SAINT LOUIS UNIVERSITY

PARKS COLLEGE OF ENGINEERING,
AVIATION AND TECHNOLOGY

Department of Aviation Science

Annual Graduate Program Assessment Report

2017 – 2018

Masters in Aviation and
PhD in Aviation

To perform the undergraduate program assessment of the Masters in Aviation and the PhD in Aviation, the Department of Aviation Science performed an graduate program assessment and individual course assessments. The department worked to develop its assessment plan during the fall 2017 semester and conducted its first assessment at the end of the spring 2018 semester. This process included the program-level SLO's which were scheduled to be assessed at the end of the spring 2018 semester as well as the assessment of individual courses to meet certain Student Learning Outcomes (SLO's) as determined by the department.

The program-level SLO's assessed during the 2017-2018 academic year were:

Spring 2018

1. Assess relevant literature or scholarly contributions in the aviation field of study.
2. Apply the major practices, theories, or research methodologies in the aviation field of study.

Results of the spring 2018 assessment of graduate program-level SLO's

The following program-level SLO'S assessed after the spring 2018 semester were:

1. Assess relevant literature or scholarly contributions in the aviation field of study.
2. Apply the major practices, theories, or research methodologies in the aviation field of study.

Program-level SLO	Recommendation
1. Assess relevant literature or scholarly contributions in the aviation field of study	There were no prior recommendations from previous program-level assessments of this SLO to assess during this cycle. The department used the results of the ASCI 4650 Economics of Air Transportation course as evidence of student ability to meet this program-level SLO. The department determined that students have satisfactorily met this program-level SLO and makes no recommendation for improvement at this time. In future assessment cycles the department will assess if course-level recommendations/improvements have improved student performance in this SLO.
2. Apply the major practices, theories, or research methodologies in the aviation field of study.	There were no prior recommendations from previous program-level assessments of this SLO to assess during this cycle. The department used the results of the ASCI 4650 Economics of Air Transportation course as evidence of student ability to meet this program-level SLO. The department determined that students have satisfactorily met this program-level SLO and makes no recommendation for improvement at this time. In future assessment cycles the department will assess if course-level recommendations/improvements have improved student performance in this SLO.

General Recommendation:

Since the department began offering the graduate programs there has been a noted inability of some of the graduate students to write at a level consistent with graduate work. The department required graduate students who were recent B.S. or Masters graduates to take the Graduate Record Examination (GRE) to qualify for admission while not requiring the GRE for graduate students who had been working in industry for significant periods of time. The majority of issues involving a lack of graduate-level writing skills were graduate students who had been away from the academic atmosphere for a longer period of time.

During the fall 2017 semester, as the department worked to establish its graduate program assessment plan, it changed the admission requirement to expect all graduate program applicants to take the GRE. A GRE waiver could be requested by a graduate program applicant. In lieu of the GRE graduate applicants may submit a writing sample. The writing sample should be solely authored by the graduate applicant and have been preferably composed within the last two to three years. The sample should relate to a contemporary issue in aviation or describe the graduate applicant's proposed research agenda and how that contemporary issue or proposed research agenda matches to the research currently being conducted by faculty in the Department of Aviation Science. The faculty of the department determines if the paper submitted warrants the GRE waiver.

The department is of the opinion that more standardized grading of written assignments should be conducted and recommends the development of a common grading rubric for use in all graduate program courses requiring written assignments.

NOTE: The performance indicator rubrics and evidence as provided by the instructor and indirect measures of student surveys of the courses listed above which were used by the department to assess the academic program can be found in ***Appendix A: Spring 2018 Masters in Aviation and PhD in Aviation Program and Course Assessment Data***, of this report.

Results of the fall 2017 assessment process of individual courses

Course Number	Course Name	Recommendation based on the Assessment Process
ASCI 5020-01	Aviation Security Management	Summary: Aviation Security Management is a graduate course that is taught entirely online. The course has no prerequisites, so the students generally do not possess a great deal of familiarity with aviation security prior to the course. The assessment of the course was based on two distinct assignments and performance on the course discussion boards. Recommendations: 1. Develop a more-granular approach to evaluate discussion board performance 2. Develop more-explicit instructions for discussion board accountability
ASCI 5470-01	Quantitative Data Analysis	Comments: Given that this is the first time that this assessment tool has been used in this course, some questions were raised concerning implementation. The primary issues were that the assessment rubric only contained three levels and that the rubric categories had to be mapped to existing criteria. Recommendations: The performance indicator rubric should be revised to contain only three levels to reflect the process used for the undergraduate courses. Subsequently, the assignment rubric should be revised to match the three levels used by the new performance indicator rubric. A category will be added to the class rubric to evaluate the use of figures.
ASCI 6070-01	Aviation Training Methods	

NOTE: The performance indicator rubrics and evidence as provided by the instructor and indirect measures of student surveys of the courses listed above which were used by the department to assess the academic program can be found in ***Appendix A: Spring 2018 Masters in Aviation and PhD in Aviation Program and Course Assessment Data***, of this report.

SAINT LOUIS UNIVERSITY

PARKS COLLEGE OF ENGINEERING,
AVIATION AND TECHNOLOGY

Department of Aviation Science

Appendix A

Spring 2018 Masters in Aviation and PhD in Aviation

Graduate Program and Course Assessment Data

Direct Measures
Of
Assessment

ASCI 5020 Aviation Security Management

Learning Outcome - The student will demonstrate familiarity with pre-9/11 aviation security strategies in written form by making informed post on the course discussion boards, on course assignments and responding correctly to questions presented on course examinations.

Description of Assignment:

Performance Indicator	*Assignment Type*	*% Needs Improvement*	*% Meets Expectations*	*% Exceeds Expectations*	Mean
The student will demonstrate familiarity with pre-9/11 aviation security strategies (Discussion Boards)	Narrative Qual/Quan	14.5%	28.5%	57%	90.08%
The student will demonstrate a working knowledge of the fundamental tenants of the Aviation and Transportation Security Act, the subsequent Homeland Security Act as well as the roles and functions of the Transportation Security Administration (Capstone Paper)	Narrative Qual/Quan	0%	28.5%	71.5%	92.29%
Learning Outcome - The student will demonstrate a practical understanding and operational knowledge of the best practices associated with air cargo and airport security (Writing Assignment 1)	Narrative Qual/Quan	0%	49%	51%	92.28%

Example copies of Needs Improvement, Meets Expectations and Exceeds Expectation assignments follow

Summary:

Aviation Security Management is a graduate course that is taught entirely online. The course has no prerequisites, so the students generally do not possess a great deal of familiarity with aviation security prior to the course. The assessment of the course was based on two distinct assignments and performance on the course discussion boards. Overall, I was pleased with student performance, although early in the course two students did not fully engage the discussion boards.

Recommendations:

1. Develop a more-granular approach to evaluate discussion board performance
2. Develop more-explicit instructions for discussion board accountability

Performance Indicator Rubric 2. Apply the major practices, theories, or research methodologies in the aviation field of study

Course: ASCI5470

Semester Taught: Spring 2018

Number of Students Scored: 10

Type of Student Work Used for Assessment: Final project grading rubric scores

*Attach description of assignment used for assessment and samples of student work.

Performance Indicator	Questions, Problems, Etc.	Beginning %	Developing	Accomplished	Exemplary
Student is aware of different skills needed to carry out research in Aviation, eg. data analysis, field work, numerical modeling, computational competence.	Demonstrates an understanding of the aviation field	12			88
Given a figure, student could describe a method that could be used to generate it.	N/A				
Student has demonstrated competence with several different skill sets.	Problem significance or contribution	12		12	75
Student has reached expert level in one type of skill.	Results & conclusions discussion	12		25	62
Given a paper in Aviation, the student could create a plan to reproduce the study.	Relevance of sources			25	75
	Comments: Given that this is the first time that this assessment tool has been used in this course, some questions were raised concerning implementation. The primary issues were that the assessment rubric only contained three levels and that the rubric categories had to be mapped to existing criteria.				

	Recommendations: The performance indicator rubric should be revised to contain only three levels to reflect the process used for the undergraduate courses. Subsequently, the assignment rubric should be revised to match the three levels used by the new performance indicator rubric. A category will be added to the class rubric to evaluate the use of figures.

Performance Indicator Rubric

2. Apply the major practices, theories, or research methodologies in the aviation field of study.

Course: ASCI 6070 Semester Taught: Spring 2018 Number of Students Scored: 8

Type of Student Work Used for Assessment* (e.g. Homework #4; Exam #2 problem 3; final project): Précis/Term Paper

**Attach description of assignment used for assessment and samples of student work.*

Rating Scale / Performance Indicator	Needs Improvement	Meets Expectations	Exceeds Expectations
Identify necessary techniques, skills and tools of modern aviation practice for a given situation.	Identifies a small subset of necessary techniques, skills, and tools; identifies unrelated techniques, skills, and tools.	Identifies almost all of the relevant techniques, skills, and tools; missing some minor techniques, skills, and tools.	Identifies all relevant techniques, skills, and tools; does not include unrelated techniques, skills, and tools.
Explain the use of specific techniques, skills and tools of modern aviation practice.	Provides little explanation of how the techniques, skills, and tools should be used; provides incorrect explanation of how to use techniques, skills, and tools.	Explains how almost all of the techniques, skills, and tools should be used; shows adequate understanding of techniques, skills, and tools; missing the explanation of some minor techniques, skills, and tools.	Explains how all relevant techniques, skills, and tools should be used; shows in-depth understanding of techniques, skills, and tools; does not explain unrelated aspects of techniques, skills, and tools.
Apply the chosen techniques, skills and tools of modern aviation practice to the given situation.	Applies a small subset of the necessary techniques, skills, and tools; incorrectly applies the techniques, skills, and tools.	Correctly applies almost all of the techniques, skills, and tools; demonstrates adequate use of techniques, skills, and tools; incorrectly applies some minor techniques, skills, and tools.	Correctly applies all relevant techniques, skills, and tools; demonstrates mastery of techniques, skills, and tools; does not apply unnecessary techniques, skills, and tools.
Reflect on the choice of techniques, skills and tools of modern aviation practice applied to the given situation.	Provides little evidence of reflection; incorrectly attributes success or failure to certain techniques, skills, and tools.	Reflects properly on almost all of the techniques, skills, and tools; proposes some improvements or justifies properly the use of some techniques, skills, and tools; reflects improperly on some minor techniques, skills, and tools.	Reflects properly on all relevant techniques, skills, and tools; proposes several improvements or justifies properly the use of all techniques, skills, and tools; does not reflect on irrelevant techniques, skills, and tools.

Performance Indicator Rubric

2. Apply the major practices, theories, or research methodologies in the aviation field of study

Course: ASCI 6070 Semester Taught: Spring 2018 Number of Students Scored: 8

For each item below, please mark the appropriate box to rate the students' strength on a scale of 1 to 4 where 1: beginning, 2: developing, 3: accomplished, and 4: exemplary.

Type of Student Work Used for Assessment* (e.g. Homework #4; Exam #2 problem 3; final project): Précis and Term Paper

*Attach description of assignment used for assessment and samples of student work.

Performance Indicator	Beginning	Developing	Accomplished	Exemplary
Student is aware of different skills needed to carry out research in Aviation, eg. data analysis, field work, numerical modeling, computational competence.		X		
Given a figure, student could describe a method that could be used to generate it.				
Student has demonstrated competence with several different skill sets.		X		
Student has reached expert level in one type of skill.				
Given a paper in Aviation, the student could create a plan to reproduce the study.				
Comments:				

Rubric Statistics Report

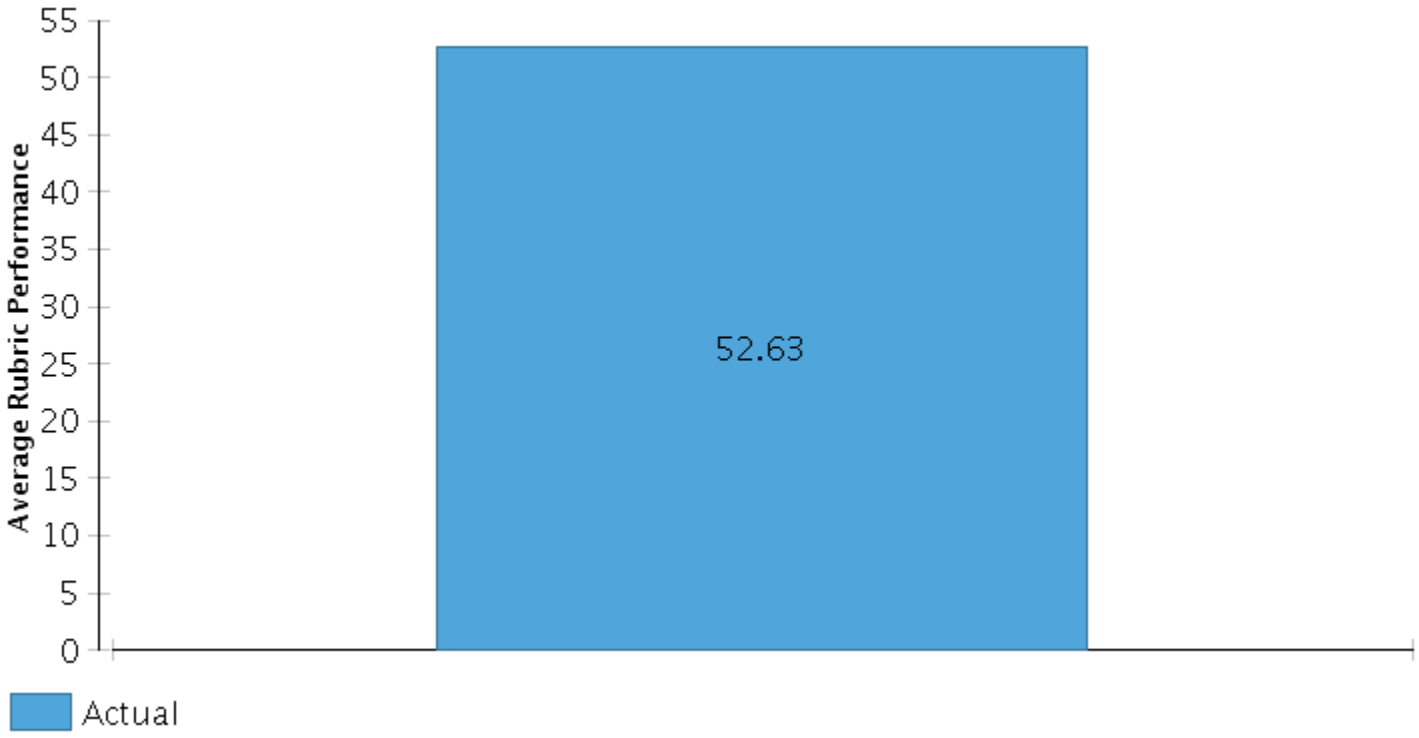
Report Sections
- Overview
- Rubric Overall Performance
- Rubric Analysis
- Frequency Distribution

Overview

Current Instrument Name	Term Paper
Rubric Name	Term Paper Rubric
Rubric Description	
Total Evaluations	8
Begin Date	Jan 16, 2018
End Date	May 22, 2018

Rubric Overall Performance

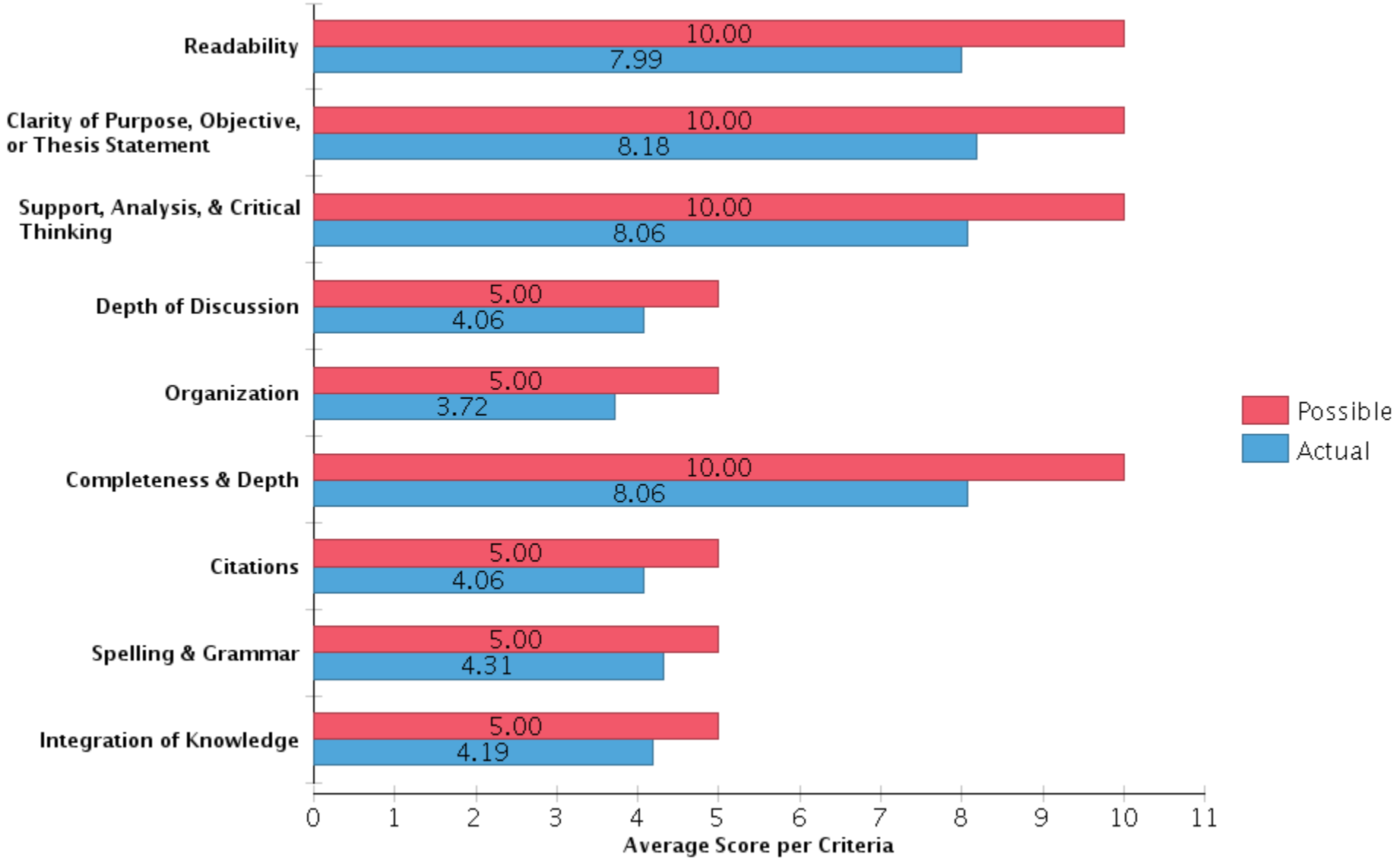
Points Possible: 65.00



Rubric Statistics Report

Rubric Analysis

Term Paper Rubric



Rubric Statistics Report

Frequency Distribution

Term Paper Rubric

Criteria		Execllent	Above Average	Average	Below Average	Poor	Number Evaluatior	Average	Median	Mode	Std. Deviation
Readability	Points	9.00 - 10.00	8.00 - 9.00	7.00 - 8.00	6.00 - 7.00	0.00 - 6.00					
		0%	62%	25%	12%	0%	8	7.99	8.00	7.50	0.63
Clarity of Purpose, Objective, or Thesis Statement	Points	9.00 - 10.00	8.00 - 9.00	7.00 - 8.00	6.00 - 7.00	0.00 - 6.00					
		0%	75%	25%	0%	0%	8	8.17	8.25	8.50	0.51
Support, Analysis, & Critical Thinking	Points	9.00 - 10.00	8.00 - 9.00	7.00 - 8.00	6.00 - 7.00	0.00 - 6.00					
		0%	75%	25%	0%	0%	8	8.06	8.25	8.50	0.56
Depth of Discussion	Points	4.50 - 5.00	4.00 - 4.50	3.50 - 4.00	3.00 - 3.50	0.00 - 3.00					
		0%	75%	12%	12%	0%	8	4.06	4.25	4.25	0.40
Organization	Points	4.50 - 5.00	4.00 - 4.50	3.50 - 4.00	3.00 - 3.50	0.00 - 3.00					
		0%	25%	62%	12%	0%	8	3.72	3.75	3.75	0.25

Rubric Statistics Report

Criteria		Execllent	Above Average	Average	Below Average	Poor	Number Evaluatior	Average	Median	Mode	Std. Deviation
Completeness & Depth	Points	9.00 - 10.00	8.00 - 9.00	7.00 - 8.00	6.00 - 7.00	0.00 - 6.00					
		0%	75%	12%	12%	0%	8	8.06	8.50	8.50	0.73
Citations	Points	4.50 - 5.00	4.00 - 4.50	3.50 - 4.00	3.00 - 3.50	0.00 - 3.00					
		0%	75%	25%	0%	0%	8	4.06	4.00	4.00	0.18
Spelling & Grammar	Points	4.50 - 5.00	4.00 - 4.50	3.50 - 4.00	3.00 - 3.50	0.00 - 3.00					
		12%	88%	0%	0%	0%	8	4.31	4.25	4.25	0.29
Integration of Knowledge	Points	4.50 - 5.00	4.00 - 4.50	3.50 - 4.00	3.00 - 3.50	0.00 - 3.00					
		12%	62%	25%	0%	0%	8	4.19	4.25	4.25	0.35

Rubric Statistics Report- Discussion Assessment

Report Overview
Sections Rubric Overall Performance
Rubric Analysis
Frequency Distribution

Overview

Weeks Assessed: 04, 08, 12
Rubric Name Discussion Rubric
Rubric Description Used to assess weekly discussions
Rubric Type Numeric
Total Evaluations 22
Begin Date Jan 16, 2018
End Date May 21, 2018

Rubric Overall Performance

Points Possible:
10.00

Frequency Distribution

Discussion Rubric

Criteria	Superior	Excellent	Average	Limited	Flawed	Number
Substantive Contribution to Class Discussion	81%	14%	0%	5%	0%	22
Interaction with Others	54%	33%	13%	0%	0%	22
Active Participation	77%	5%	9%	4%	5%	22
Support, Analysis & Critical Thinking	77%	19%	4%	0%	0%	22
Readability	96%	4%	0%	0%	0%	22

Rubric Statistics Report

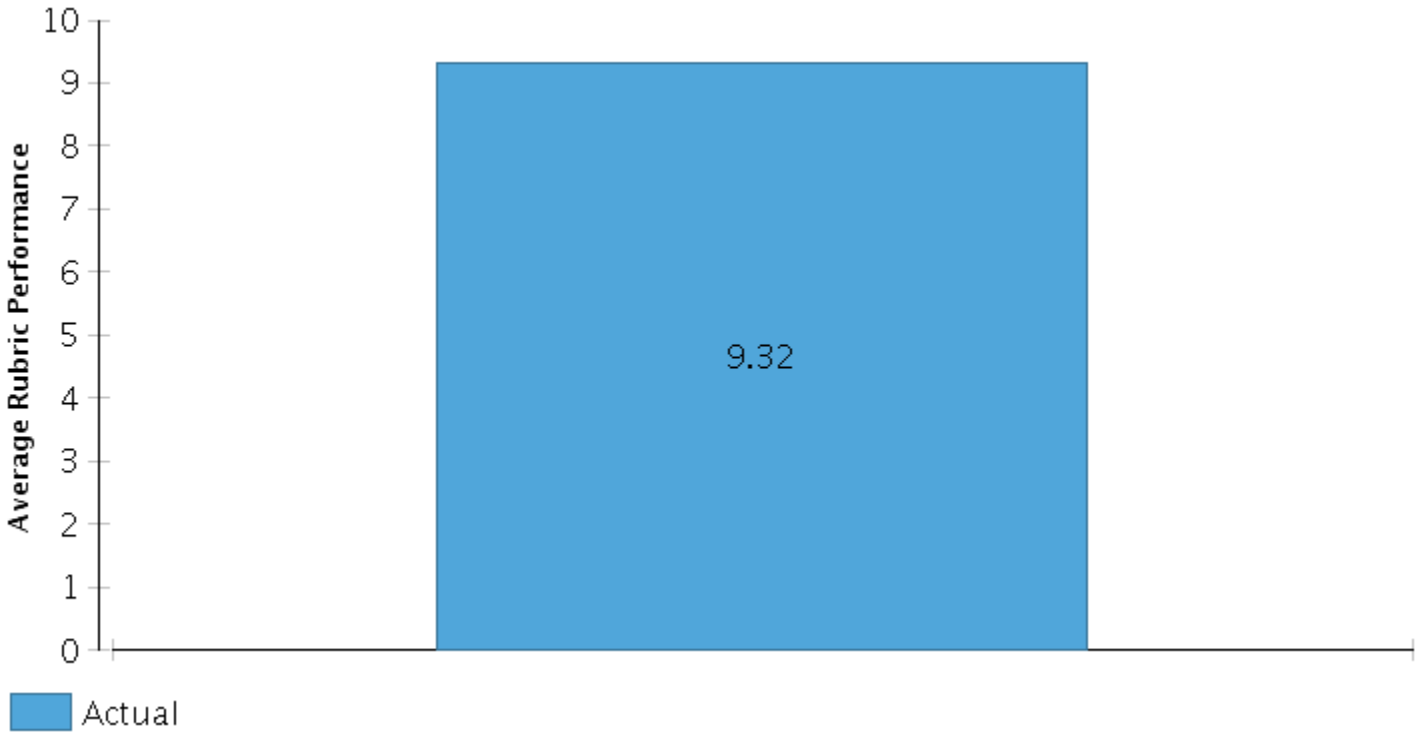
Report Sections
- Overview
- Rubric Overall Performance
- Rubric Analysis
- Frequency Distribution

Overview

Current Instrument Name	Week 04 Discussion
Rubric Name	Discussion Rubric
Rubric Description	Used to assess weekly discussions
Rubric Type	Numeric
Total Evaluations	7
Begin Date	Jan 16, 2018
End Date	May 21, 2018

Rubric Overall Performance

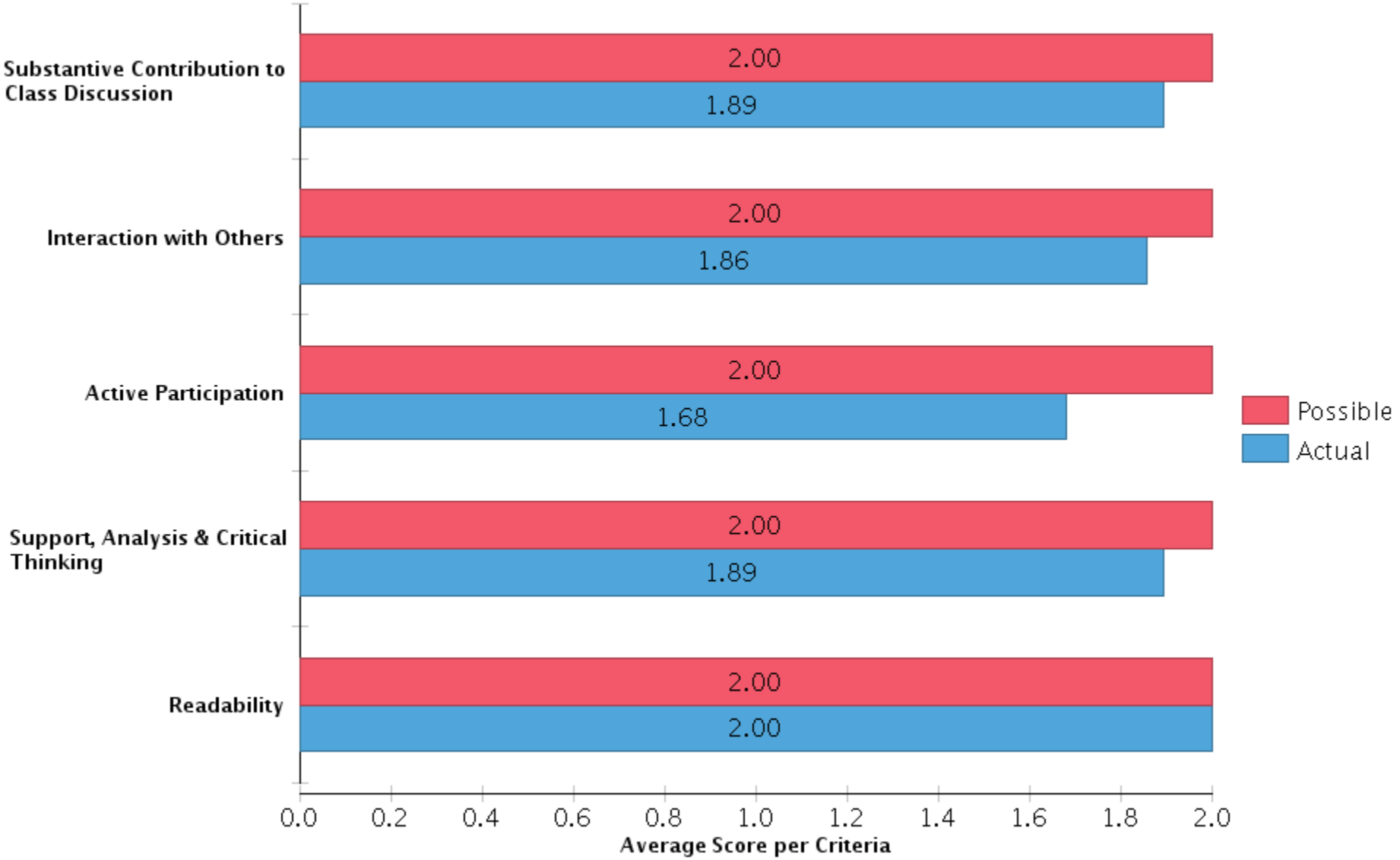
Points Possible: 10.00



Rubric Statistics Report

Rubric Analysis

Discussion Rubric



Rubric Statistics Report

Frequency Distribution

Discussion Rubric

Criteria		Superior	Excellent	Average	Limited	Flawed	Number Evaluatior	Average	Median	Mode	Std. Deviation
Substantive Contribution to Class Discussion	Points	2.00	1.75	1.50	1.25	0.00					
		86%	0%	0%	14%	0%	7	1.89	2.00	2.00	0.28
Interaction with Others	Points	2.00	1.75	1.50	1.25	0.00					
		43%	57%	0%	0%	0%	7	1.86	1.75	1.75	0.13
Active Participation	Points	2.00	1.75	1.50	1.25	0.00					
		71%	14%	0%	0%	14%	7	1.68	2.00	2.00	0.75
Support, Analysis & Critical Thinking	Points	2.00	1.75	1.50	1.25	0.00					
		57%	43%	0%	0%	0%	7	1.89	2.00	2.00	0.13
Readability	Points	2.00	1.75	1.50	1.25	0.00					
		100%	0%	0%	0%	0%	7	2.00	2.00	2.00	0.00

Rubric Statistics Report

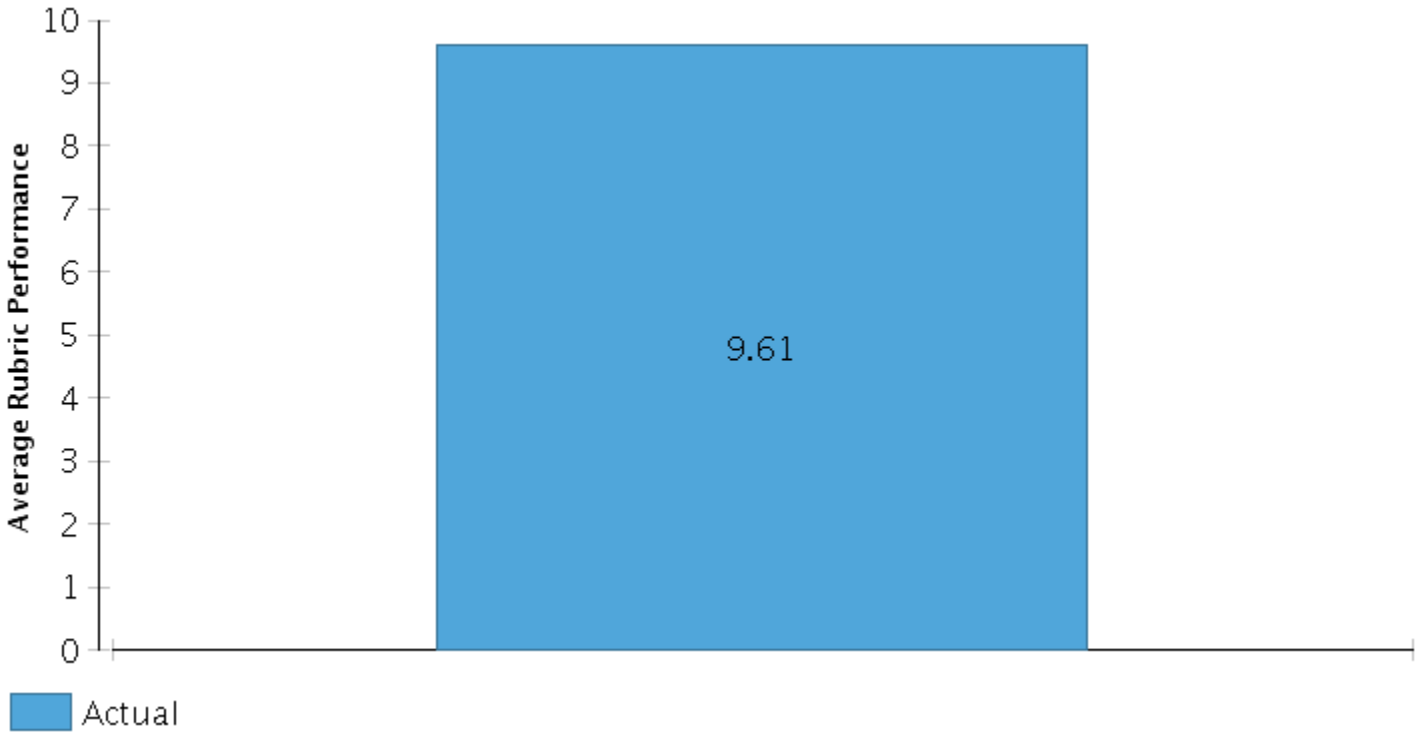
Report Sections
- Overview
- Rubric Overall Performance
- Rubric Analysis
- Frequency Distribution

Overview

Current Instrument Name	Week 08 Discussion
Rubric Name	Discussion Rubric
Rubric Description	Used to assess weekly discussions
Rubric Type	Numeric
Total Evaluations	7
Begin Date	Jan 16, 2018
End Date	May 21, 2018

Rubric Overall Performance

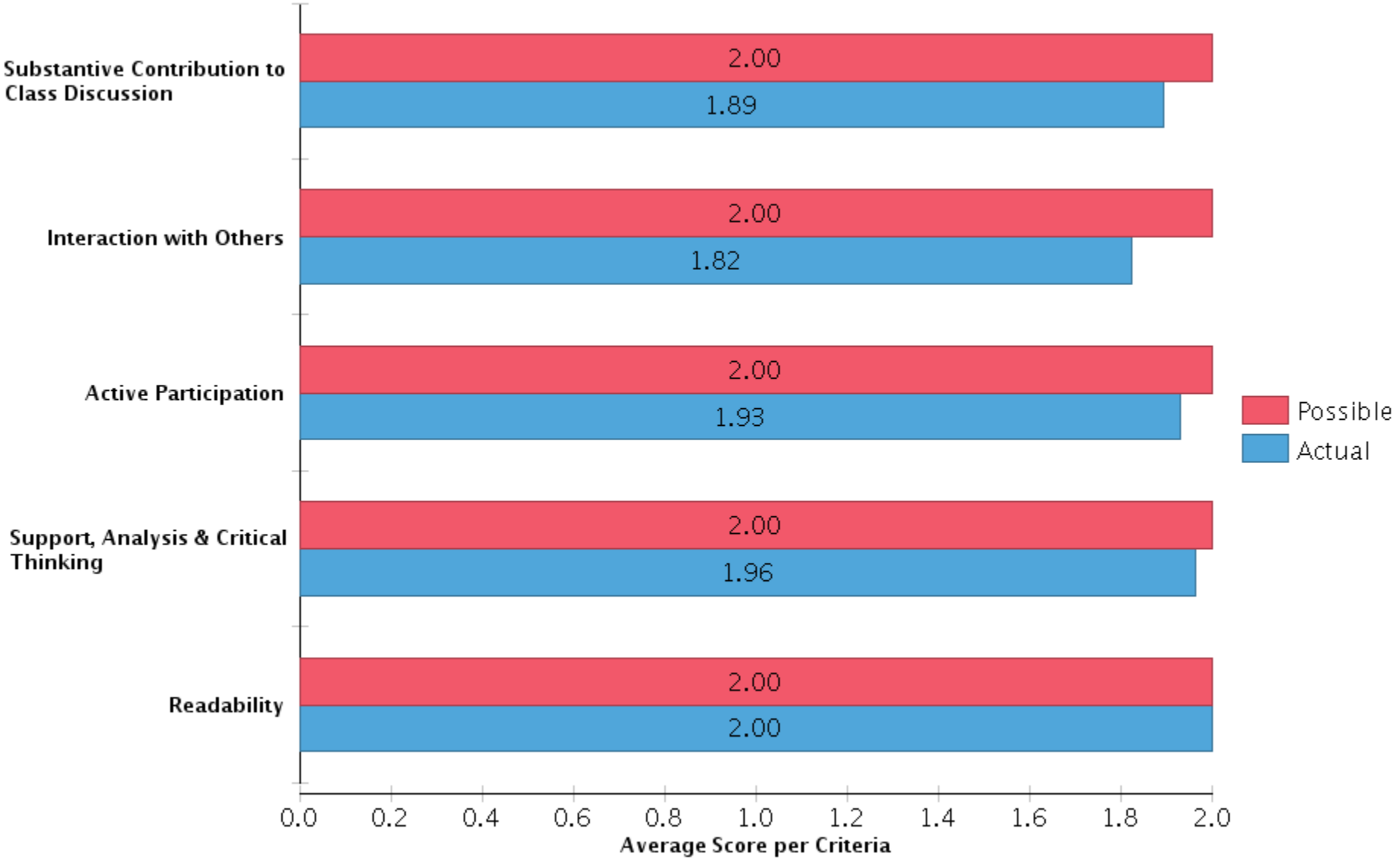
Points Possible: 10.00



Rubric Statistics Report

Rubric Analysis

Discussion Rubric



Rubric Statistics Report

Frequency Distribution

Discussion Rubric

Criteria		Superior	Excellent	Average	Limited	Flawed	Number Evaluatior	Average	Median	Mode	Std. Deviation
Substantive Contribution to Class Discussion	Points	2.00	1.75	1.50	1.25	0.00					
		57%	43%	0%	0%	0%	7	1.89	2.00	2.00	0.13
Interaction with Others	Points	2.00	1.75	1.50	1.25	0.00					
		43%	43%	14%	0%	0%	7	1.82	1.75	1.75	0.19
Active Participation	Points	2.00	1.75	1.50	1.25	0.00					
		86%	0%	14%	0%	0%	7	1.93	2.00	2.00	0.19
Support, Analysis & Critical Thinking	Points	2.00	1.75	1.50	1.25	0.00					
		86%	14%	0%	0%	0%	7	1.96	2.00	2.00	0.09
Readability	Points	2.00	1.75	1.50	1.25	0.00					
		100%	0%	0%	0%	0%	7	2.00	2.00	2.00	0.00

Rubric Statistics Report

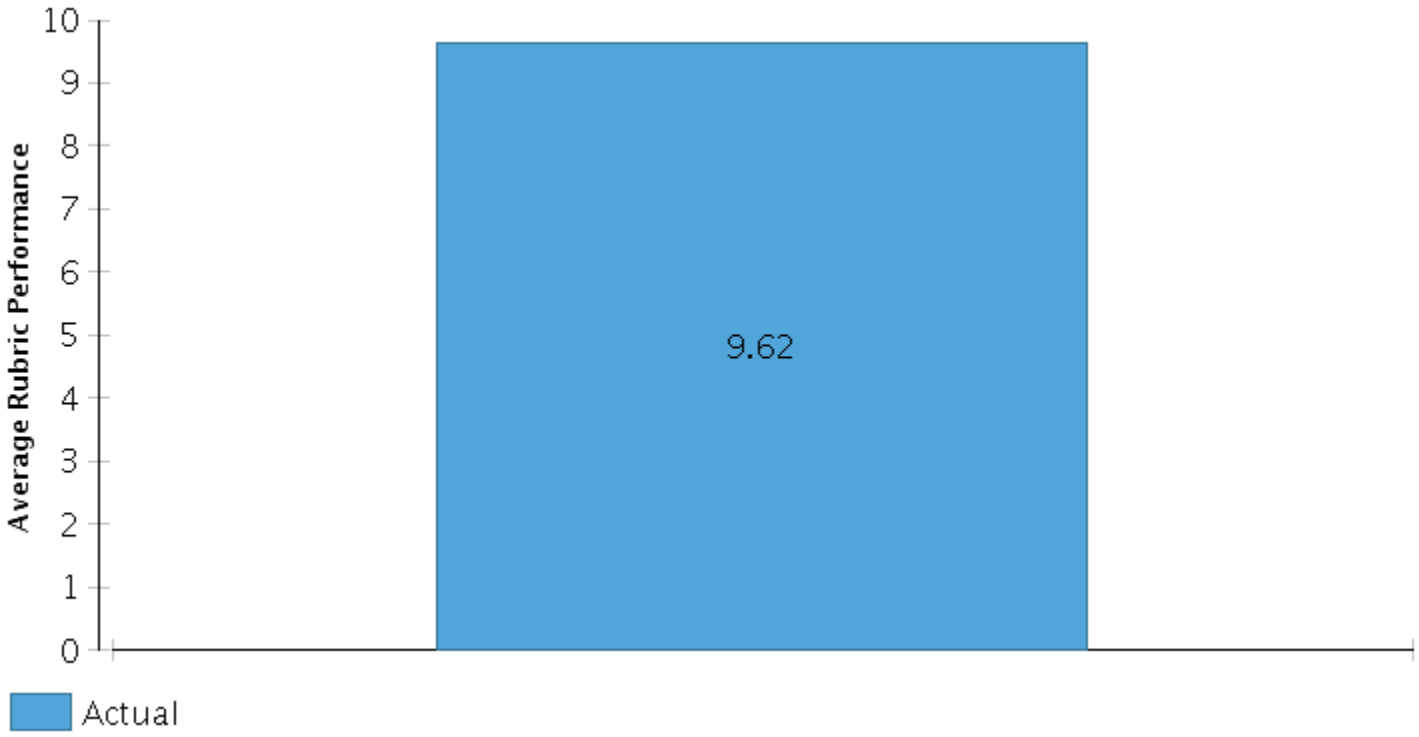
Report Sections
- Overview
- Rubric Overall Performance
- Rubric Analysis
- Frequency Distribution

Overview

Current Instrument Name	Week 12 Discussion
Rubric Name	Discussion Rubric
Rubric Description	Used to assess weekly discussions
Rubric Type	Numeric
Total Evaluations	8
Begin Date	Jan 16, 2018
End Date	May 21, 2018

Rubric Overall Performance

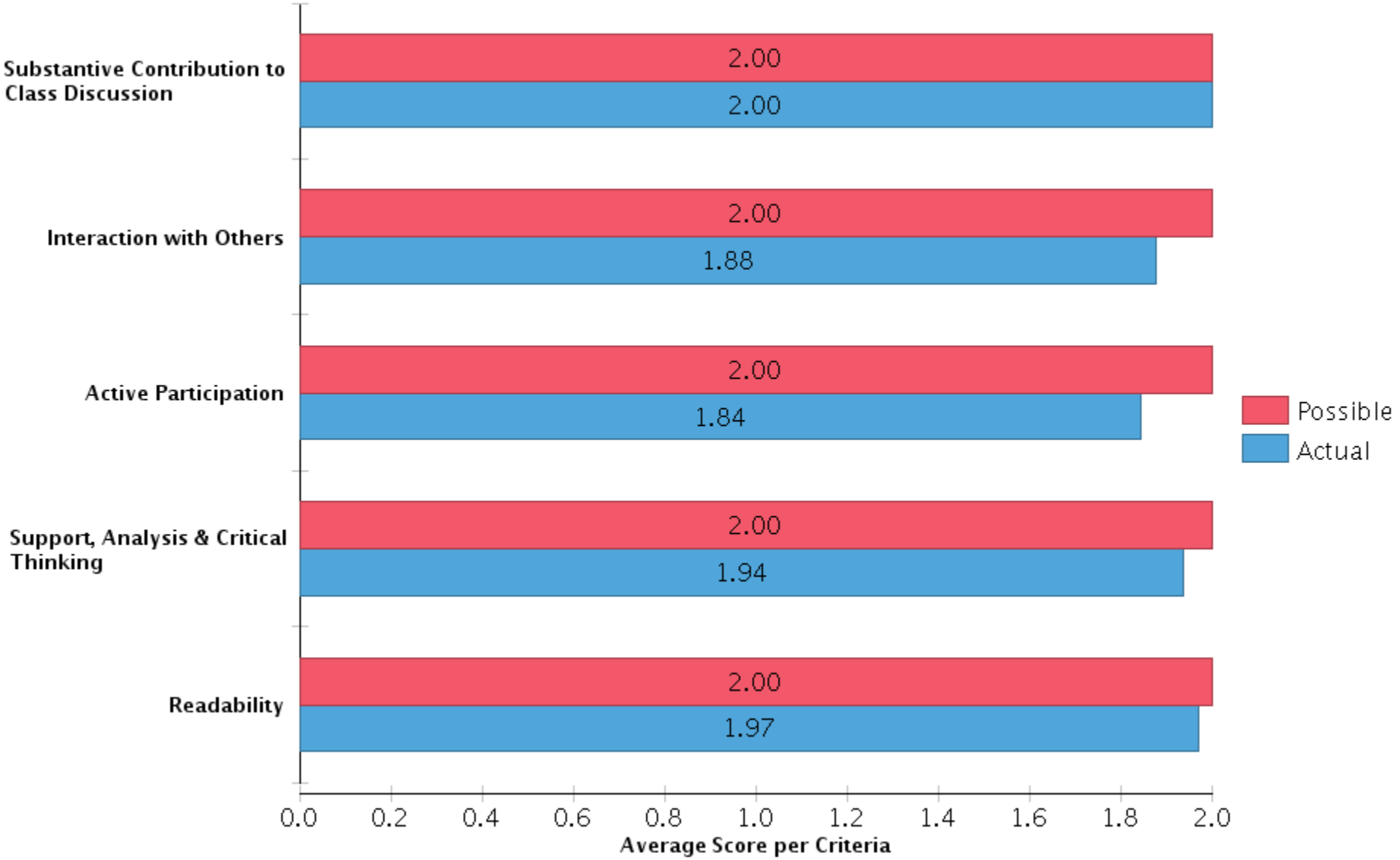
Points Possible: 10.00



Rubric Statistics Report

Rubric Analysis

Discussion Rubric



Rubric Statistics Report

Frequency Distribution

Discussion Rubric

Criteria		Superior	Excellent	Average	Limited	Flawed	Number Evaluatior	Average	Median	Mode	Std. Deviation
Substantive Contribution to Class Discussion	Points	2.00	1.75	1.50	1.25	0.00					
		100%	0%	0%	0%	0%	8	2.00	2.00	2.00	0.00
Interaction with Others	Points	2.00	1.75	1.50	1.25	0.00					
		75%	0%	25%	0%	0%	8	1.88	2.00	2.00	0.23
Active Participation	Points	2.00	1.75	1.50	1.25	0.00					
		75%	0%	12%	12%	0%	8	1.84	2.00	2.00	0.30
Support, Analysis & Critical Thinking	Points	2.00	1.75	1.50	1.25	0.00					
		88%	0%	12%	0%	0%	8	1.94	2.00	2.00	0.18
Readability	Points	2.00	1.75	1.50	1.25	0.00					
		88%	12%	0%	0%	0%	8	1.97	2.00	2.00	0.09

Rubric Statistics Report- Précis

Report Overview
Sections Rubric Overall Performance
Rubric Analysis
Frequency Distribution

Overview

Current Instrument Name Précis Rubric Evaluation weeks 3,6,9
Rubric Name Précis Rubric
Rubric Description
Total Evaluations 21
Begin Date Jan 16, 2018
End Date May 21, 2018

Rubric Overall Performance

Points Possible:
10.00
Chart does not appear in Excel

Rubric Analysis

Précis Rubric

Chart does not appear in Excel

Frequency Distribution

Précis Rubric

Criteria	Outstanding	Acceptable	Unacceptable	Number Evaluation
APA Citation	100%	0%	0%	21
Article Choice	100%	0%	0%	21
Summary	76%	24%	0%	21
Critique	90%	10%	0%	21
Quality of Writing	95%	5%	0%	21

Rubric Statistics Report

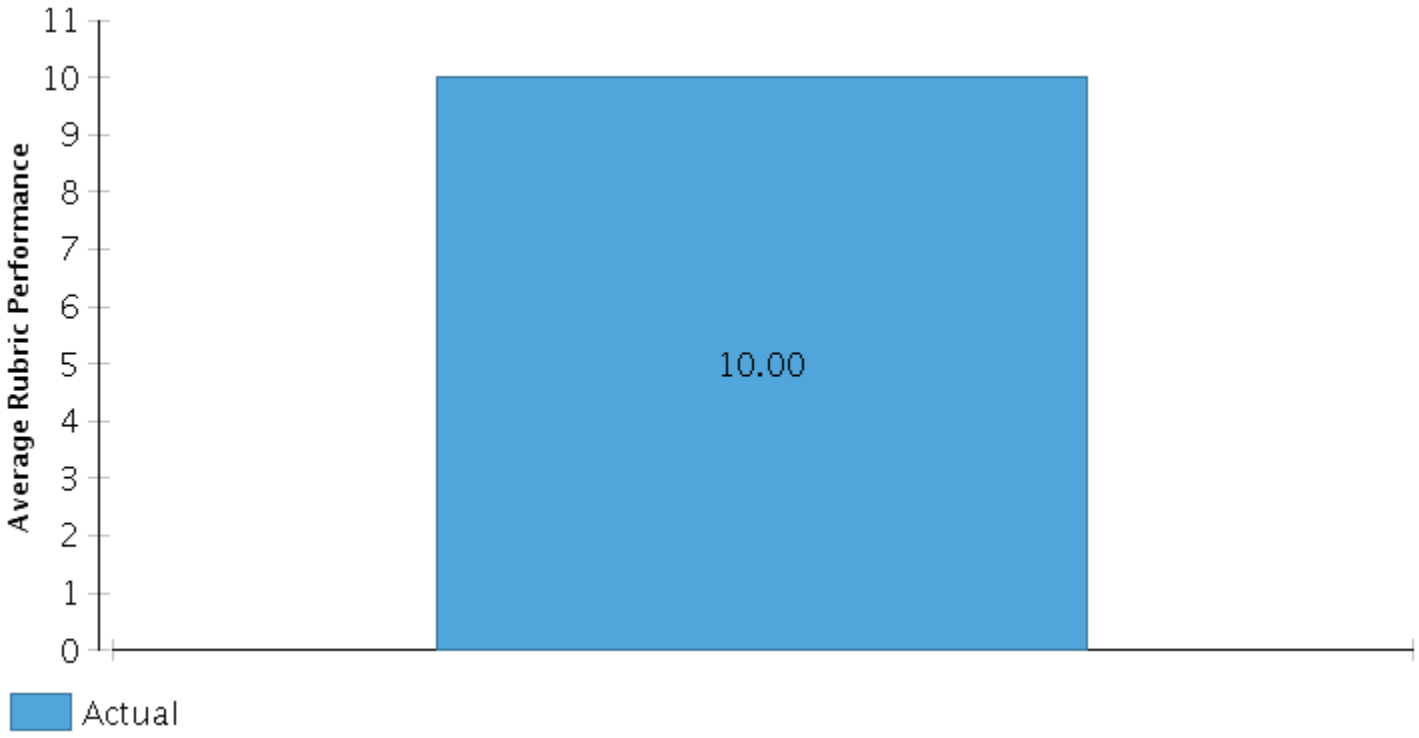
Report Sections
- Overview
- Rubric Overall Performance
- Rubric Analysis
- Frequency Distribution

Overview

Current Instrument Name	Week 3 Précis
Rubric Name	Précis Rubric
Rubric Description	
Total Evaluations	7
Begin Date	Jan 16, 2018
End Date	May 21, 2018

Rubric Overall Performance

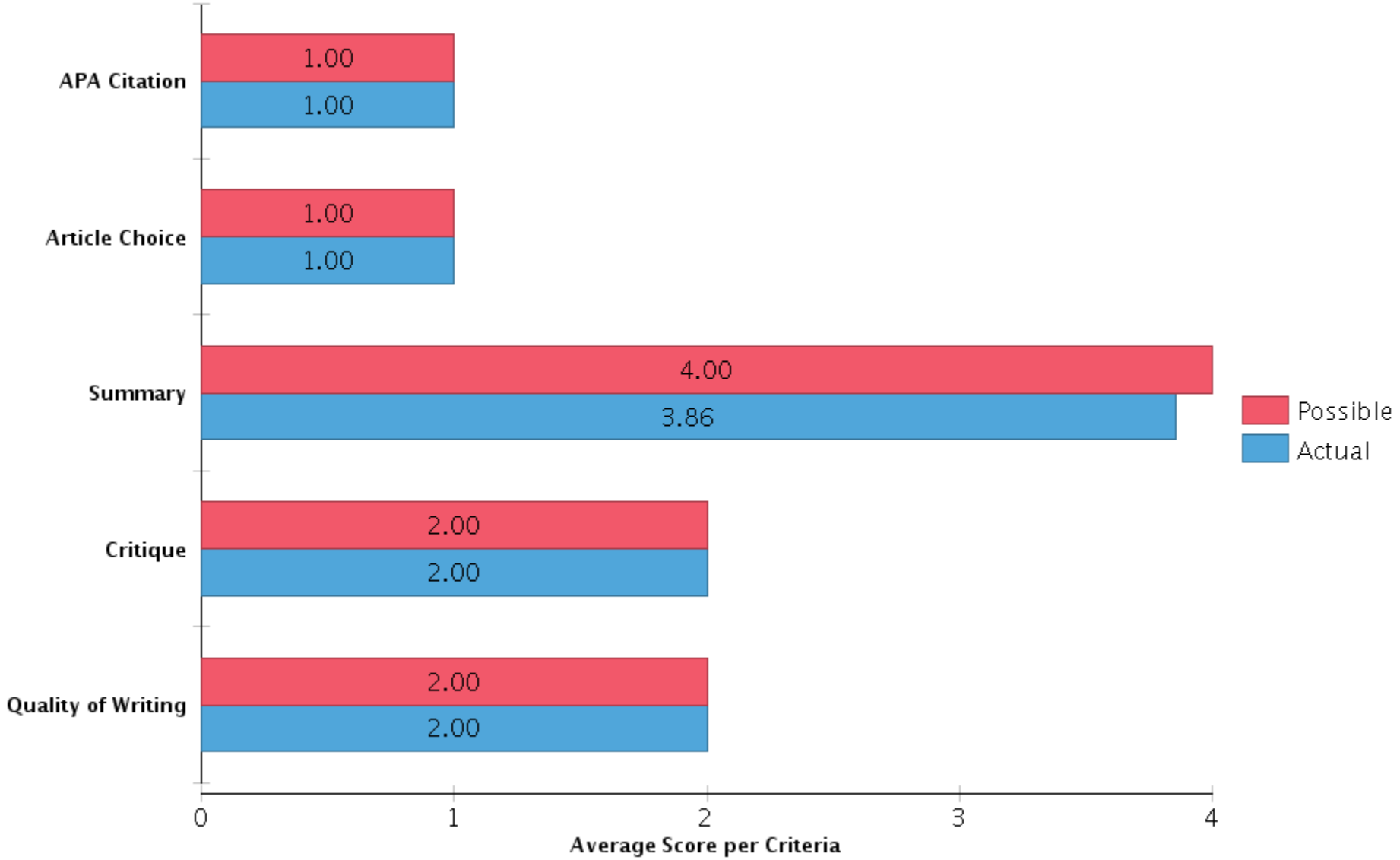
Points Possible: 10.00



Rubric Statistics Report

Rubric Analysis

Précis Rubric



Rubric Statistics Report

Frequency Distribution

Précis Rubric

Criteria		Outstanding	Acceptable	Unacceptabl	Number Evaluation	Average	Median	Mode	Std. Deviation
APA Citation	Points	1.00	0.00	0.00					
		100%	0%	0%	7	1.00	1.00	1.00	0.00
Article Choice	Points	1.00	0.00	0.00					
		100%	0%	0%	7	1.00	1.00	1.00	0.00
Summary	Points	4.00	3.00	0.00					
		86%	14%	0%	7	3.86	4.00	4.00	0.38
Critique	Points	2.00	1.00	0.00					
		100%	0%	0%	7	2.00	2.00	2.00	0.00
Quality of Writing	Points	2.00	1.00	0.00					
		100%	0%	0%	7	2.00	2.00	2.00	0.00

Rubric Statistics Report

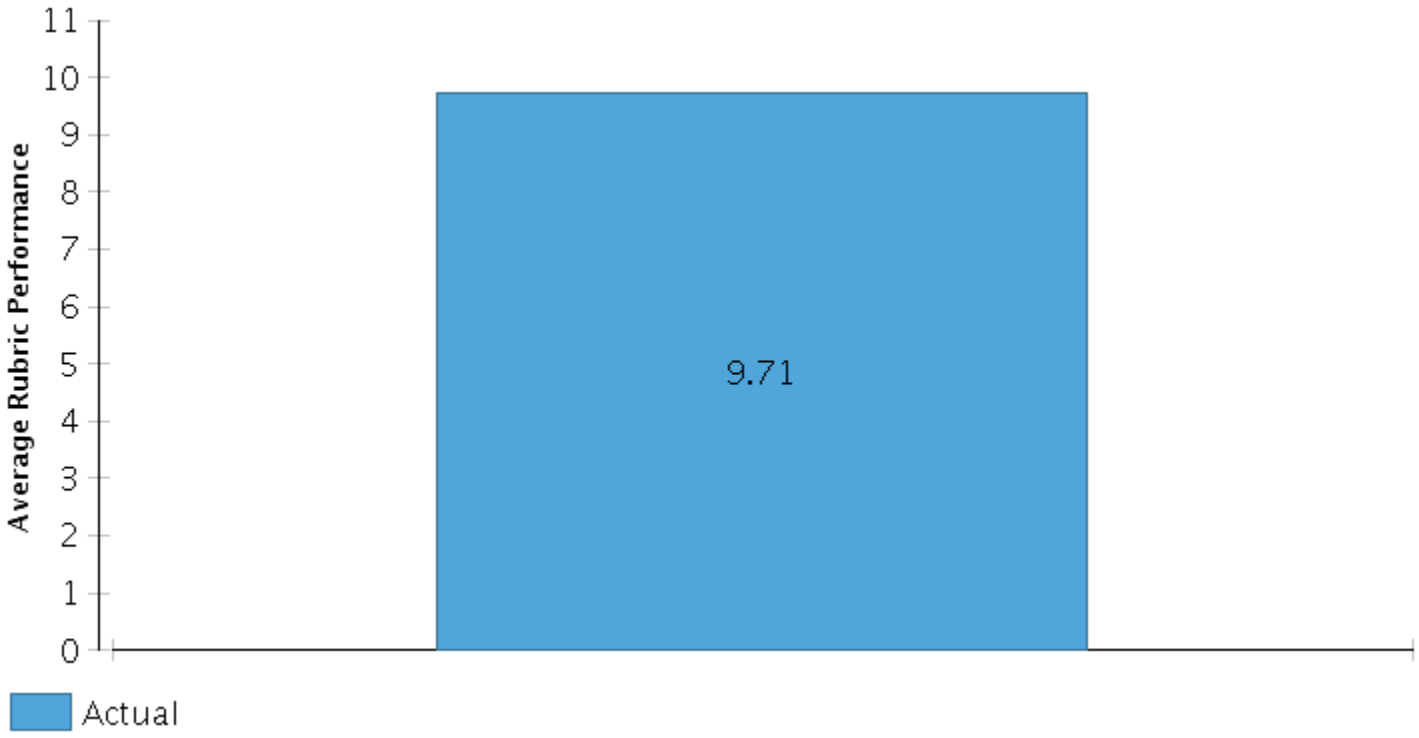
Report Sections
- Overview
- Rubric Overall Performance
- Rubric Analysis
- Frequency Distribution

Overview

Current Instrument Name	Week 6 Précis
Rubric Name	Précis Rubric
Rubric Description	
Total Evaluations	7
Begin Date	Jan 16, 2018
End Date	May 21, 2018

Rubric Overall Performance

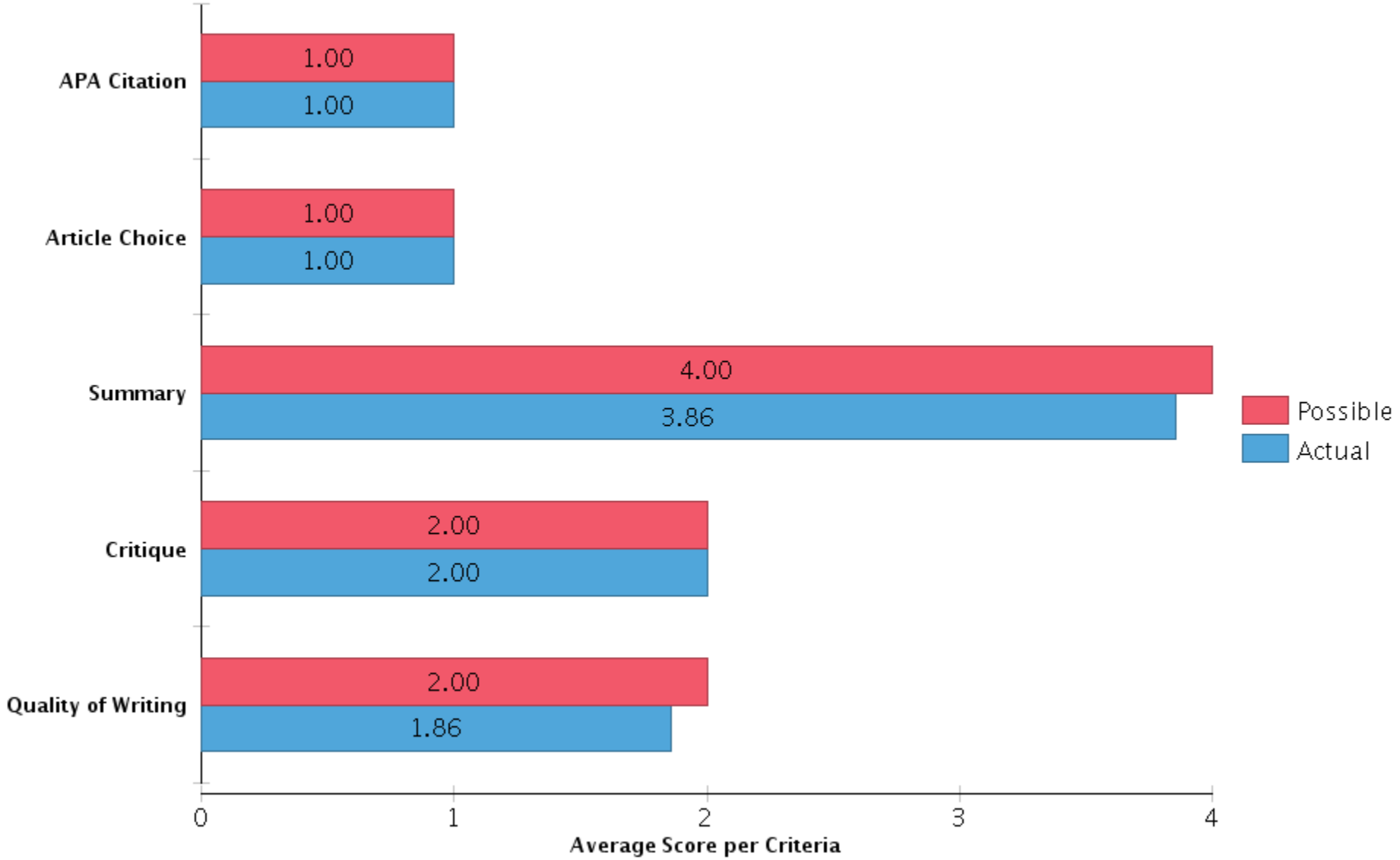
Points Possible: 10.00



Rubric Statistics Report

Rubric Analysis

Précis Rubric



Rubric Statistics Report

Frequency Distribution

Précis Rubric

Criteria		Outstanding	Acceptable	Unacceptabl	Number Evaluation	Average	Median	Mode	Std. Deviation
APA Citation	Points	1.00	0.00	0.00					
		100%	0%	0%	7	1.00	1.00	1.00	0.00
Article Choice	Points	1.00	0.00	0.00					
		100%	0%	0%	7	1.00	1.00	1.00	0.00
Summary	Points	4.00	3.00	0.00					
		86%	14%	0%	7	3.86	4.00	4.00	0.38
Critique	Points	2.00	1.00	0.00					
		100%	0%	0%	7	2.00	2.00	2.00	0.00
Quality of Writing	Points	2.00	1.00	0.00					
		86%	14%	0%	7	1.86	2.00	2.00	0.38

Rubric Statistics Report

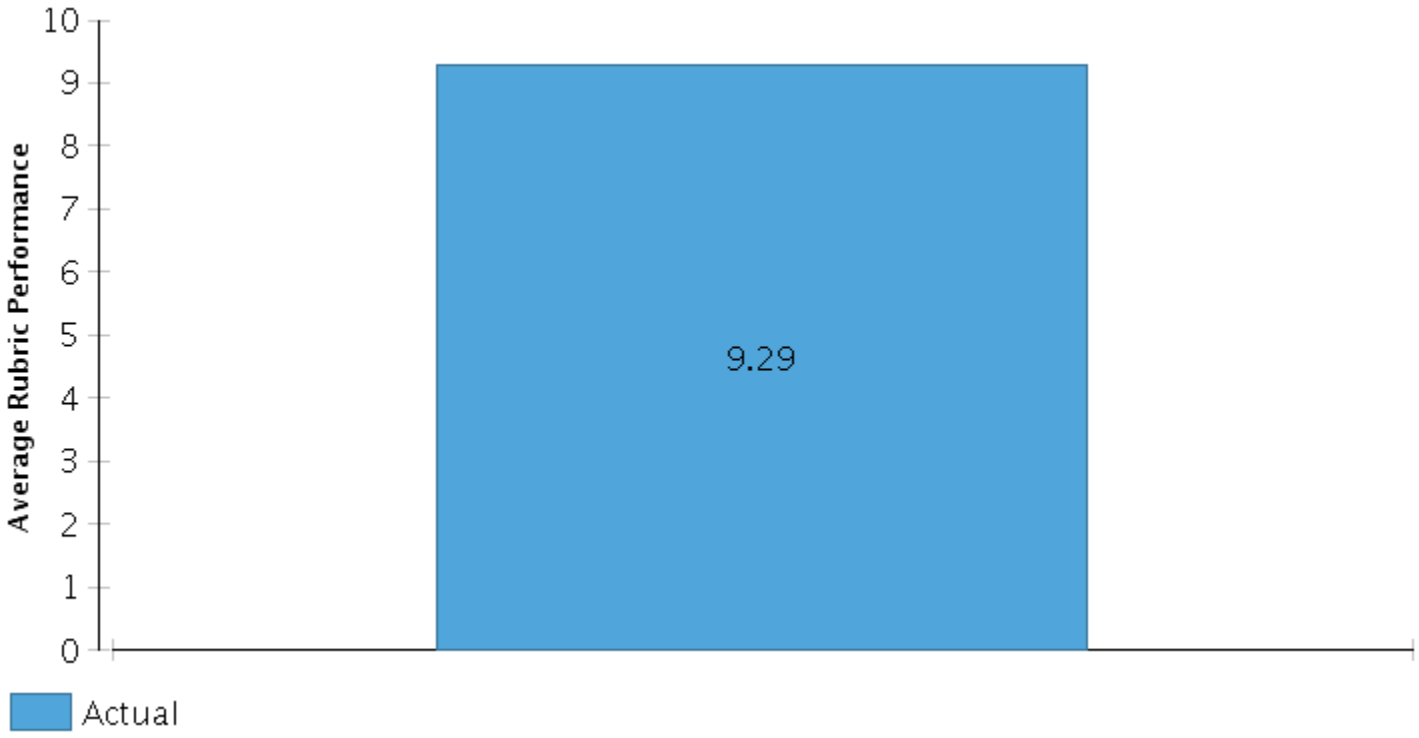
Report Sections
- Overview
- Rubric Overall Performance
- Rubric Analysis
- Frequency Distribution

Overview

Current Instrument Name	Week 9 Précis
Rubric Name	Précis Rubric
Rubric Description	
Total Evaluations	7
Begin Date	Jan 16, 2018
End Date	May 21, 2018

Rubric Overall Performance

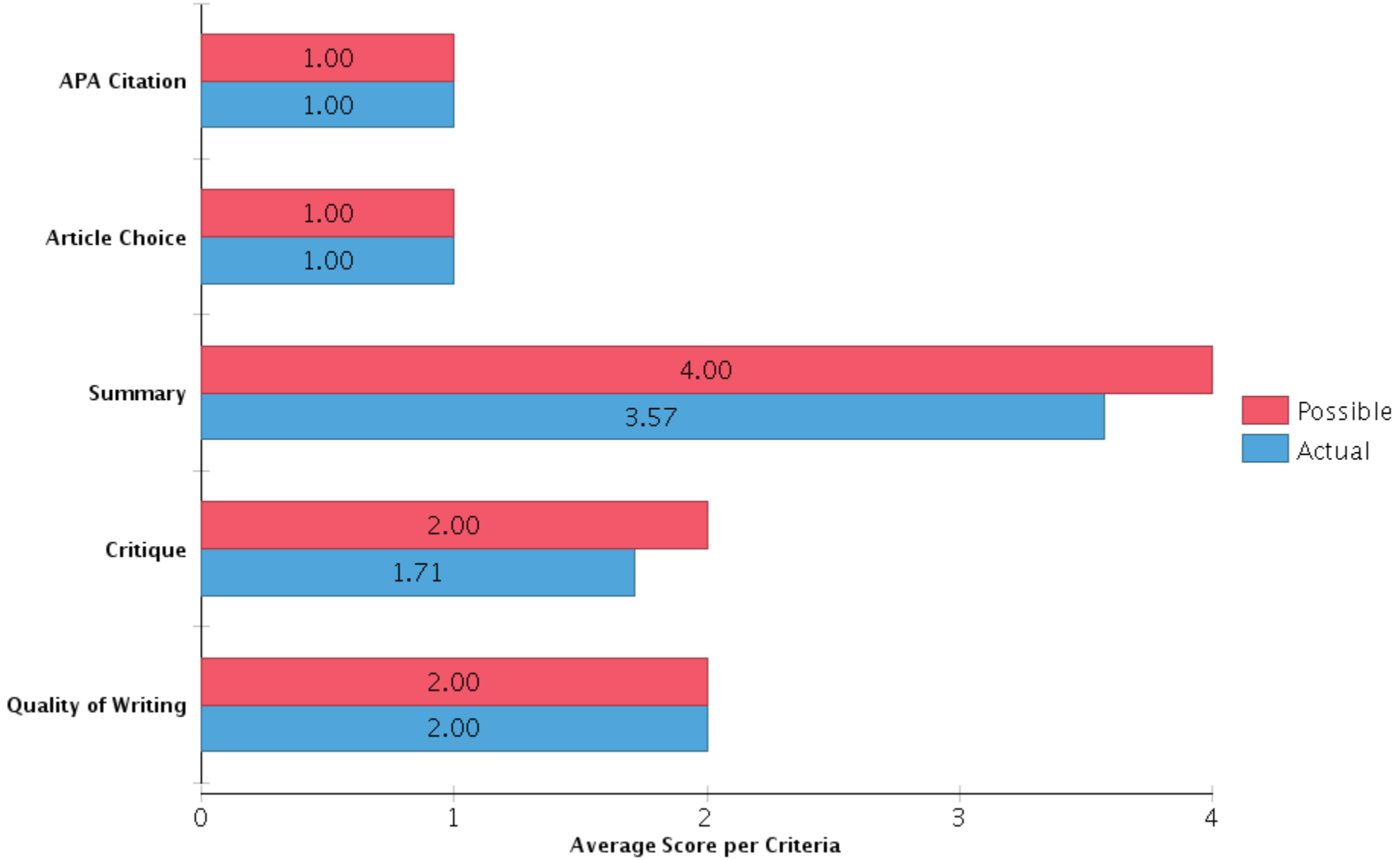
Points Possible: 10.00



Rubric Statistics Report

Rubric Analysis

Précis Rubric



Rubric Statistics Report

Frequency Distribution

Précis Rubric

Criteria		Outstanding	Acceptable	Unacceptabl	Number Evaluation	Average	Median	Mode	Std. Deviation
APA Citation	Points	1.00	0.00	0.00					
		100%	0%	0%	7	1.00	1.00	1.00	0.00
Article Choice	Points	1.00	0.00	0.00					
		100%	0%	0%	7	1.00	1.00	1.00	0.00
Summary	Points	4.00	3.00	0.00					
		57%	43%	0%	7	3.57	4.00	4.00	0.53
Critique	Points	2.00	1.00	0.00					
		71%	29%	0%	7	1.71	2.00	2.00	0.49
Quality of Writing	Points	2.00	1.00	0.00					
		100%	0%	0%	7	2.00	2.00	2.00	0.00