

Economics SAC – Student Learning Assessment Report

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Overview

For the academic year 2011 – 2012 the economics SAC sought to assess student learning with respect to four PCC core learning outcomes. The four core student learning outcomes that the economics SAC chose to assess are 1) Critical Thinking and Problem Solving, 2) Self Reflection, 3) Community and Environmental Responsibility, and 4) Communication.

In order to facilitate the assessment process, the economics SAC decided to utilize embedded testing questions. The embedded test questions were directed toward two courses, Economics 201: *Principles of Microeconomics* and Economics 202: *Principles of Macroeconomics*.

Reasoning that the EC 201 and EC 202 courses have as their focus subject matter pertinent to the foundation of the economics discipline, the economics SAC elected to isolate student assessment within these two courses.

The economics SAC created two essay questions. One question is uniquely tailored for EC 201 students, while the other essay question is tailored specifically for EC 202 students. The EC 201 question is designed to address the core outcomes of Critical Thinking and Problem Solving, Self Reflection, and Community and Environmental Responsibility. The EC 202 question is designed to address the core outcomes of Critical Thinking and Problem Solving, Self Reflection, and Communication. Each of the questions and their accompanying rubric is stipulated below.

Economics 201 – Market Failure and/or Externalities

Discuss allocation efficiency in the context of market capitalism and how efficiency is affected when negative externalities are present. (**Graphical Analysis Required**).

As part of your response to the question, please include the following:

- i. The criteria to determine allocation efficiency and the definition of an externality. Display allocation efficiency and demonstrate the presence of a negative externality in your graph.
- ii. Your beliefs regarding the reason(s) for the presence of negative externalities.
- iii. Give an example of a negative externality that affects your community and your response to that externality.
- iv. Propose an appropriate policymaking response intended to eliminate or reduce

the impact of the externality in your community.

Grading Rubric

Critical Thinking and Problem Solving

2 Point Per Category

1 Point Per Category

0

Student correctly identifies the efficiency criteria

The student determines efficiency is achieved when $MSB = MSC$.

The student incorrectly identifies the efficiency criteria.

No
Response

Student constructs the correct graphical explanation in support of their response

The student constructs a supply and demand graph that presents the efficiency criteria as well as the supply and demand outcome when a negative externality is present.

The student attempts a graphical analysis but does so incorrectly.

No
Response

Self-Reflection

2 Point Per Category

1 Point Per Category

0

Student correctly identifies an example from their own community

The student's example correctly identifies the concept of a negative externality as it may appear in their community.

The student's example incorrectly identifies the concept of a negative externality as it may appear in their community

No
Response

Student relates how the externality impacts their relationship with their community

Student identifies any changes in their behavior as a result of their understanding of negative externalities.

The student incorrectly identifies a negative externality.

No
Response

Community and Environmental Responsibility

2 Point Per Category

1 Point Per Category

0

Student correctly identifies a solution to the problem within their community.	The student's example correctly identifies a possible solution for the externality such as a command and control regulation, a tax or subsidy, the sale or auction of pollution rights, or a Coase theorem inspired solution.	The student's example incorrectly identifies a possible solution for the externality such as a command and control regulation, a tax or subsidy, the sale or auction of pollution rights, or a Coase theorem inspired solution.	No Response
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Economics 202 – Keynesian Economics and Monetary Policy

According to Keynesian economics, one appropriate response to an economic contraction is for the Federal Reserve to increase the money supply in an effort to reduce interest rates thereby stimulating investment spending, aggregate demand, income, and output.

(Graphical analysis is required).

As part of your response to the question, please include the following:

- i. Your beliefs regarding the role of the government in resolving economic contractions.
- ii. Evaluate how Federal Reserve policies may impact your own economic circumstance as well as the economic well being of your community.

Grading Rubric

Critical Thinking and Problem Solving	2 Point Per Category	1 Point Per Category	0
The student correctly identifies why the statement is true or false by correctly constructing the correct sequence of events when explaining the impact of expansionary Federal Reserve policy.	The Federal Reserve expands credit and lowers interest rates, this decreases the direct cost of borrowing and/or decreases the opportunity cost of financial investments of plowed-back profits, these provide incentives for businesses to invest in capital stock, this increase in investment has two results: increase in productivity and increase in aggregate demand, both results lead to aggregate growth, and aggregate growth leads to employment growth.	The student's explanation includes some of those elements, but not all. The student's explanation is mostly in order.	None of the elements are included in the explanation, or has no sense of the sequence of the events and so the explanation makes no sense.

Student constructs the correct graphical explanation in support of their response	The student correctly constructs an aggregate supply and aggregate demand graph while demonstrating graphically the impact of rising investment.	The student attempts a graphical analysis but does so incorrectly.	No Response
Self Reflection	2 Point Per Category	1 Point Per Category	0
Student reveal their ideological perspective regarding the role of government stabilization policies.	The student expresses a viewpoint with respect to the efficacy and/or limits to government intervention.	The student expresses their ideological perspective, however the viewpoint of the student is incoherent.	No Response
Communication	2 Point Per Category	1 Point Per Category	0
The students communicate the purpose of their own understanding of Federal Reserve Policy measures; specifically how these policies could impact their lives.	The students clearly state the importance of understanding monetary policy as it could have an impact on their lives.	The students demonstrate a vague understanding of the importance of understanding.	Show no such understanding.
The students' answers demonstrate clarity and coherence and can give useful information about Federal Reserve Policy to others in their community and/or workplace.	The students' answers are clear, concise, coherent, and can explain accurately Fed policy to others in their community and/or workplace.	The students' answers are a bit unclear, but is able to illuminate some aspects of Fed policy for others.	Unclear, rambling, and incoherent and not helpful to others.

In total, while the number of participating instructors exceeds the data that has been reported, in terms of reported responses the questions were administered to seven sections of EC 201 and EC 202 over the Autumn 2011 and Winter 2012 quarters. More specifically the Principles of Microeconomics question was administered to three sections of EC 201, while the Principles of Macroeconomics question was administered to four sections of EC 202 (although the data results for two sections were merged together and will appear as one section in the data below). The range of the sample size of student responses per section varies from as few as six students to as many as thirty seven students per section.

Upon administering the questions, each instructor independently graded the results. When

possible, each graded section was then again independently graded by two to four additional economics instructors. In the instance in which additional grading was completed, the additional grading was designed to gauge the degree of variability of assessed scores across instructors. Ideally, reflecting effective norming, the assessment score variance should be negligible.

Data

ECONOMICS 201 – SECTION I

Instructor A	(1)	(2)	(3)	(4)	(5)	Total
AVERAGE	1.36	1.24	1.6	1.32	1.56	7.08
STDEV	0.6377042	0.663325	0.707106781	0.802080628	0.768114575	1.998333
MAX	2	2	2	2	2	10
MIN	0	0	0	0	0	0

Instructor B

AVERAGE	1.4	1.04	1.44	1.28	1.56	6.72
STDEV	0.5773503	0.7348469	0.711805217	0.73711148	0.768114575	1.968925
MAX	2	2	2	2	2	10
MIN	0	0	0	0	0	0

Instructor C

AVERAGE	1.173913	1.5217391	1.608695652	0.52173913	1.695652174	6.521739
STDEV	0.4910262	0.6653478	0.5830274	0.790256875	0.558795995	1.805788
MAX	2	2	2	2	2	10
MIN	0	0	0	0	0	3

Instructor D

AVERAGE	0.8636364	1.3181818	1.045454545	1.772727273	1.772727273	6.772727
STDEV	0.3512501	0.7798879	0.785419071	0.428932027	0.428932027	1.540928
MAX	1	2	2	2	2	9
MIN	0	0	0	1	1	4

ECONOMICS 201 – SECTION II

Instructor A	(1)	(2)	(3)	(4)	(5)	Total
AVERAGE	1.2	1.266667	1.333333	0.533333	1.266667	5.6
STDEV	0.676123	0.798809	0.816497	0.833809	0.703732	2.443651
MAX	2	2	2	2	2	9
MIN	0	0	0	0	0	0

Instructor B

AVERAGE	1.076923	1.384615	1.615385	0.846154	1.461538	6.384615
STDEV	0.759555	0.650444	0.650444	0.800641	0.660225	2.256046
MAX	2	2	2	2	2	10
MIN	0	0	0	0	0	3

ECONOMICS 201 – SECTION III

Instructor A	(1)	(2)	(3)	(4)	(5)	Total
AVERAGE	1.0967742	1.4193548	1	1.903225806	1.870967742	7.290323
STDEV	0.5974858	0.5641627	0.730296743	0.300537154	0.340777101	1.574665
MAX	2	2	2	2	2	10
MIN	0	0	0	1	1	4

ECONOMICS 202 – SECTION I

Instructor A	(1)	(2)	(3)	(4)	(5)	Total
AVERAGE	1.45614	1.263158	1.315789	1.298246	1.122807	6.45614
STDEV	0.683222	0.613139	0.602314	0.778389	0.846636	2.147009
MAX	2	2	2	2	2	9
MIN	0	0	0	0	0	2

Instructor B

AVERAGE	1.45614	1.280702	1.298246	1.315789	1.140351	6.491228
STDEV	0.683222	0.619746	0.653696	0.75965	0.854371	2.338519
MAX	2	2	2	2	2	10
MIN	0	0	0	0	0	2

Instructor C

AVERAGE	1.428571	1.428571	1.285714	0.619048	0.952381	5.714286
STDEV	0.597614	0.597614	0.902378	0.86465	0.973457	2.216819
MAX	2	2	2	2	2	10
MIN	0	0	0	0	0	2

Instructor D

AVERAGE	1.285714	1.642857	1.307692	1.25	1.083333	6.416667
STDEV	0.726273	0.497245	0.751068	0.753778	0.514929	2.065224
MAX	2	2	2	2	2	10
MIN	0	1	0	0	0	2

ECONOMICS 202 – SECTION II

Instructor A	(1)	(2)	(3)	(4)	(5)	Total
AVERAGE	1.3	1.6	1.7	1.1	1.2	6.9
STDEV	0.483046	0.699206	0.674949	0.737865	0.788811	2.424413
MAX	2	2	2	2	2	10
MIN	1	0	0	0	0	3

Instructor B

AVERAGE	0	0	0	0	0	7.400037
STDEV	0	0	0	0	0	1.676277
MAX	0	0	0	0	0	10.00005
MIN	0	0	0	0	0	5.33336

ECONOMICS 202 – SECTION III

Instructor A	(1)	(2)	(3)	(4)	(5)	Total
AVERAGE	1.333333	1.333333	1.5	1	1	6.166667
STDEV	0.516398	0.516398	0.547723	0.894427	0.632456	2.041241
MAX	2	2	2	2	2	9
MIN	1	1	1	0	0	3

Interpretation

The above data reflects how students performed on all five individual sections of the embedded test questions in particular as well as the students' overall performance on the question. The numbers (1) – (5) above each column reflect the five sections of the embedded questions. The overall performance is reflected by the numbers that appear beneath the column designated as "Total."

Beginning with a broad cross sectional overview, considering all of the EC 201 and EC 202 sections, the range of the average total performance reflects scores as low as 5.6 out of 10 and as high as 7.4 out of 10 with the difference being 1.8 points. Broken into smaller components, the low average for EC 201 was 5.6 while the high was 7.29 with the difference being 1.69 points. For EC 202, the low average was 5.71 and the high average was 7.4 with a difference of 1.69. Clearly, in terms of a low average in comparison to high average, EC 201 and EC 202 reflect remarkably similar results across sections.

In terms of an intra-sectional analysis, regarding EC 201, in the case the largest sample, section I depicts an overall average that occupies a range between a low of 6.52 and a high of 7.08. In terms of comparative assessment, the range or differentiability resides within a miniscule 0.56 points. 0.56 points reflects a less than 6% distinction across instructors with respect to similar student response.

Regarding EC 202, again employing the largest sample, section I depicts an overall average that

occupies a range between a low of 5.71 and a high of 6.49. In terms of comparative assessment, the range or differentiability resides within a relatively minimal 0.78 points. 0.78 points reflects a less than 8% distinction across instructors with respect to similar student response. In fact, deducting the one relatively low overall average of 5.71, then the range of the overall averages between three of four instructors produced a range of 6.41 to 6.49 resulting in a difference of .08 of a percent. 0.08 is a difference of less than 1% across instructors. Although somewhat limited in scope, the data above appears to reflect that in terms of “Norming” student assessment across instructors, the economics SAC appears to be performing in a solidly consistent manner.

Although the data reveals several additional interesting observations, there is another additional consideration that the data appears to reveal. Regardless of range, overall student average results reflect relatively poor student comprehension of core economic ideas. On an unaltered 100 point scale, it would appear as though most economics students are, in fact, D students in terms of their comprehension!

Problems and Concerns

The first area of concern pertains to student comprehension. Assuming comparable student assessment evaluations on the part of economics instructors, which the above data appears to reflect, then the overall averages stipulated above depict students consistently performing in the mid-60% range. Given the importance and desirability of basic student comprehension, the economics SAC has acquired evidence to indicate that there is room for improvement in terms of facilitating student comprehension.

As such, part of the student comprehension issue may also be the result of the structure of the economics SAC assessment technique. For example, some instructors suggested that students often appeared to have difficulty interpreting the assessment questions. For example, one instructor reported that absent additional instructor prompting, many students failed to understand that they needed to include a graphing component with their answers. Also, the questions appear to be cumbersome. In an exam situation, many students appeared to struggle to adequately address each portion of the question or simply did not understand that they were being assessed on the basis of five specific conditions. As the economics SAC continues to develop student assessment metrics, the economics SAC will seek to continue to explore a more refined, and student accessible, student assessment technique. In fact, many instructors report having, over the course of the 2011 – 2012 academic year, already made adjustments to how they presented and discussed the subject matter associated with the embedded assessment questions.

Beyond student related concerns, the economics SAC had several concerns and problems arise regarding the structure of the assessment technique. First, the economics SAC encountered some organizational challenges. While it is likely that the embedded questions were administered to greater than seven sections of either EC 201 or EC 202, seven sections represent the number of

sections reported. The economics SAC would like to increase its participation rates in future student assessment reports.

In another area of concern, the economics SAC encountered challenges in terms of sharing student responses. For example, there was a degree of differentiability in terms of the number of student responses per section that were independently graded by separate instructors. Due to inadequate identification, instructors often times had difficulty categorizing and organizing their grading of another instructor's student responses. Because the sample sizes of student responses were comparable, the economics SAC does not believe that the distinctions in student responses per section have any negative consequence in terms of the ability to compare instructor assessment of student responses. However, the economics SAC believes that it is important and intends to improve its organizational standards in order to better standardize comparisons of inter and cross sectional student assessment.

Another instructional concern pertains to the grading rubric. While somewhat flexible, assigning 0, 1, or 2 points per response per part of the question, some economics instructors expressed concern that the grading rubric did not provide enough latitude in terms of assigning points per each portion of the questions. In future assessments projects, the economics SAC will seek to provide instructors with greater flexibility in student assessment.

Finally, because different instructors assess students through a variety of different means, in some instances, exam embedded essay question is not practical nor consistent with some instructors assessment techniques. As a result, maintaining consistent embedded question administration across sections proved to be challenging.