the writing was illegible.
- Identify Methodology wasn't able to be evaluated due to illegible print.
- Having difficulty reading parts of this artifact
- It isn't really fair for nursing students to be assessed for scientific inquiry on a standard research paper/literature review. The only item they can be assessed on is defining the problem.
- N/A was used to mean both "score of zero" and "not prompted for this"
- Need a 0 because the question analyzed for methodology doesn't address the hypothesis in its entirety
- Need a zero scoring option **(x27)**
- Need to be able to distinguish between N/A for illegibility and N/A because the instrument doesn't prompt for the specific item
- Portions are illegible
- The artifact does not allow for the testing of the hypothesis.
- The artifact does not require a hypothesis.
- The problem was defined the same as the original experiment
- The question analyzed for method was illegible
- The artifact doesn't allow for evaluation of results
- This does not allow for experimentation to evaluate results
- This nursing assignment prompts students to define a problem/question, but does not fit the remainder of the rubric. Students are not prompted to propose a hypothesis, develop a scientific methodology (instead, their methods are just online search methods), or evaluate scientific results that they produced.
- Used N/A to indicate zero (student failed to follow all instructions)
- Zero option is needed for scoring. N/A could mean either illegible, not included in the prompt, or insufficient quality to meet the 1 standard

Appendix C

Below are comments from scorers for Goal A, recorded during the assessment session. They have been edited for length and relevance.

- This assignment doesn't match the given rubric. **(x19)**
- This assignment doesn't seem like a great fit for Rubric C. It does seem to address communication, but I don't see a problem-solving aspect to this assignment. Perhaps tweaking the assignment to one where the student is taking a more investigative approach would help as this seems more descriptive---instead of interpreting the regression output, could they instead maybe use the output to 'solve' some sort of problem given by the instructor? For example, Maybe the problem is X country is experiencing economic corruption, as their economic advisor, what would you suggest to help solve this problem based on your interpretation of the provided data and your subsequent analysis etc. etc. **(x18)**