



ASSESSMENT OF THE CREATIVITY SLO IN GENERAL EDUCATION

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INTRODUCTION

Commissioned in 2014 by CAB, Patricia Black, Ed Pluth, and Colleen Robb formed the core members of the CSUC's Creativity Assessment team.

After some brainstorming sessions and emails, the group agreed to:

1. develop a self-assessment questionnaire for students in GE courses that had Creativity listed as an SLO;
2. find a rubric on Creativity to assess student work across several GE sections.

This was the first phase.

The second phase was to contact faculty in relevant sections of GE and ask for samples of student work. There were 36 sections on the spring 2015 schedule that had Creativity listed as an SLO. Faculty in all 36 sections were contacted and asked to offer their students a chance to participate in the student survey and to contribute samples of student work at the end of the semester.

The self-assessment survey was administered in March 2015, and student work was assessed by the group through the summer and fall of 2015.

WHAT ARE WE ASSESSING?

In the description of SLOs given at the GE website for CSUC, creativity is described in terms of taking intellectual risks and applying novel approaches to varied domains (<http://www.csuchico.edu/ge/features/slo.shtml>).

We felt that it is possible to assess whether this is in fact happening by looking at a variety of student work: everything from research papers to poster projects to websites. When looking at these we considered:

- the extent to which students are picking up on whether/how it is important to be creative in their courses: do we see students taking “intellectual risks” and applying “novel approaches” to problems in different domains?
- the extent to which creativity is valued – is there any sense of why creativity may be important as a student learning outcome in General Education?

The rubric served as a guide.

Part A: Student Surveys.

The survey was administered to 106 students across the 36 sections on the schedule in Spring 2015 that had “Creativity” as a student learning outcome.

The survey was modelled on a self-assessment survey given by the group at CSUC who assessed the “Active Learning” SLO.

The rationale for giving the survey was to assess the extent to which students took themselves to be exercising creativity in their courses, and the extent to which they think they are learning it or being encouraged to use it in their courses. 9 statements were developed with responses on a scale from “strongly agree” to “strongly disagree”.

The survey was administered via “SurveyMonkey” and students were enticed to take the survey with extra credit from their instructors.

((NB: There was a typo in the answers: after “disagree” the choice should have been “strongly disagree,” not “strongly agree”. From the results, it does not appear that this led to any meaningful confusion on the part of the survey participants.))

Student Survey Results

Question	Average score (5 = Strongly Agree; 1 = Strongly Disagree)
Q2 In my writing assignments and homework, I am willing to experiment with ideas and points of views that are risky and untested.	3.68
Q3 I tend to follow the models given by my instructor/professor when doing my homework.	4.06 **
Q4 I try to stick to a single approach and point of view when discussing issues and problems in my classes and assignments.	2.89 **
Q5 When I come up with a way to solve a problem, I make sure that I understand the consequences of that solution and that I can easily explain it to others.	3.92
Q6 In my classes and my assignments I enjoy including and discussing ideas and perspectives that go against the ones I already agree with.	3.68
Q7 I try to avoid including and discussing points of view that go against my own in class discussions and in my writing assignments.	2.62 **
Q8 I generally use others’ ideas during class discussions and assignments.	3.11 **
Q9 I usually have my own unique ideas that I can use to create new ways of thinking about a topic.	3.85
Q10 I try to develop new ideas and new questions in my writing assignments and homework.	3.70
Q11 I am able to recognize the connections between ideas and solutions.	4.13

** Indicates that the question was set up “in reverse”; a lower score corresponds to a greater self-concept of creativity.

Each question had between 103 and 106 respondents.

HIGHLIGHTS OF STUDENT SURVEY DATA

1. There was an over-representation of first and second year students in the survey: 61 percent were first and second year students, compared with only 38 percent of the overall student body consisting of first and second year students.
2. Students tended to identify themselves as creative individuals: high percentages agreed with the statements that go in this direction, EXCEPT for question 3.
3. Note the interesting tension between self-identifying as rather creative, and yet OVERWHELMINGLY (83 percent agreeing and strongly agreeing) saying that they tend to follow models given by instructors.

Analysis of Student Survey Data

1. The survey results show that our students at least WANT to identify themselves as creative individuals. This suggests that creativity is valued by our students. Only very small percentages, around 11 percent, suggest otherwise.
2. The results from question 3, “I tend to follow the models given by my instructor/professor when doing my homework” are interesting. This question was designed to be one of those “reverse” questions to make sure students aren’t just habitually/automatically “agreeing” or “strongly agreeing” no matter what is said... Generally, the answers to the questions show that students WEREN’T doing this – when the statements were flipped, to make “agree” indicate an ABSENCE or LACK of creativity, students generally flipped their responses to DISAGREE... However, in the case of this question students did overwhelmingly agree with the statement that they tend to “follow the models” given for assignments.
 - a. Of course, it is perfectly possible to exercise creativity within the parameters of assignment requirements.

Part B: Student Work assessed with Creative Thinking VALUE Rubric

60 samples of student work from 8 different sections of General Education courses were assessed. Here is the list:

COURSE	Number of works	ASSIGNMENT ASSESSED
PHIL 102 (Logic and Critical Thinking)	9	Blogs/Wikis
PHIL 302 (Modern Philosophy)	10	Passage
PHIL 323 (Moral Issues in Parenting)	24	Blogs/Wikis
RELS 275I (Women and Religion)	4	Term papers.
RELS 300 (Religions of East Asia)	3	Final projects: Create a Religion
THEA 110 (Intro to the Theatre)	2	Websites on Production Design
HCSV 368 (Women's Health)	8	Poster Boards

Of the 36 sections on the schedule in GE with Creativity as an SLO, 8 are represented: 22%.

15 of the samples reviewed were from students in lower-division courses; 45 were from students in upper-division courses.

These works were reviewed using the Creative Thinking VALUE rubric using all six categories below. Each work was given a score from 1 (minimum or “benchmark” level of achievement) through 4 (maximum or “capstone” level of achievement).

1. Acquiring Competencies
2. Taking Risks
3. Solving Problems
4. Embracing Contradictions
5. Innovative Thinking
6. Connecting, Synthesizing, Transforming

A significant problem is this: ONE faculty member's courses are significantly over-represented in this group: 43 of the 60 works were submitted by ONE instructor: 72 %. It would not be too much to say this is an assessment of creativity of students in Prof. Anthony Graybosch's courses!

Also: faculty who contributed student work for assessment seemed to have the impression that we were looking for CREATIVE projects, not regular assignments...and I failed to convince them otherwise! This probably skews things a bit as well.

ANOTHER HUGE PROBLEM: in the cases in which a small number of works were submitted, it seems that faculty were selecting what they felt were good representatives of creativity.

Data from assessment of student work

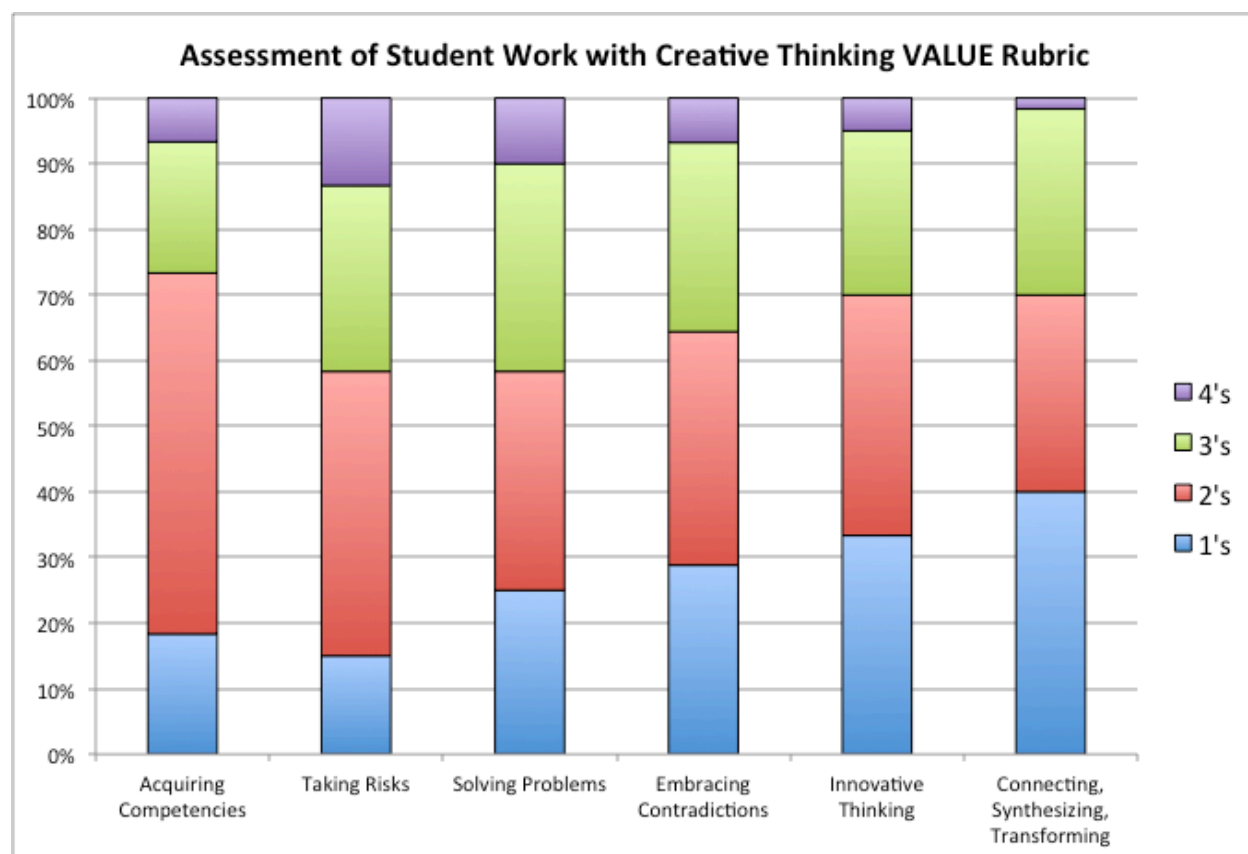


Figure 1: Results of assessment of student work, by category.

Figure 1 shows the breakdown of scores given to students in each category. For each category the median score (at 50%) was 2. The same data is summarized in Table 1 below.

Category	% 1	% 2	% 3	% 4	Average	Average Lower Div.	Average Upper Div.
Acquiring Competencies	18%	55%	20%	7%	2.15	2.07	2.18
Taking Risks	15%	43%	28%	13%	2.40	2.40	2.40
Solving Problems	25%	33%	32%	10%	2.27	2.20	2.29
Embracing Contradictions	29%	36%	29%	7%	2.14	1.86	2.22
Innovative Thinking	33%	37%	25%	5%	2.02	1.60	2.16**
Connect/Synth/Transform	40%	30%	28%	2%	1.92	1.40	2.09**
Combined Data	27%	39%	27%	7%	12.91 /24	11.63 /24	13.33 /24

Table 1: Summary of data from Assessment of Student work.

** Indicates a statistically significant difference (95% C.L.) between upper and lower division students.

Analysis of data from assessment of student work

1. The average score of 12.91 out of 24 (2.15 out of 4) seems rather low. Scores of 2 and 3 both are “milestone” categories, it would seem that students scores are towards the low end, and rather far from the 4 “capstone” category.
 - a. Let’s say that a score of “24” from any one student – (getting 4’s in all 6 categories) is NOT the goal. But rather, maybe ideally, a student would be getting somewhat closer to a 3, which would indicate some categories being close to “capstone” level, particularly by the time they are in upper-division GE courses. Only 38% of scores awarded to upper-division students were “3” or better; for lower-division students there were only 23% of scores of “3” or better (34% scores of “3” or better overall).
 - b. However, there are some individual students who scored 18 or better out of 24: 12 in total, or 20% of the sample: that’s an average of “3” per category: at the “good” end of the “milestone” category.
2. With an average of 2.40, the “Taking Risks” category had the highest average score. The rubric defines this value as follows:

May include personal risk (fear of embarrassment or rejection) or risk of failure in successfully completing assignment, i.e. going beyond original parameters of assignment, introducing new materials and forms, tackling controversial topics, advocating unpopular ideas or solutions.

This could be because of the nature of the courses assessed: an upper division ethics course, and a critical thinking course, constituting over half of the sample, in which “controversial topics” are the bread and butter. Note that there was no difference at all between lower and upper-division student average scores in this category.
3. With an average score of only 1.92, the “Connecting, Synthesizing, Transforming” category had the lowest average score. This characteristic is not defined directly on the rubric, but the idea must involve using multiple ideas and perspective and forging them into a unique, creative whole. Note however, that this category had the largest (and statistically significant) difference in score between lower-division students (1.40) and upper-division students (2.09). That’s some indication that students’ ability to Connect, Synthesize, and Transform improved as they moved from lower to upper division.
4. There was also a statistically significant difference in scores in the “Innovative Thinking” category between lower-division students (1.60) and upper-division students (2.16). In fact nearly all of the cause of the upper-division students’ overall scores being 1.71 points higher than the lower-division students’ scores were the “Connecting, Synthesizing, Transforming” category (+0.69) and the “Innovative Thinking” category (+0.56). Scores in these categories are the lowest for lower-division students by some margin, indicating there is room for improvement, and indeed there was statistically significant improvement.

Overall conclusions

1. There is a contradiction in how creative the students perceive themselves to be (based on student survey data) and the level of evidence of creativity in their assignments (based on faculty review of the assignments). For example:
 - a. Our analysis showed that students are generally not really engaging with perspectives/positions with which they disagree (“Embracing Contradictions” category). Students self-reported very strongly (Survey Question 7) that they did so.
 - b. A similar disconnect is found in terms of “novel” solutions in the self-assessment survey. Students again strongly self-report doing this (Survey Question 9): our assessment shows not so much (“Innovative Thinking” category). But it is not clear to this author how much can be done about this.
2. I get the overall sense that when it comes to the creativity SLO: generally speaking it’s appropriate to say “encore un effort!” It’s a great SLO to have, very important. But it’s probably a bit like critical thinking: everyone is already convinced they’re doing it.

Appendices

- A. Sample of letter of inquiry sent to faculty members.
- B. Rubric used to assess student work
- C. Detailed Survey results

Appendix A

Sample of email sent to faculty in spring 2015 teaching GE courses with creativity as an SLO:

Dear <<INSERT FIRST NAME>>,

We are writing to you because your course, <<INSERT COURSE/SECTION >>, is listed as addressing the GE Student Learning Outcome (SLO) of Creativity.

The GE program understands this SLO rather broadly, to involve taking intellectual risks and applying novel approaches to varied domains.

This semester, the GE Curriculum Advisory Board (CAB) is beginning its assessment of the Creativity SLO. To be clear, this does NOT at ALL entail an assessment of your course! Rather, we are assessing the GE program's effectiveness at teaching students and acquainting them with this particular SLO, Creativity, during their experience at CSUC.

Our team has been tasked with administering assessment of this SLO. As part of your GE Pathway commitment, **we would like to ask if you would be willing: 1) to have your students participate in a self-assessment survey about creativity, and/or; 2) to share with us samples of written work from your course, preferably papers.**

We wish to emphasize that we appreciate the heavy workload of many instructors on campus. So we are not asking for you to go far out of your way to provide this information to us. Members of our team would be happy to get the material from you. The survey will be available via Survey Monkey, and we can provide you with a link to it – this could be put on your Blackboard Learn page for the course, or sent in an email to your students.

Thank you in advance for helping us with this assessment.

Best,

Ed Pluth

(On behalf of the Creativity Assessment Team: Patricia Black, Michael Griffin, John Mahoney, Ed Pluth, and Colleen Robb)

Appendix B – VALUE rubric for Creative Thinking



CREATIVE THINKING VALUE RUBRIC

for more information, please contact valuel@aacu.org

Definition

Creative thinking is both the capacity to combine or synthesize existing ideas, images, or expertise in original ways and the experience of thinking, reacting, and working in an imaginative way characterized by a high degree of innovation, divergent thinking, and risk taking

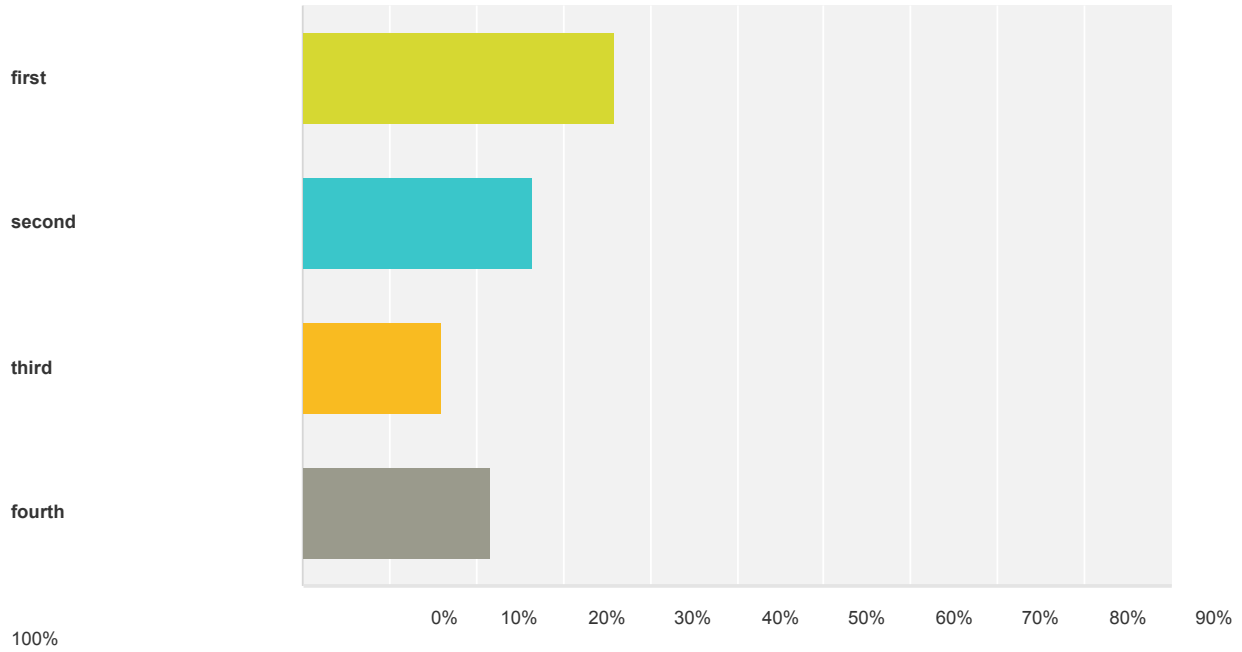
Evaluators are encouraged to assign a zero to any work sample or collection of work that does not meet benchmark (cell one) level performance.

	Capstone 4	3	Milestones 2	Benchmark 1
Acquiring Competencies <i>This step refers to acquiring strategies and skills within a particular domain.</i>	Reflect: Evaluates creative process and product using domain-appropriate criteria.	Create: Creates an entirely new object, solution or idea that is appropriate to the domain.	Adapt: Successfully adapts an appropriate exemplar to his/ her own specifications.	Model: Successfully reproduces an appropriate exemplar.
Taking Risks <i>May include personal risk (fear of embarrassment or rejection) or risk of failure in successfully completing assignment, i.e. going beyond original parameters of assignment, introducing new materials and forms, tackling controversial topics, advocating unpopular idea or solutions.</i>	Actively seeks out and follows through on untested and potentially risky directions or approaches to the assignment in the final product.	Incorporates new directions or approaches to the assignment in the final product.	Considers new directions or approaches without going beyond the guidelines of the assignment.	Stays strictly within the guidelines of the assignment.
Solving Problems	Not only develops a logical, consistent plan to solve problem, but recognizes consequences of solution and can articulate reason for choosing solution.	Having selected from among alternatives, develops a logical, consistent plan to solve the problem.	Considers and rejects less acceptable approaches to solving problem.	Only a single approach is considered and is used to solve the problem.
Embracing Contradictions	Integrates alternate, divergent, or contradictory perspectives or ideas fully.	Incorporates alternate, divergent, or contradictory perspectives or ideas in a exploratory way.	Includes (recognizes the value of) alternate, divergent, or contradictory perspectives or ideas in a small way.	A acknowledges (mentions in passing) alternate, divergent, or contradictory perspectives or ideas.
Innovative Thinking <i>Novelty or uniqueness (of idea, claim, question, form, etc.)</i>	Extends a novel or unique idea, question, format, or product to create new knowledge or knowledge that crosses boundaries.	Creates a novel or unique idea, question, format, or product.	Experiments with creating a novel or unique idea, question, format, or product.	Reformulates a collection of available ideas.
Connecting, Synthesizing, Transforming	Transforms ideas or solutions into entirely new forms.	Synthesizes ideas or solutions into a coherent whole.	Connects ideas or solutions in novel ways.	Recognizes existing connections among ideas or solutions.

Appendix C: Detailed Results of Student Survey

Q1 I am a _____ year student.

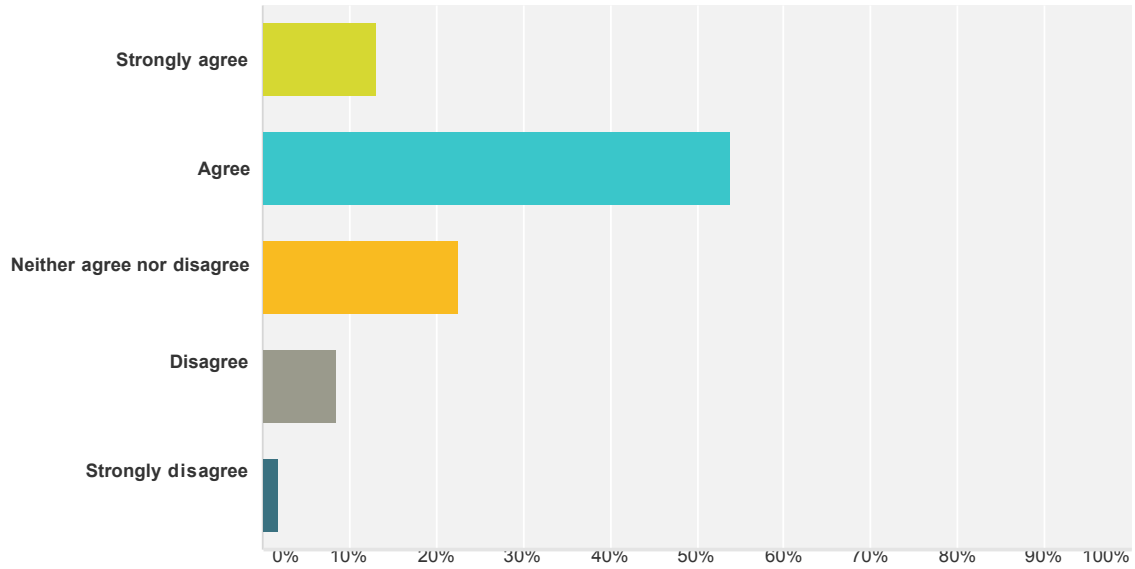
Answered: 106 Skipped: 0



Answer Choices	Responses
first	35.85% 38
second	26.42% 28
third	16.04% 17
fourth	21.70% 23
Total	106

Q2 In my writing assignments and homework, I am willing to experiment with ideas and points of views that are risky and untested.

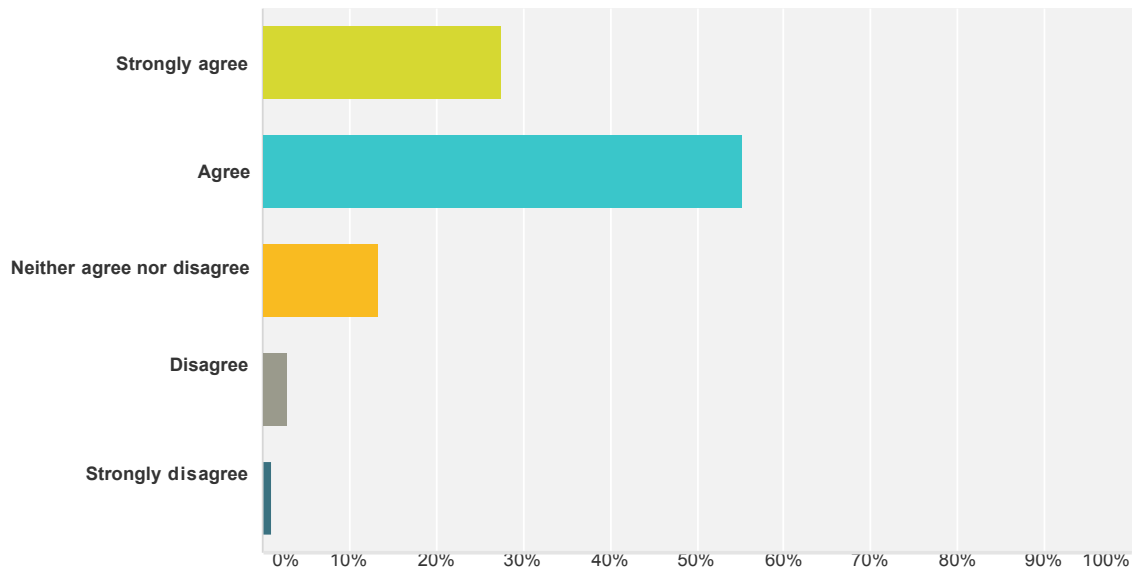
Answered: 106 Skipped: 0



Answer Choices	Responses
Strongly agree	13.21% 14
Agree	53.77% 57
Neither agree nor disagree	22.64% 24
Disagree	8.49% 9
Strongly disagree	1.89% 2
Total	106

Q3 I tend to follow the models given by my instructor/professor when doing my homework.

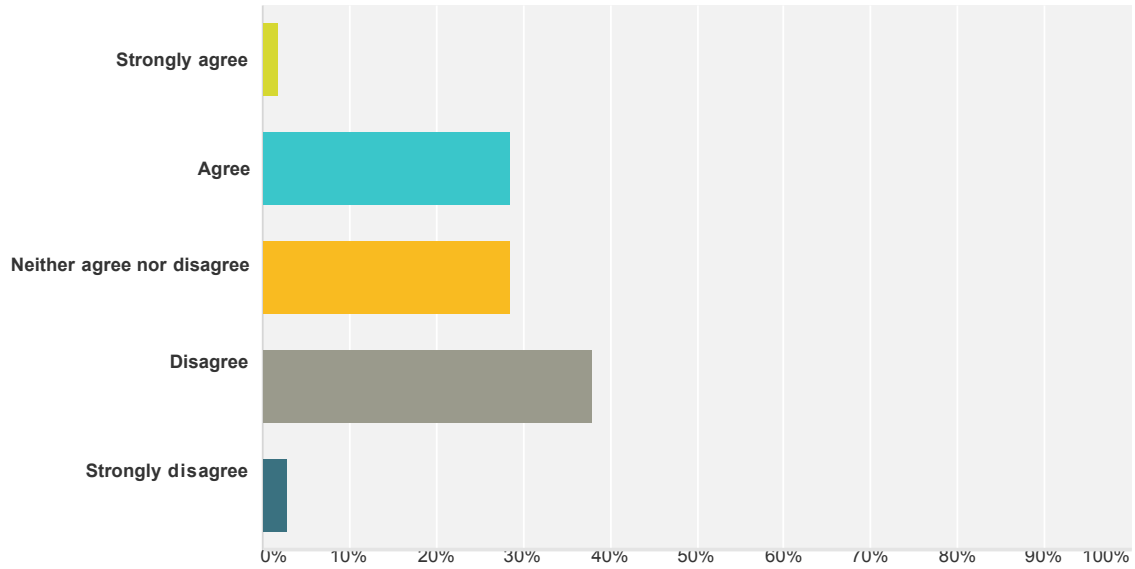
Answered: 105 Skipped: 1



Answer Choices	Responses
Strongly agree	27.62% 29
Agree	55.24% 58
Neither agree nor disagree	13.33% 14
Disagree	2.86% 3
Strongly disagree	0.95% 1
Total	105

Q4 I try to stick to a single approach and point of view when discussing issues and problems in my classes and assignments.

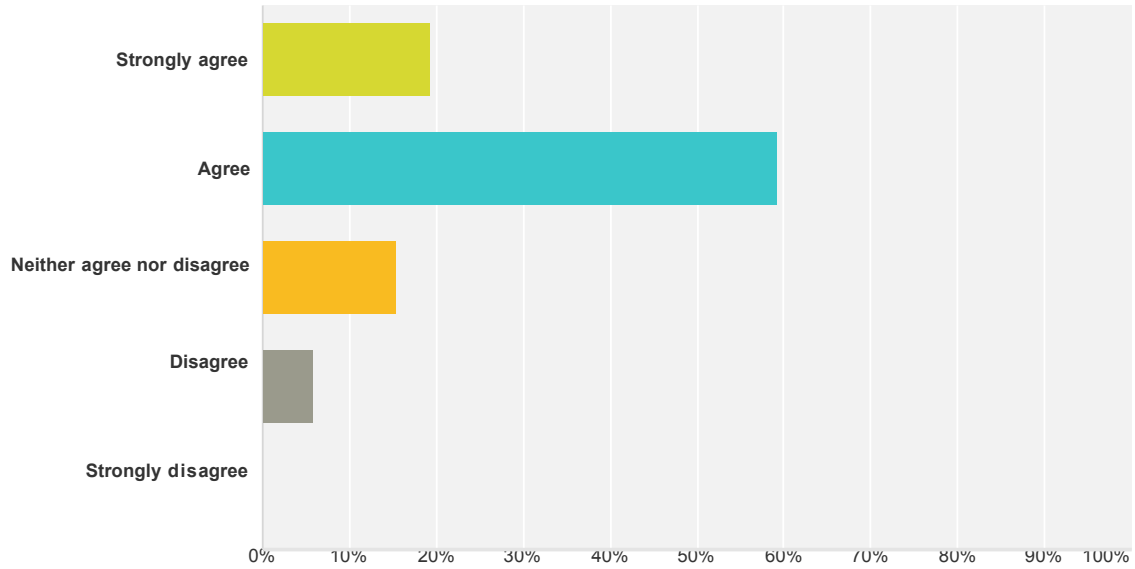
Answered: 105 Skipped: 1



Answer Choices	Responses
Strongly agree	1.90% 2
Agree	28.57% 30
Neither agree nor disagree	28.57% 30
Disagree	38.10% 40
Strongly disagree	2.86% 3
Total	105

Q5 When I come up with a way to solve a problem, I make sure that I understand the consequences of that solution and that I can easily explain it to others.

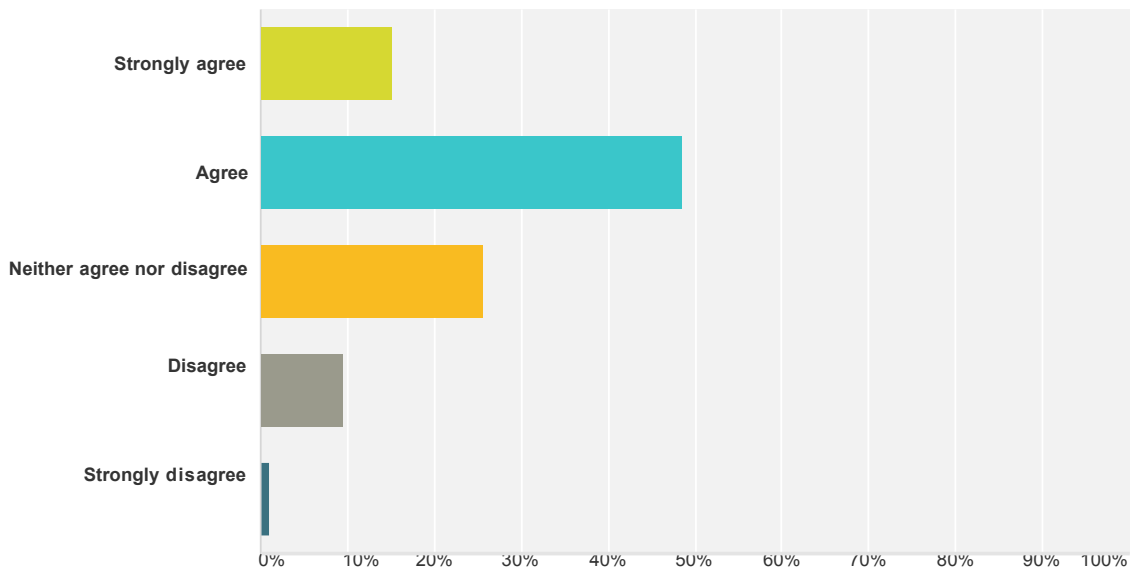
Answered: 103 Skipped: 3



Answer Choices	Responses
Strongly agree	19.42% 20
Agree	59.22% 61
Neither agree nor disagree	15.53% 16
Disagree	5.83% 6
Strongly disagree	0.00% 0
Total	103

Q6 In my classes and my assignments I enjoy including and discussing ideas and perspectives that go against the ones I already agree with.

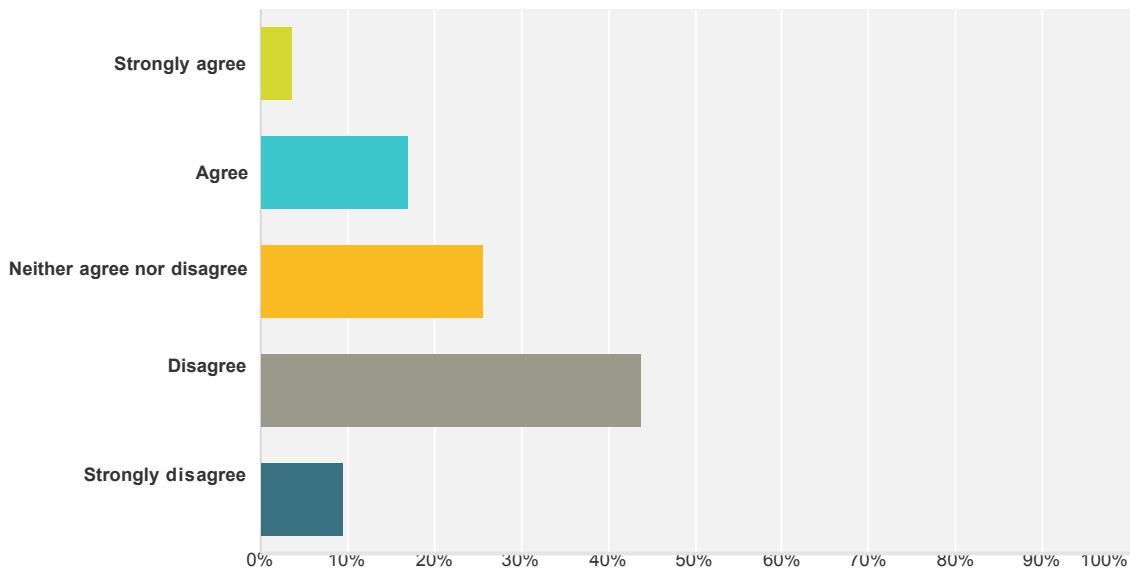
Answered: 105 Skipped: 1



Answer Choices	Responses	
Strongly agree	15.24%	16
Agree	48.57%	51
Neither agree nor disagree	25.71%	27
Disagree	9.52%	10
Strongly disagree	0.95%	1
Total		105

Q7 I try to avoid including and discussing points of view that go against my own in class discussions and in my writing assignments.

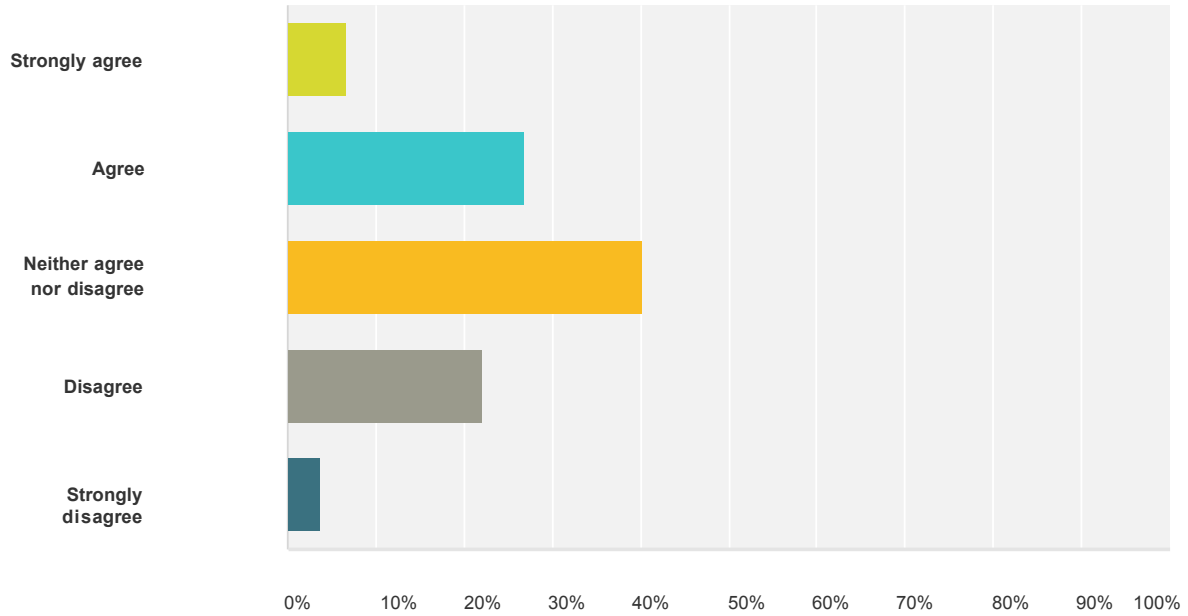
Answered: 105 Skipped: 1



Answer Choices	Responses
Strongly agree	3.81% 4
Agree	17.14% 18
Neither agree nor disagree	25.71% 27
Disagree	43.81% 46
Strongly disagree	9.52% 10
Total	105

Q8 I generally use others' ideas during class discussions and assignments.

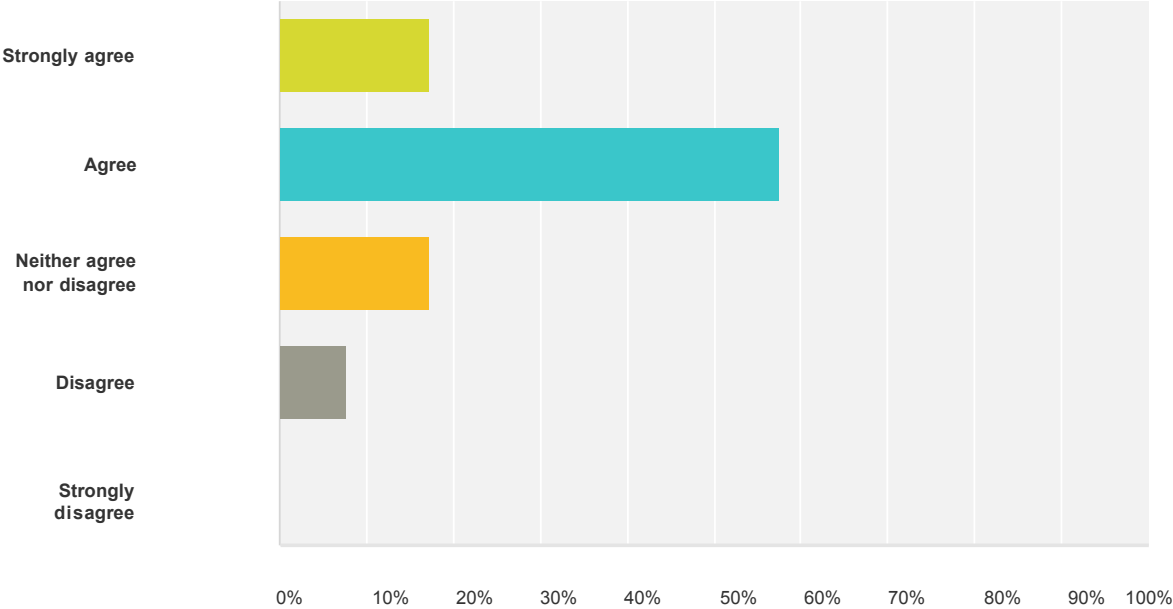
Answered: 104 Skipped: 2



Answer Choices	Responses
Strongly agree	6.73% 7
Agree	26.92% 28
Neither agree nor disagree	40.38% 42
Disagree	22.12% 23
Strongly disagree	3.85% 4
Total	104

Q9 I usually have my own unique ideas that I can use to create new ways of thinking about a topic.

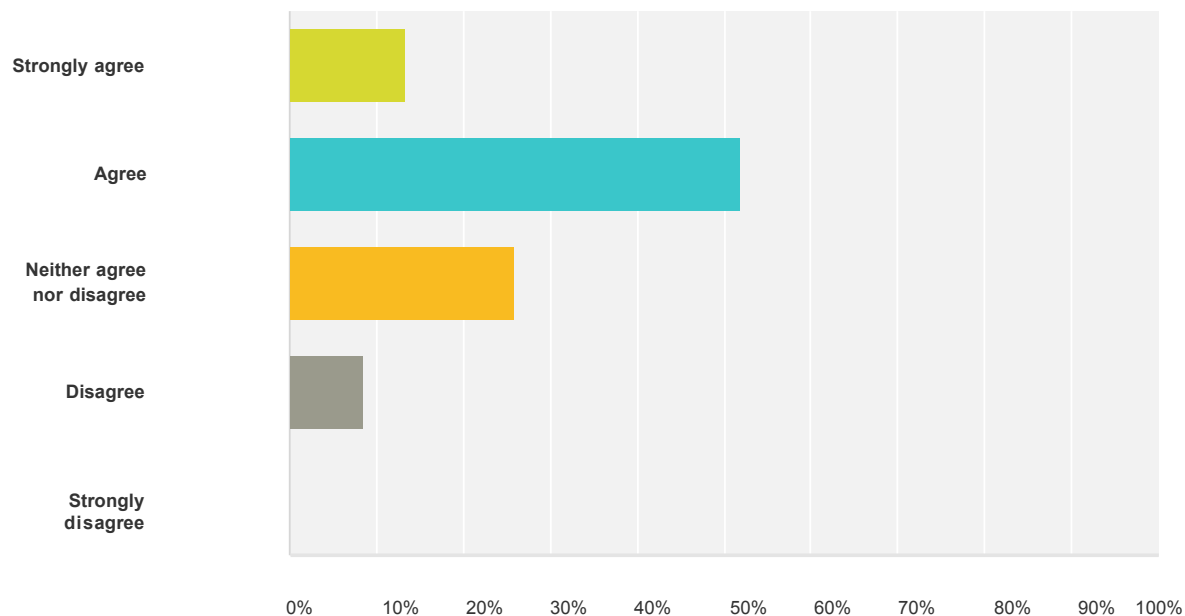
Answered: 104 Skipped: 2



Answer Choices	Responses
Strongly agree	17.31% 18
Agree	57.69% 60
Neither agree nor disagree	17.31% 18
Disagree	7.69% 8
Strongly disagree	0.00% 0
Total	104

Q10 I try to develop new ideas and new questions in my writing assignments and homework.

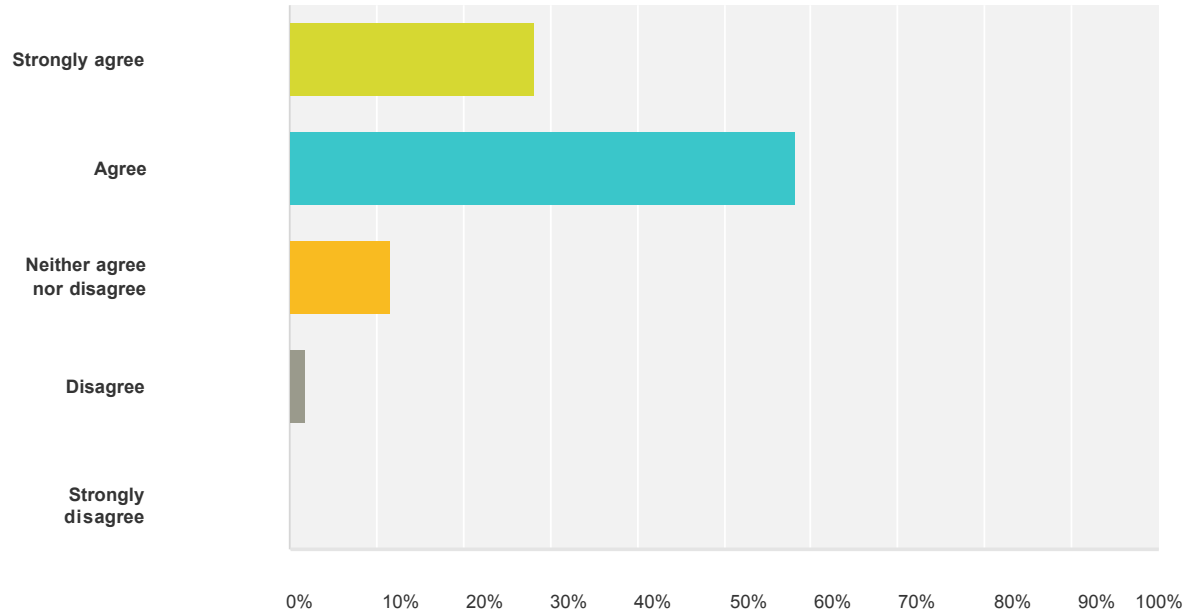
Answered: 104 Skipped: 2



Answer Choices	Responses
Strongly agree	13.46% 14
Agree	51.92% 54
Neither agree nor disagree	25.96% 27
Disagree	8.65% 9
Strongly disagree	0.00% 0
Total	104

Q11 I am able to recognize the connections between ideas and solutions.

Answered: 103 Skipped: 3



Answer Choices	Responses	Count
Strongly agree	28.16%	29
Agree	58.25%	60
Neither agree nor disagree	11.65%	12
Disagree	1.94%	2
Strongly disagree	0.00%	0
Total		103