cla+

Student Guide

WHAT IS THE CLA+?

Collegiate Learning Assessment (CLA+) is a performance-based assessment used to measure critical-thinking and written-communication skills. CLA+ provides useful feedback to individual test takers on these skills, which are not only necessary for success in college, but are important for success in the workplace and other aspects of life outside the classroom.

The CLA+ uses a Performance Task (PT) and a Selected-Response Question (SRQ) section to measure critical- thinking and written communication skills. The principal goal of CLA+ is to assist faculty, administrators, and students in improving teacing and learning.

WHY DO STUDENTS TAKE THE CLA+?

The number of skills required for post – graduation success is far greater than those required for previous generations of students. Students can no longer rely solely on the collection and mastery of discipline-based information, but now must be able to analyze and evaluate information, solve problems, and communicate effectively to a variety of audiences. The accelerating speed of technological advancement and information requires employers to have a dynamic and adaptive workforce.

Because of the rapidly changing workforce environment, participating in CLA+ can help assess your individual areas of strength as well as areas for improvement. Your CLA+ results can be shared with your institution and future employers to prove that you possess the desired critical-thinking, problem-solving, and written-communication skills necessary for success.

Your CLA+ report will compare your scores with other CLA+ test-takers across the country and provide indicators regarding your level of mastery of higher-order skills measured by the exam. As an entering student, you can attain a reliable understanding of your analytic and quantitative reasoning, problem-solving, and written-communication capabilities, which may be used to help plan your course selections in the first two years of college. Moreover, the CLA+ report will serve as a credential that you can send to potential employers and/or graduate schools as you approach graduation.

WHY CLA+ IS IMPORTANT TO INSTITUTIONS

Over 100 higher education institutions participate annually in CLA+ to determine how, and by how much, they contribute to the development of their students' higher-order skills. Collecting this information is one step in the process of improving teaching and learning practices. Participation in CLA+ requires the cooperation of many members of an institution, including administrators, faculty, and students.

Students who participate in CLA+ contribute to the results and data that inform their institution about their student learning outcomes. The more students that participate, the more an institution can adapt to its results. Institutions that participate in CLA+ also help students by providing them with a credential to round out their overall mastery portfolio.

Percentage of Employers Who Believe That the Following Skills Should Be Increasingly Emphasized in Recent College Graduates:

82% The Ability to Effectively Communicate in Writing

81% Critical Thinking and Analytic Reasoning

80% The ability to Apply Knowledge and Skills to Real World Settings

70% The Ability to Analyze and Solve Complex Problems

Source: "Falling Short? College Learning and Career Success." Hart Research Associates. 2015

Skills Measured by CLA+

**Critical Thinking
Problem Solving
Analytic Reasoning
Effective Communication
Scientific Reasoning
Quantitative Reasoning
Critical Reading**

If your institution isn't currently offering the CLA+, please let us know (clateam@cae.org). You may either be able to take the CLA+ on your own, or if enough of your peers are interested, we can reach out directly to your institution.

THE IMPORTANCE OF THE CLA+ FOR STUDENTS

Many previous CLA+ participants report that the CLA+ Performance Tasks are engaging and relevant. The Performance Task Document Library provides all the information you will need to address the prompt and construct a relevant response.

Because CLA+ is reliable and valid for individual student test results as well as the institution-based value-added approach, students, their sponsoring college, and employers will be able to take advantage of results to improve individual student learning as students begin their college education and transition to employment.

CLA+ will continue to feature the value-added approach, which is designed to answer the question, "How much value does an institution add to the student learning growth over the course of s student's college career?" This information permits your professors and administrators to understand what to focus on to improve teaching and learning. However, the new protocol also provides important new benefits.

First, if you are an entering freshman, you will receive certified results of your test scores. Your student report will provide you with a good sense of how your skills compare to all other students taking CLA+. Moreover, the student report is a credential that you may use, at your discretion, to send to potential employers you may wish to work for part time or intern for. Institutional representatives, including your professors, may also consult your CLA+ test results, at their discretion, for diagnostic purposes.

Second, and most importantly, because the critical-thinking skills CLA+ measures can be shared with employers as important requisites for success in the workplace, you will have the opportunity to take CLA+ as a graduating senior and receive certified results. You may then provide potential employers with these results in addition to your college transcript and other relevant information. Of course, most employers rely on interviews to make final decisions on who to hire. As part of the hiring process, interviewers often ask applicants to take tests that measure skills of particular importance to their firm. Currently, there is no appropriate standardized test that students can take, add to their transcript, and send to prospective employers to assist them in prescreening applicants. CLA+ is designed to fill this gap. As a graduating senior taking CLA+, you will want to try your best because your test results can assist you in gaining the kind of employment you desire in an increasingly competitive job market.

PERFORMANCE TASKS

Each performance task assesses three subscores: analysis and problem-solving, writing effectiveness, and writing mechanics. Students are prompted to answer several open-ended questions about a hypothetical but realistic situation. Students have 60 minutes to complete the Performance Task.

Each Performance Task also has its own Document Library, which includes a range of information sources, such as letters, memos, photographs, charts, and/or newspaper articles.

To complete the Performance Task, you may have to weigh different types of evidence, evaluate the credibility of various documents, spot possible bias, and identify questionable or critical assumptions. It is important to note that there is no single correct answer to a Performance Task.

Characteristics of a high quality Performance Task response:
- Evaluates whether evidence is credible or unreliable
- Provides analysis and synthesis of the evidence
- Draws conclusions that follow from the provided evidence
- Is well-organized and logically developed, with each idea building upon the last
- Shows strong command of writing mechanics and vocabulary

SAMPLE PERFORMANCE TASK:

SCENARIO

Pat Stone is running for reelection as mayor of Jefferson, a city in the state of Columbia. Mayor Stone's opponent in this contest is Dr. Jamie Eager. Dr. Eager is a member of the Jefferson City Council. You are a consultant to Mayor Stone. Dr. Eager made the following three arguments during a recent TV interview:

First, Mayor Stone's proposal for reducing crime by increasing the number of police officers is a bad idea. Dr. Eager said "it will only lead to more crime." Dr. Eager supported this argument with a chart that shows that counties with a relatively large number of police officers per resident tend to have more crime than those with fewer officers per resident.

Second, Dr. Eager said "we should take the money that would have gone to hiring more police officers and spend it on the STRIVE drug treatment program." Dr. Eager supported this argument by referring to a news release by the Washington Institute for Social Research that describes the effectiveness of the STRIVE drug treatment program. Dr. Eager also said there were other scientific studies that showed the STRIVE program was effective.

Third, Dr. Eager said that because of the strong correlation between drug use and crime in Jefferson, reducing the number of addicts would lower the city's crime rate. To support this argument, Dr. Eager showed a chart that compared the percentage of drug addicts in a Jefferson zip code area to the number of crimes committed in that area. Dr. Eager based this chart on crime and community data tables that were provided by the Jefferson Police Department.

ROLE

You are a consultant to Mayor Stone

TASK

Mayor Stone has asked you to prepare a memo that analyzes the strengths and limitations of each of Dr. Eager's three main points, including any holes in those arguments. Your memo also should contain your conclusions about each of Dr. Eager's three points, explain the reasons for your conclusions, and justify those conclusions by referring to the specific documents, data, and statements on which your conclusions are based.

DOCUMENT LIBRARY
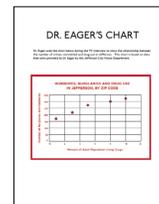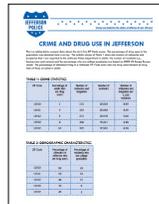
SAMPLE SELECTED-RESPONSE QUESTIONS:

The Selected-Response questions are designed to evaluate targeted skill sets. You will be presented with a set of questions as well as one or two documents to refer to when answering each question. The supporting documents include a range of information sources, such as letters, memos, photographs, charts, and/or newspaper articles.

The Scientific & Quantitative Reasoning section contains 10 questions that require students to use information and arguments provided in (an) accompanying document(s) to: make inferences and hypotheses based on given results; support or refute a position; identify connected and conflicting information; detect questionable assumptions (such as implications of causation based on correlation); evaluate the reliability of the information provided (such as the experimental design or data collection methodology); draw a conclusion or decide on a course of action to solve the problem; evaluate alternate conclusions; or recognize that the text leaves some matters uncertain and propose additional research to address these matters. The supporting documents in this section present and discuss real-life research results.

The Critical Reading & Evaluation section also contains 10 questions that require students to use information and arguments from (an) accompanying document(s) to: support or refute a position; identify connected and conflicting information; analyze logic; identify assumptions in arguments; make justifiable inferences; or evaluate the reliability of the information provided. The supporting documents in this section may present debates, conversations, or multiple literary or historical texts with opposing views on an authentic issue.

The Critique-an-Argument section contains five questions. Students are presented with a brief argument about an authentic issue, and must use their critical-thinking skills to critique the given argument. Some of the questions may require students to: evaluate alternate conclusions; address additional information that could strengthen or weaken the argument; detect logical flaws and questionable assumptions in the argument; and evaluate the reliability of information, including recognizing potential biases or conflicts of interest.

SAMPLE SELECTED-RESPONSE QUESTIONS:

SUPPORTING DOCUMENTS

Fueling the Future

In a quest to solve the energy problems of the twenty-first century—that is, to find sustainable and renewable sources of energy that are less destructive to the environment yet economical enough to have mass appeal—scientists throughout the world are experimenting with innovative forms of fuel production. While oil is still the most common source of fuel, there is a finite amount of it, and new alternatives will become necessary to sustain the supply of energy that we are accustomed to.

Corn-based ethanol, the most common alternative to traditional fossil fuels (primarily coal, petroleum, and natural gas), is mixed into gasoline in small quantities, and it now accounts for about 10% of the fuel supply from sources within the United States. Because corn is grown on farmland it is subject to price fluctuations based on supply and demand of the crop, as well as disruptions resulting from naturally occurring events, such as droughts and floods. At present, nearly 40% of the corn grown in the United States is now used for fuel, and the demand for corn-based ethanol is rising. To meet this demand, wetlands, grasslands, and forests are all being converted into farmland with the sole intention of growing corn for more ethanol production. Corn grown for ethanol has become a more valuable commodity for farmers than crops grown for food, and this has negatively affected consumers worldwide, as shown by the increasing price of food over time.
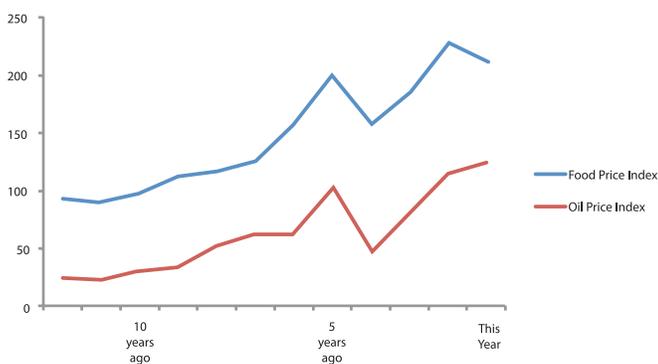
Another alternative that has gained attention in recent years is the harvesting of biofuel from algae. Biodiesel, a type of biofuel, is produced by extracting oil from algae, much like the process involved in creating vegetable oils from corn or soybeans. Ethanol can also be created by fermenting algae.

Algae biofuel has some unique benefits that separate it from other fossil fuel alternatives. To begin with, while all fuels create carbon dioxide when they are burned, algae have the ability to recapture and use that carbon dioxide during photosynthesis while they are growing. In this regard, the advantage is enormous. The process of growing algae actually absorbs more carbon dioxide than is released into the atmosphere when it is burned for fuel. Most manufacturing processes strive for "carbon neutrality"—or the balance between carbon emissions and depletion corresponding to a net carbon output of zero. Even better, algae-based biofuel can be described as "carbon negative."

Other forms of biofuel can make similar claims. For example, ethanol from corn also eliminates carbon dioxide in the atmosphere through photosynthesis. Unlike corn, however, algae grow in water, usually in man-made ponds built on land not used for crops. Additionally, algae do not require fresh water. Instead algae can be grown in salt water, and in some cases even sewage water and other waste material.

The most promising aspect of algae biofuel stems from its yield. When compared to other biofuel producers, algae's fuel yield per harvested acre is over 500 times greater than corn-based ethanol.
The following chart compares commonly used biofuel crops on several important factors.

Figure 1: Food and oil price indices (based on information found at www.fao.org and www.indexmundi.com)

Table 1: Comparison of biofuel crops (based on information found at: algaefuel.org and c1gas2org.wpengine.netdna-cdn.com)

Product	Oil Yield Gallons/Acre	Harmful Gas Emissions	Use of Water to Grow Crop	Fertilizer Needed to Grow Cop	Energy Used to Extract Fuel from Crop
Ethanol from Corn	18	high	high	high	high
Biodiesel from Soybeans	48	medium	high	low-medium	medium-low
Ethanol from Canola	127	medium	high	medium	medium-low
Biodiesel from Algae	10,000	negative	medium	low	high

Which of the following negatively affects algae biofuel's ability to be a "carbon-negative" energy source?
   A. It takes 3000 liters of water to create one liter of biofuel from algae, which is highly inefficient and wasteful of resources.
   B. The process of extracting biofuel from algae requires more energy than is generated by burning the biofuel itself.
   C. The construction of facilities needed to extract algae biofuel would initially require the use of fossil fuels for energy.
   D. Algae biofuel is about 25 years away from being commercially viable, by which point there will be more efficient alternative energy sources.