



Annual Learning Results
Institution Wide SLO (B): Critical and Creative Thinking
2011

Prepared by The Institution-Wide Assessment Committee
Point Person: Bunny Paine-Clemes

Section 1: Annual Report
Section 2: Description of Rubric and Scoring Analysis
Section 3: Appendices: Disaggregated Data Charts

1. Closing the Loop: Status of Proposed Action Items

	Next Step #1	Next Step #2
a) "Next Steps"	Examine Results on Report on Creativity and Critical Thinking and Address Deficiencies.	Completed, 5/11
b) Status of Next Steps	Communicate Results of Report to Stakeholders for Action by 5/12	To be Completed 5/11

2. What do We Want Students to Learn?

	Evidence
a) IW-SLO	Creativity and Critical Thinking
b) Learning Criteria: (specific qualities desired in student work)	Acceptable Level of Creative and Critical Thinking
c) Standards for Success:	70% of students will score 4 or above on a 6-point rubric.

3. What Evidence do We Use to Assess Their Learning?

	Evidence
a) Evidence: Describe summative evidence you analyze & the size of the sample	40 courses, 764 student samples (paper clip)
b) Assessment Tool/Method	Various samples of oral and written communication (i.e., final exam essay questions, research reports and essays, final projects, short papers, oral reports)
c) Assessment Process:	1. Faculty chose a random sample of student work, such that at least 1/3 of the class or 10 samples (whichever is most) are provided. 2. Faculty used the rubric for "Creativity and Critical Thinking" and applied it to the samples. 3. Faculty filled out and submitted Excel charts of the data for each class. 4. The data were inputted into a database and then analyzed.

4. How Well Are They Learning? (And SO WHAT?)

a) Results of Student Learning	Evidence
Describe summative evidence analyzed and the size of the sample.	1. Aggregated student samples by number and percentage 2. Aggregated student samples by course designation 3. Aggregated Student Samples for lower and upper division 4. Aggregated by GE and non-GE 5. Aggregated by Creativity vs. Critical Thinking.
b) Achieving Standards: Did your program achieve its standards for success?	Yes, 70%+ for creativity and 78%+ for critical thinking
c) Discussion of Results for Program Improvement:	Aggregated data showed the benchmarks of 70% or above were met. The whole campus needs to put more effort into creativity. Source designations (disciplines) had varying levels of achievement for both measures, More disciplines across campus need to participate.
d) Participants in Discussing/Reviewing	IWAC Committee, summer, 2011: Graham Benton (core faculty, C&C), Michael Holden (core Faculty, ME), Michele Von Hoecke (core faculty, library), Julie Chisholm (core faculty, C&C), Vivienne McClendon (Director, CETL), Lui Hebron (core faculty, GSMA), Bunny

Results	Paine-Clemes (core faculty, C&C), JoAnne Strickland (Lecturer, S&M)
e) Communication of Results:	This report will be housed in the IWAC database and made available through Cal Maritime's website on IWAC-SLOs, 2010-2011, currently housed in the WASC Accreditation site. It will also be e-mailed to the IWAC members, the chairs, the Provost, and the Dean, for action in new enhanced 4-year assessment cycle.

5. Now What? (Plan to Improve Our Program)

	Proposed Change #1	Proposed Change #2	Proposed Change #3	Proposed Change #3
a) Proposed Changes	Poll faculty asking why people participated or didn't participate	Add majors to data	Focus more on creativity	Add a feedback loop for 2 more years, asking faculty to improve programs and report on the results.
b) Rationale for Proposed Changes	ONLY GE and 1 ME class participated.	Many course designations include many majors. Aggregating by majors may show us whether trends hold across courses,	The score was 8 percentage points lower. When data were run by accident without HUMs except for HUM 325, the benchmark wasn't even met: it was 67%+. Only GE and ME participated.	WASC advised us that we had no revisiting of data for 5 years and no immediate feedback loop for improvement.
c) Proposed Completion Date	Fall 2011	Fall 2014	Fall 2011	Summer 2013
d) Stakeholders Involved	Core Faculty	Core Faculty	Core Faculty	Core Faculty
e) Vetting to Stakeholders	Paine-Clemes	Paine-Clemes	Paine-Clemes	Bunny Paine-Clemes
f) Shepherding Changes	Paine-Clemes	Paine-Clemes	Paine-Clemes	Bunny Paine-Clemes
g) Budget Integration	n/a	n/a	Ask CETL to have speakers and brown bags.	To meet WASC requirements, more funding needed for Summer IWAC and, possibly, chair release time, to shepherd and integrate results
h) Incorporating Changes	Improvement in creativity, both overall and aggregate breakdown	Paine-Clemes	Vivienne McLendon	Provost and Academic Dean
i) Improvement Target Goals	Improvement in creativity, both overall and aggregate breakdown	Paine-Clemes	Core Faculty	Core Faculty
j) Evidence of effectiveness	75% in creativity (breakdown)	Core Faculty	70% met target in creativity and 78% in critical thinking; new benchmark of 75% set in critical thinking	Core Faculty

6. Reflection on Assessment Process

	Reflection #1	Reflection #2	Reflection #3
a) Strengths	Met 70% benchmark (not defined until summer 2011)	Aggregated data with database	Had 764 student samples, 40 classes

b) Modifications	Have faculty submit or give access to electronic copies of student samples and have IWAC apply rubrics during summer, to enhance faculty buy-in and greater coverage of disciplines.	Add designation of student major in faculty samples.	Integrate WASC suggestions, such as a 4-year cycle with 1 year to get buy-in, with more budgetary support from Provost's Office and/or CETL for a much-expanded assessment cycle.

7. What do We Want Students to Learn?

a) IW-SLOs	Think creatively and critically.
------------	----------------------------------

Appendix: Graphs and charts generated by raw data

Critical and Creative Thinking Rubric

Current IWAC Point Person: Bunny Paine

E-Mail: bpaine@csum.edu#mailto:bpaine@

Each year the university-wide assessment council focuses on two institutional student learning outcomes (SLOs). The purpose is to determine how well these outcomes are being met and to collect information for WASC reaccreditation. This rubric provides an assessment tool for Critical and Creative Thinking Intellectual Learning Institution Wide Student Learning Outcome.

Question	Does the student consider and integrate the ideas of others?
Emerging (1 - 2)	Deals with a single perspective and fails to discuss or consider others' perspectives. Uses absolutist or black-and-white thinking. Adopts a single idea or limited ideas with little question
Developing (3 - 4)	Begins to relate alternative views to qualify analysis and solution. Roughly integrates multiple viewpoints and comparisons of ideas or perspectives. May investigate and integrate ideas but in a limited way.
Mastering (5 - 6)	Addresses others' perspectives and additional diverse perspectives and contexts* drawn from outside. Has fully integrated perspectives from a variety of sources; uses any analogies effectively.

Sample	Percent Scoring 4 or Above
TOTAL	78.27%
UPPER CLASS	68.80%
LOWER CLASS	85.76%
BUS	64.71%
EGL	74.68%
GMA	51.11%
GOV	100.00%
HUM	93.33%
ME	80.00%
MGT	89.93%

Critical and Creative Thinking Rubric

Current IWAC Point Person: Bunny Paine

Email: bpaine@csum.edu#mailto:bpaine@

Each year the university-wide assessment council focuses on two institutional student learning outcomes (SLOs). The purpose is to determine how well these outcomes are being met and to collect information for WASC reaccreditation. This rubric provides an assessment tool for Critical and Creative Thinking Intellectual Learning Institution Wide Student Learning Outcome.

Question	Does the student have unique ideas?	
Emerging (1 - 2)	Presents idea, hypothesis, or position clearly inherited or adopted, with little innovation. Addresses a single source or view, failing to clarify the established idea relative to one's own unique idea. Fails to present and justify one's unique opinion, idea, or hypothesis.	
Developing (3 - 4)	Uses some innovative thinking that acknowledges, refutes, synthesizes or extends other possibilities, although some aspects may have been adopted. Presents a unique position or hypothesis, though inconsistently; may be developed with some flaws or inaccuracies. Presents and justifies an original position without addressing other possibilities, or does so superficially.	
Mastering (5 - 6)	Demonstrates ownership for constructing knowledge or framing original questions, integrating objective analysis and intuition in an innovative solution. Appropriately identifies a unique position on the issue, drawing support from various contexts* and contexts* not available from assigned sources. Clearly presents and justifies a unique view or hypothesis while qualifying or integrating contrary views or interpretations.	

Sample	Percent Scoring 4 or Above
TOTAL	70.85%
UPPER CLASS	61.48%
LOWER CLASS	77.06%
BUS	64.71%
EGL	68.83%
GMA	54.81%
GOV	100.00%
HIS	48.78%
HUM	96.67%
ME	77.97%
MGT	73.15%

Rubric for Rating Critical & Creative Thinking

Cal State Maritime, 2010-2011

Question 1: Does the student have unique ideas?

<i>Emerging</i>		<i>Developing</i>		<i>Mastering</i>	
1	2	3	4	5	6
Presents idea, hypothesis, or position clearly inherited or adopted, with little innovation.		Uses some innovative thinking that acknowledges, refutes, synthesizes or extends other possibilities, although some aspects may have been adopted.		Demonstrates ownership for constructing knowledge or framing original questions, integrating objective analysis and intuition in an innovative solution.	
Addresses a single source or view, failing to clarify the established idea relative to one's own unique idea.		Presents a unique position or hypothesis, though inconsistently; may be developed with some flaws or inaccuracies.		Appropriately identifies a unique position on the issue, drawing support from various contexts* and contexts* not available from assigned sources.	
Fails to present and justify one's unique opinion, idea, or hypothesis.		Presents and justifies an original position without addressing other possibilities, or does so superficially.		Clearly presents and justifies a unique view or hypothesis while qualifying or integrating contrary views or interpretations.	

Question 2: Does the student consider and integrate the ideas of others?

<i>Emerging</i>		<i>Developing</i>		<i>Mastering</i>	
1	2	3	4	5	6
Deals with a single perspective and fails to discuss or consider others' perspectives.		Begins to relate alternative views to qualify analysis and solution.		Addresses others' perspectives and additional diverse perspectives and contexts* drawn from outside.	
Uses absolutist or black-and-white thinking.		Roughly integrates multiple viewpoints and comparisons of ideas or perspectives.		Has fully integrated perspectives from a variety of sources; uses any analogies effectively.	
Adopts a single idea or limited ideas with little question		May investigate and integrate ideas but in a limited way.			

***Contexts may include the following:**

Cultural/social Group, national, ethnic behavior/attitude Educational Schooling, formal training Technological Applied science, engineering Political Organizational or governmental	Scientific Conceptual, basic science, scientific method Economic Trade, business concerns costs Ethical Values Personal Experience Personal observation, informal character
---	--

Adapted from Washington State University CTLT

Rubric for Rating Critical & Creative Thinking

Cal State Maritime, 2010-2011

A. Purpose

Each year the university-wide assessment council focuses on two institutional objectives. The purpose is to determine how well these objectives are being met on the campus and to collect information for WASC reaccreditation.

B. Process

As an instructor, you will be asked to determine which (if any) of your courses adopt the current annual objectives. Then you will fill out a rubric, evaluating how well at least 20% of the class has met the appropriate objective/s.

For the Critical and Creative Thinking Rubric, please select an assignment that requires substantive thinking. Create a grade or record of how well your students do, and circle two numbers, one for each question, using a scale of 1-6 for each student.

C. Definitions

Critical and creative thinking, slated as institutional objectives, occur in classes across the curriculum. (See D, below.)

Critical thinking, sometimes defined as left-brained reasoning, requires students to do some or all of the following:

- Consider multiple perspectives
- Discriminate between the relevant and the irrelevant (facts, ideas, and analogies)
- Consider alternatives and choose the best one
- Reason sequentially
- Practice objectivity
- Conduct rational analysis
- Test hypotheses
- Draw logical conclusions.

Creative thinking, sometimes defined as right-brained reasoning, requires students to do some or all of the following:

- Brainstorm ideas, fanning out in many directions
- Consider all possibilities
- Integrate information and ideas into an effective whole
- Use non-linear reasoning
- Discover new or unique ideas with a subjective "aha!"
- Create analogies and metaphors
- Activate intuition
- Innovate or create a new product, system, or original idea.

D. Examples across the Curriculum

Clearly, many projects across the curriculum require both types of thinking:

Bridge Simulation Sessions	Some Essay Tests
Business Case Studies	Papers
Business Plans	Team-based Learning Projects
Proposals	Simulation Exercises
Engineering Design Projects	Others?

CREATIVITY AND CRITICAL THINKING

Figure 1: Totals by Rating From All Courses

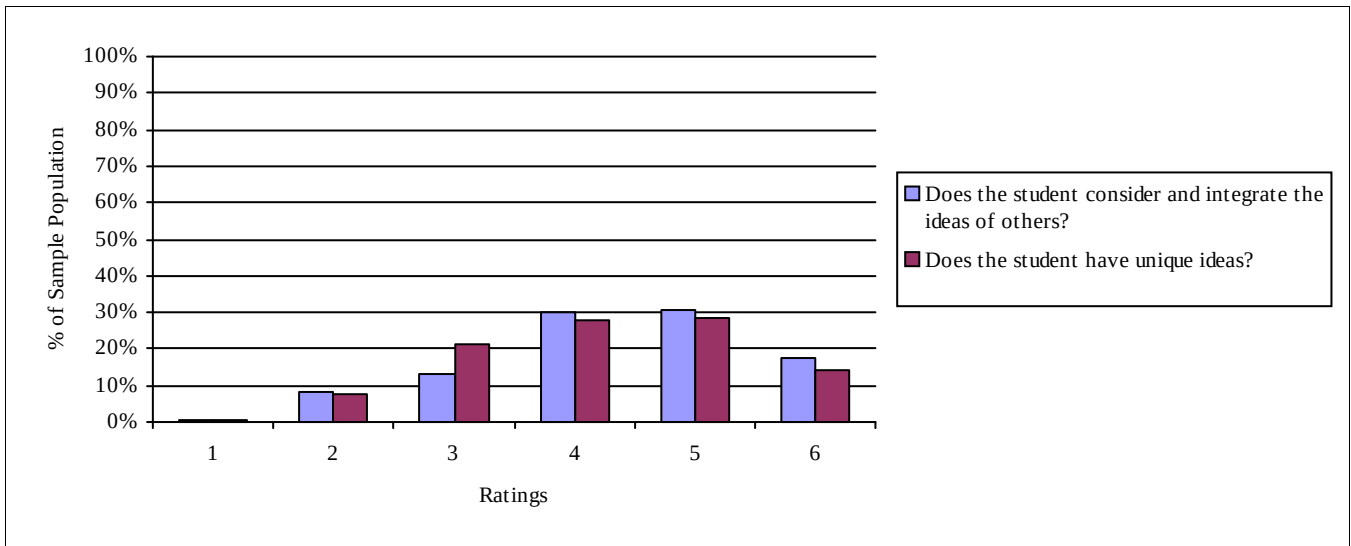


Figure 1.1: Question 1 - Totals by Rating From All Courses

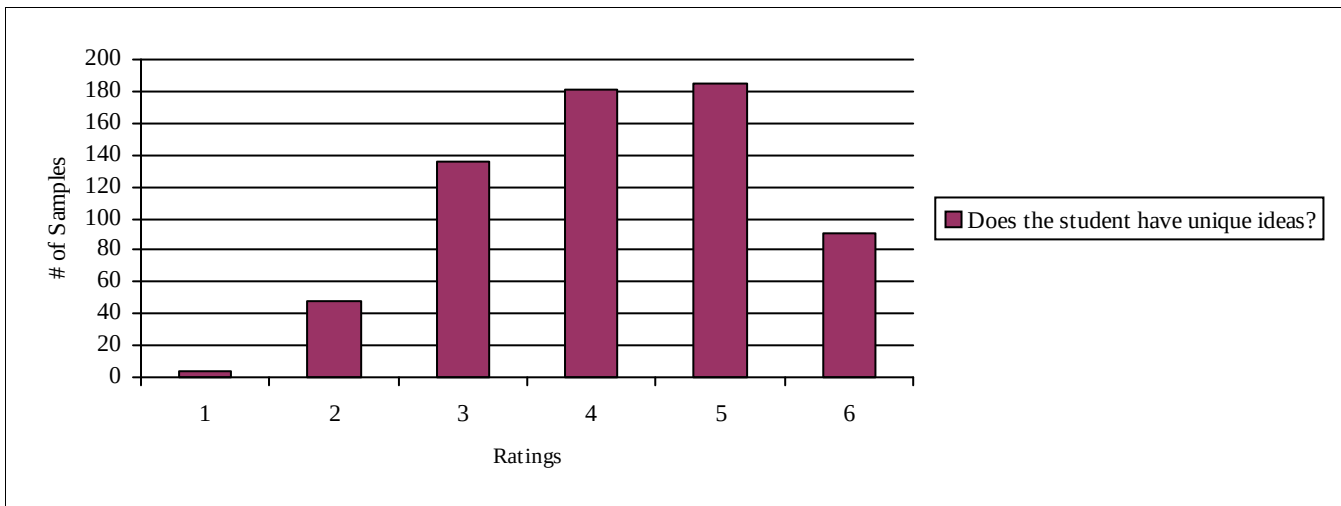
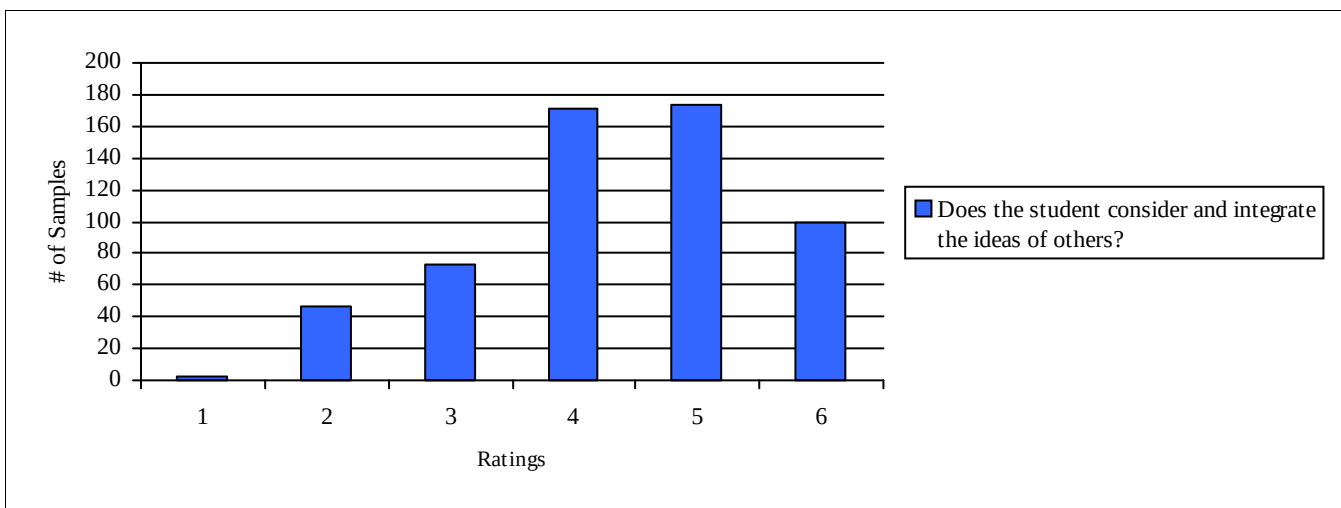


Figure 1-2: Question 2 - Totals by Rating From All Courses



CREATIVITY AND CRITICAL THINKING

Figure 2: Percentage Scoring 4 and Above by Course Designation

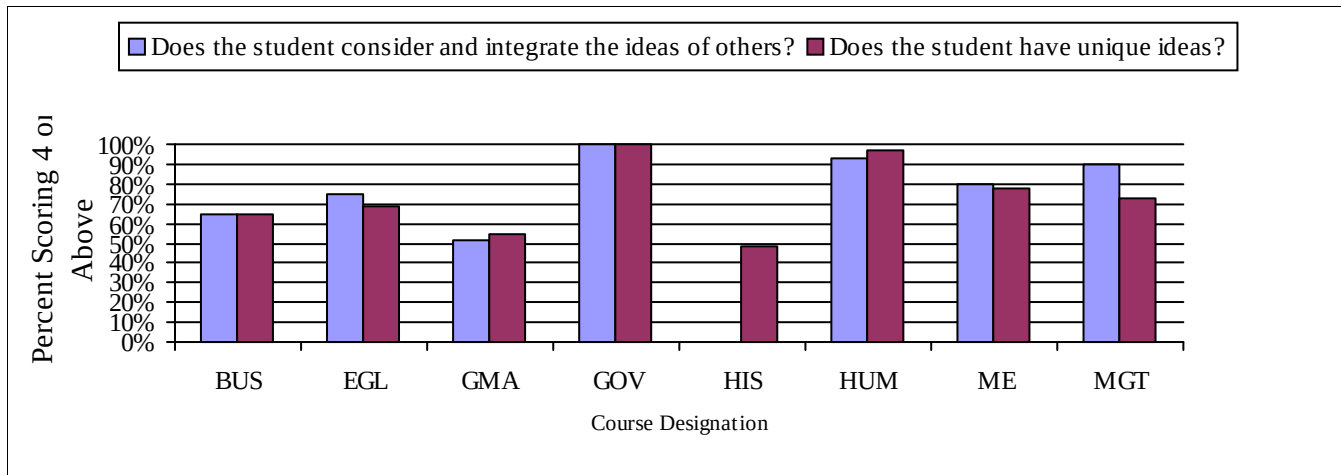


Figure 2.1: Question 1 - Percentage Scoring 4 and Above by Course Designation

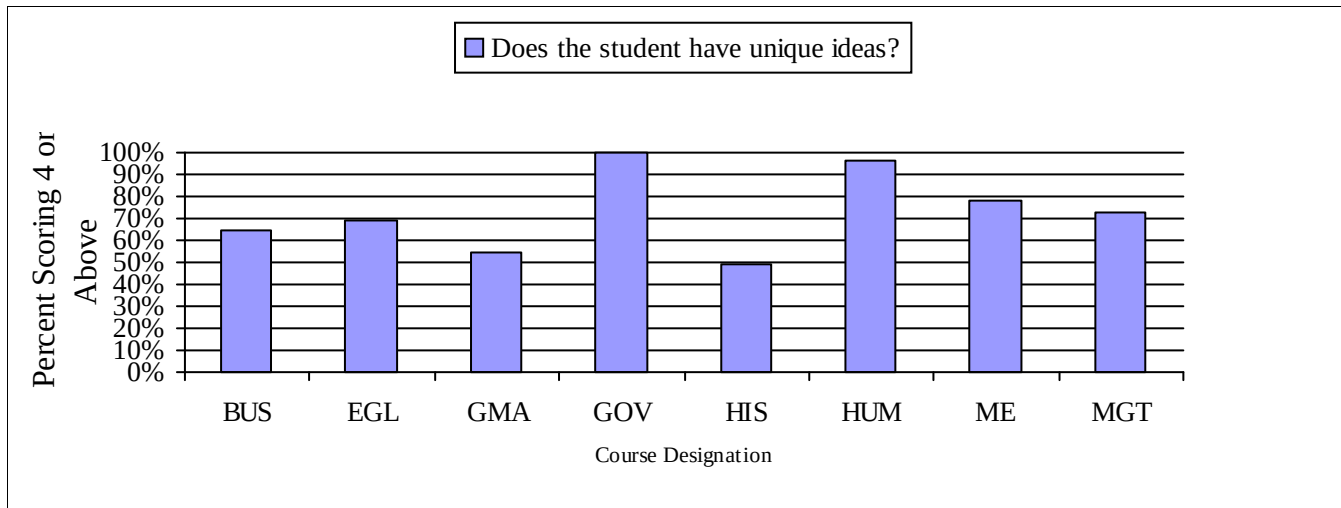
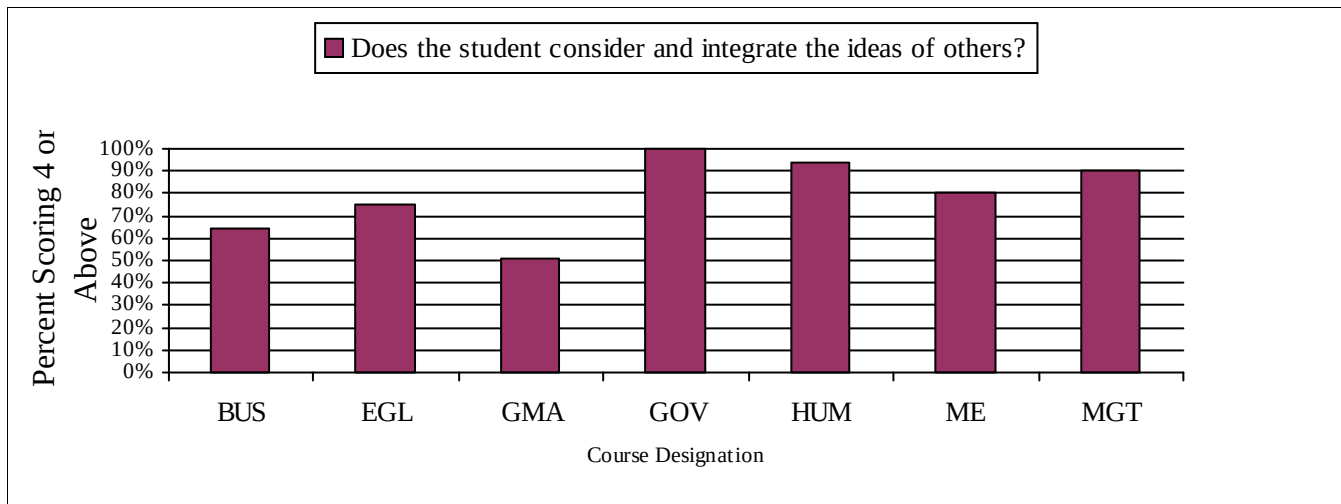


Figure 2.2: Question 2 - Percentage Scoring 4 and Above by Course Designation



CREATIVITY AND CRITICAL THINKING

Figure 3: Percentage Scoring 4 and Above by Course Level

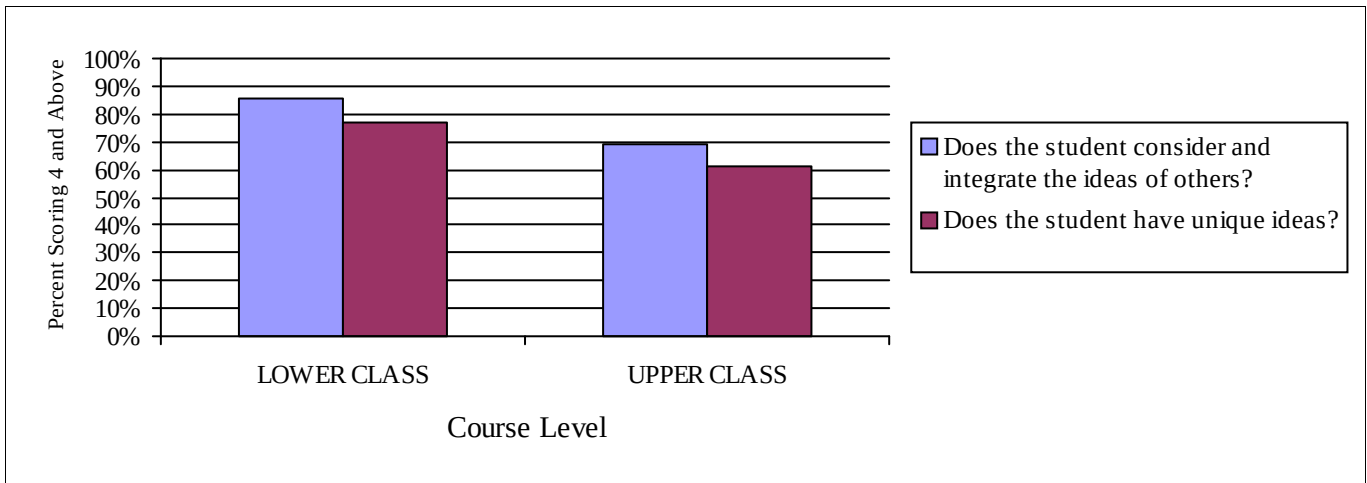


Figure 3.1: Question 1 - Percentage Scoring 4 and Above by Course Level

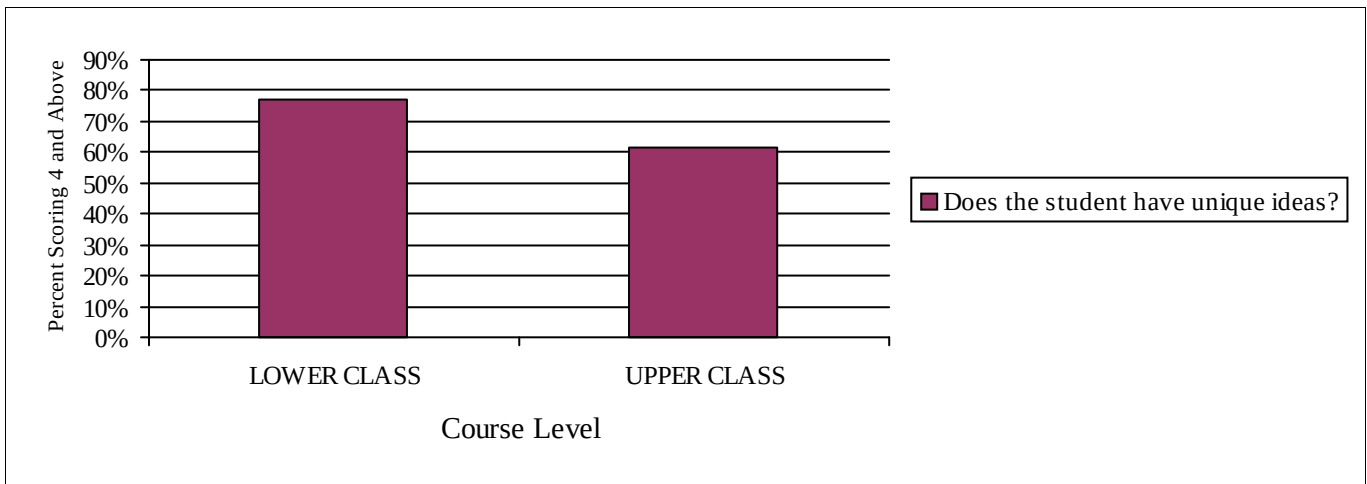
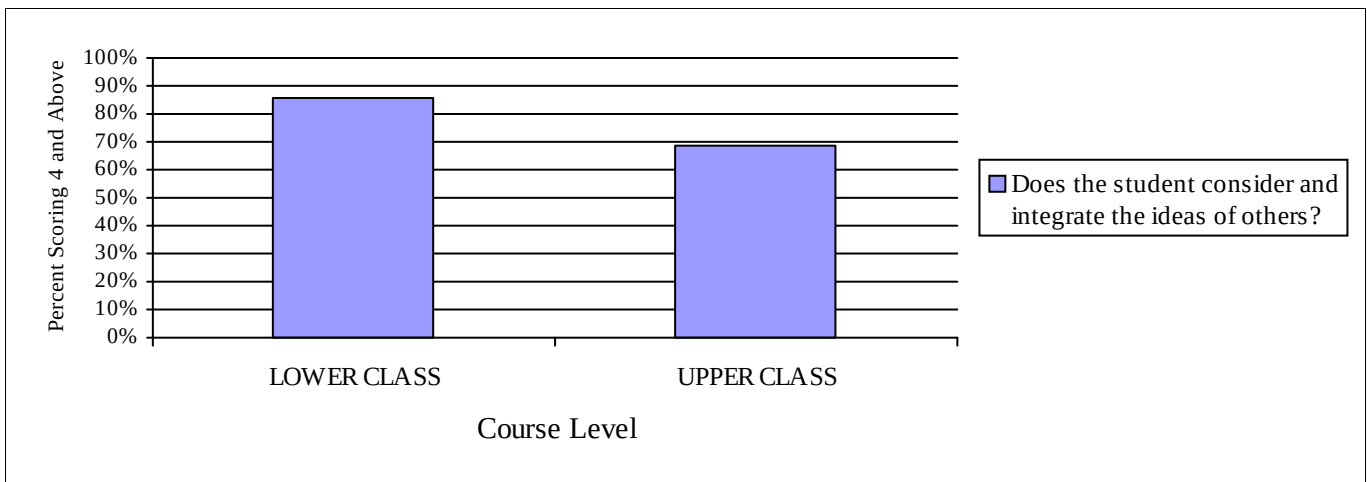


Figure 3.2: Question 2 - Percentage Scoring 4 and Above by Course Level



CREATIVITY AND CRITICAL THINKING

Figure 4: Percentage Scoring 4 and Above By GE and non-GE Courses

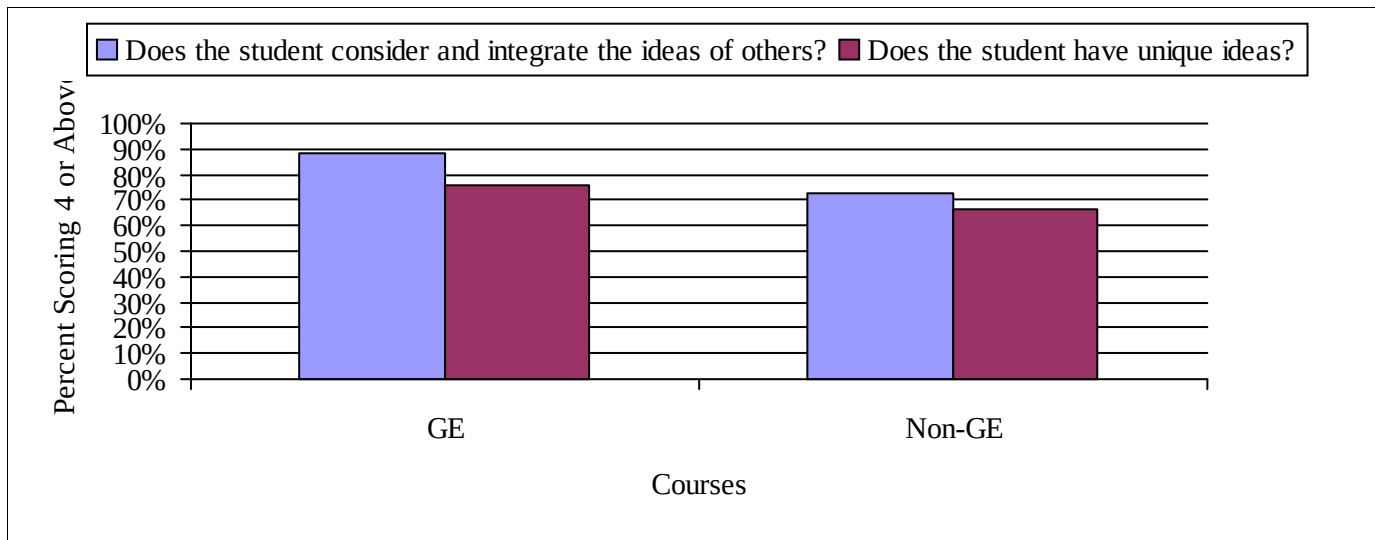


Figure 4.1: Question 1: Percentage Scoring 4 and Above By GE and non-GE Courses

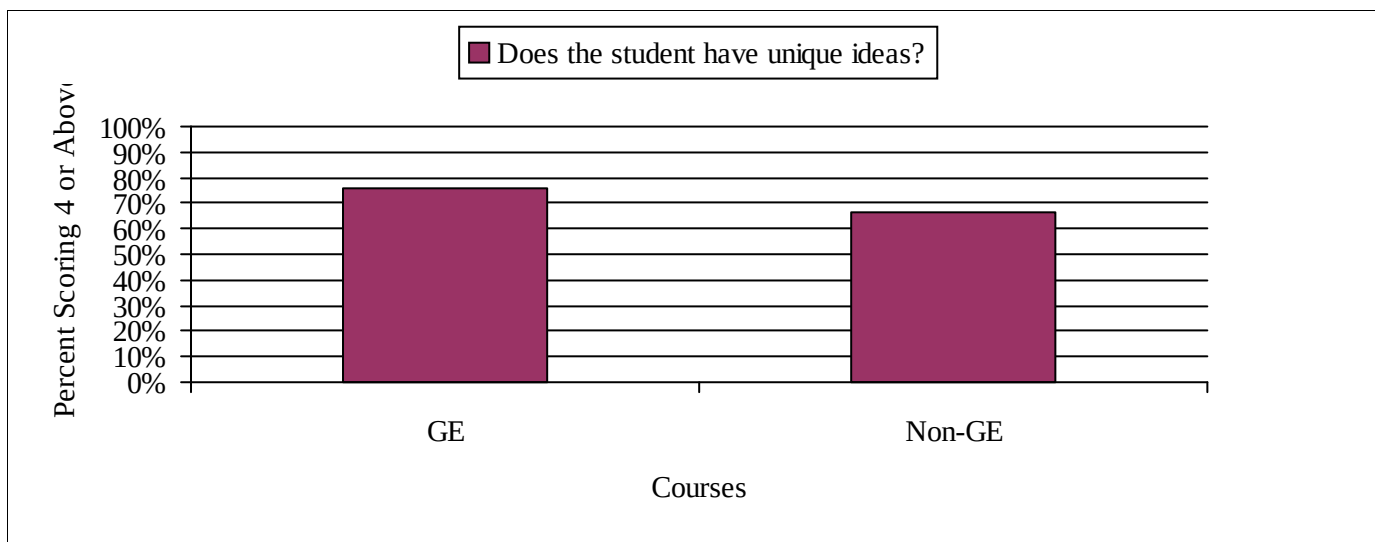
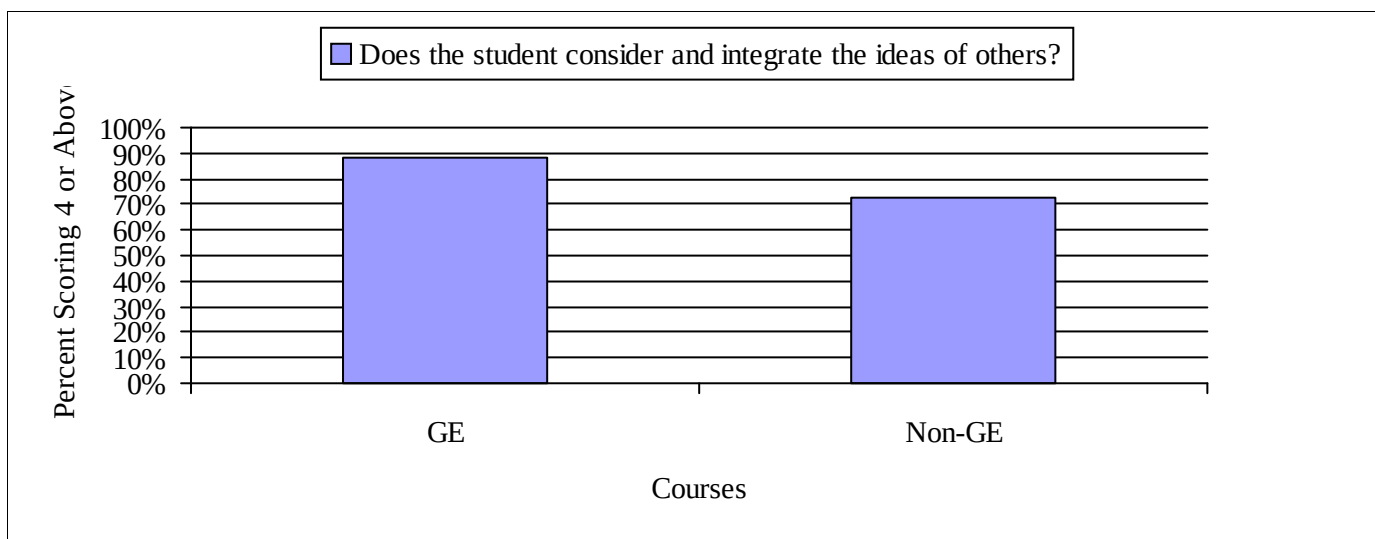


Figure 4.2: Question 2: Percentage Scoring 4 and Above By GE and non-GE Courses



CREATIVITY AND CRITICAL THINKING

Figure 5: Percent of Total CSUM Courses Assessed

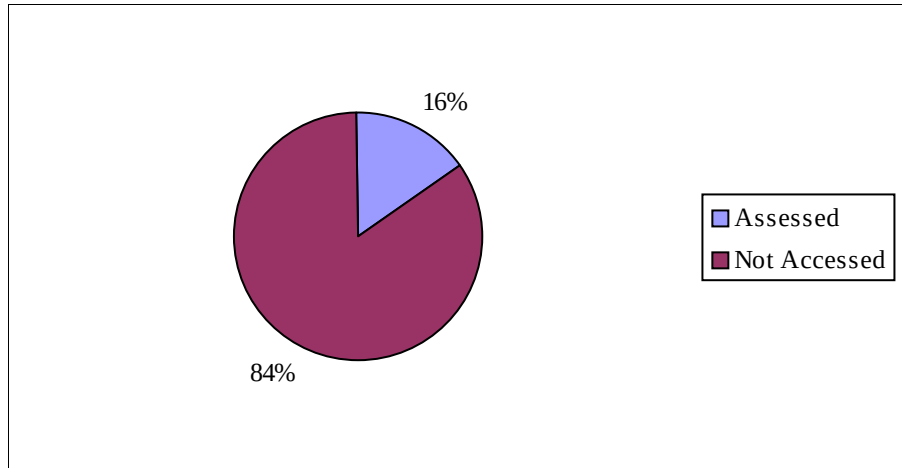


Figure 6: Question 1 - Percent Scoring 4 or Above By Course

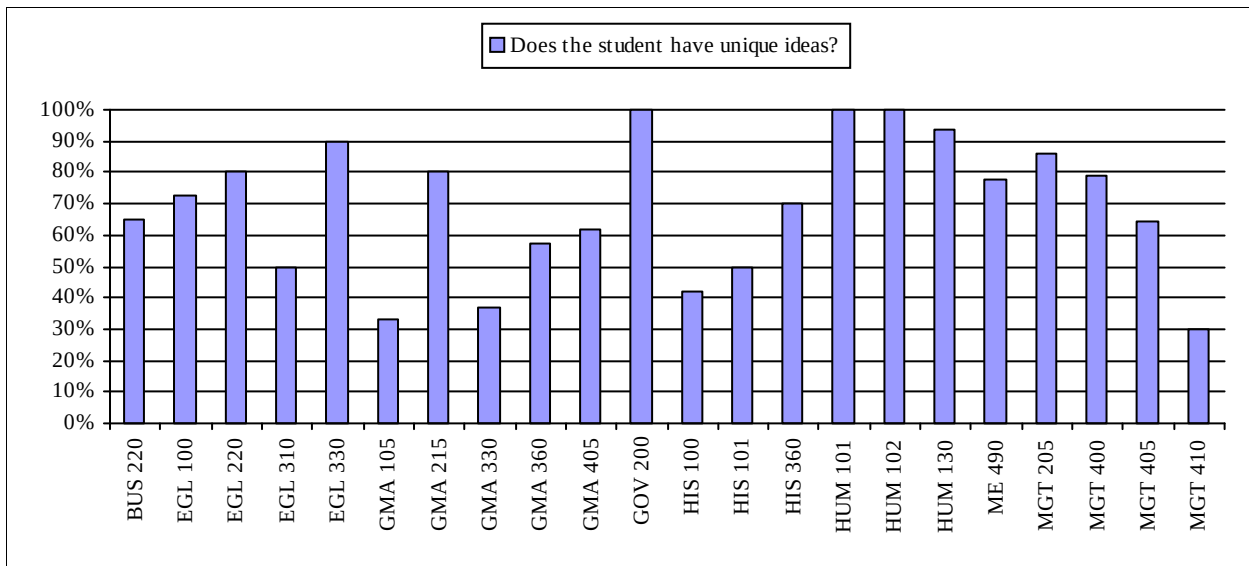


Figure 6: Question 2 - Percent Scoring 4 or Above By Course

