



## **Student Performance Q&A: 2016 AP<sup>®</sup> Research Academic Paper**

The following comments on the assessment of the 2016 academic papers for AP<sup>®</sup> Research were written by the Chief Reader, Matthew Krain of The College of Wooster. They give an overview of the performance tasks and provide insights into how students performed, including typical student errors. General comments regarding the skills and content that students frequently have the most problems with are included. Some suggestions for improving student performance in these areas are also provided. Teachers are encouraged to attend a College Board workshop to learn strategies for improving student performance in specific areas.

### **Performance Task: Academic Paper**

#### *What was the intent of this performance task?*

This performance task was intended to assess students' ability to conduct scholarly and responsible research and articulate an evidence-based argument that clearly communicates the conclusion, solution, or answer to their stated research question. More specifically, this performance task was intended to assess students' ability to:

- Generate a focused research question that is situated within or connected to a larger scholarly context or community;
- Explore relationships between and among multiple works representing multiple perspectives within the scholarly literature related to the topic of inquiry;
- Articulate what approach, method, or process they have chosen to use to address their research question, why they have chosen that approach, and how they employed it;
- Develop and present their own argument, conclusion, or new understanding;
- Support their conclusion through the compilation, use, and synthesis of relevant and significant evidence;
- Use organizational and design elements to effectively convey the paper's message;
- Consistently and accurately cite, attribute, and integrate the knowledge and work of others, while distinguishing between the student's voice and that of others; and

- Generate a paper in which word choice and syntax enhance communication by adhering to established conventions of grammar, usage, and mechanics.

*How well did students perform on this performance task?*

Overall, the mean score was 33.85 out of a possible 50 points.

- The mean score on **Understanding and Analyzing Context** was 4.50 out of a possible 6 points.
- The mean score on **Understanding and Analyzing Arguments** was 4.18 out of a possible 6 points.
- The mean score on **Evaluating Sources and Evidence** was 4.25 out of a possible 6 points.
- The mean score on **Research Design** was 4.67 out of a possible 7 points.
- The mean score on **Establishing (their own) Argument** was 4.54 out of a possible 7 points.
- The mean score on **Selecting and Using Evidence** was 3.56 out of a possible 6 points.
- The mean score on **Engaging the Audience** was 2.02 out of a possible 3 points.
- The mean score on **Applying (Academic) Conventions** was 4.06 out of a possible 6 points.
- The mean score on **Applying (Grammatical and Stylistic) Conventions** was 2.10 out of a possible 3 points.

What did students do particularly well?

- In **Understanding and Analyzing Context**, most students developed interesting research questions with an appropriate degree of focus, and situated their research questions within a broader context. Many students effectively argued why their question required additional research or examination. Some students developed carefully crafted and well-reasoned questions that were clearly linked to a broader context or gap in our understanding.
- In **Understanding and Analyzing Arguments**, most students effectively reviewed research literature relevant to their inquiry. Many students were able to discuss multiple perspectives within the relevant literature on their research question or topic of inquiry.
- In **Evaluating Sources and Evidence**, students mostly drew upon credible and relevant sources in situating their question within a larger context and in developing their argument.
- In **Research Design**, some students were good at describing procedures followed in the chosen method or approach, and explaining the reason for that approach. Some students linked the approaches used in the literature they reviewed to their own study, or adapted approaches used in the literature to their own research.
- In **Establishing (Their Own) Argument**, many students stated a clear argument or claim. Some students were good at describing the limitations of the method or approach chosen, and of their ability to extrapolate conclusions from their evidence.
- In **Engaging the Audience**, most students organized their paper in a manner that made it easy for the reader to follow the argument, the method/approach, and the examination of the evidence. Many

used organizational and/or design elements effectively. Most students demonstrated the ability to organize their information to convey meaning (a skill initially developed in AP Seminar and built upon in AP Research).

### *What were common student errors or misconceptions?*

- In **Understanding and Analyzing Context**, some students developed broad or exploratory topics that lacked a pointed research question or a clear focus. Many claims made in the introduction in order to situate the question in a context were overly broad and uncited or otherwise unsubstantiated. Some students used hyperbole in discussing the importance of their topic or the novelty and significance of their findings. A few students presented a position on a topic rather than develop a research question that could be explored through the process of inquiry. A few students used the abstract as the paper's introduction rather than as a way to summarize the research process and outcome.
- In **Understanding and Analyzing Argument**, many students discussed multiple works in their review of the literature, but did not explicitly relate these works to one another or to their own argument or perspective. Some students discussed a single perspective within the literature on their research question (even if it was via discussing multiple authors with a similar perspective). Some students had difficulty discussing and/or incorporating perspectives different from their own.
- In **Evaluate Sources and Evidence**, students occasionally focused too much on explicitly discussing the credibility of individual sources rather than establishing their own credibility through the use of sources that are relevant and credible in context, and clearly connected to their inquiry. Some students relied heavily on sources that were less than relevant or credible given the context of their inquiry.
- In **Research Design**, while most students identified which method or approach they were using, many either did not address why they chose that approach, or did not describe how they employed it. In many cases, a student's method did not align with the question they were trying to answer or the evidence they needed to collect in order to test their argument. Some students selected qualitative or quantitative measures based on ease of access rather than based on what would be most appropriate or necessary for the study. Other students made similar convenience-based choices for how they chose to carry out their methodological approach. Students were not always clear as to how and why they chose the sample they used. Frequently, that sample was too small to draw meaningful inferences from it. Some students who worked with human subjects did not indicate that they had pursued institutional review board (or human subjects research board) authorization, nor did they have a section in their paper that addressed ethical issues.
- In **Establishing (Their Own) Argument**, some papers were unclear on the distinction between the literature, the student's specific argument, the method used, and the evidence. Where relevant, students occasionally mixed up the terms independent and dependent variable, and conflated correlation and causation.
- In **Select and Use Evidence**, many students did not substantiate links between their own claims and the evidence they presented.
- In **Applying (Academic) Conventions**, most students did not appropriately cite images, tables, graphs, or figures in their papers. Many did not label them appropriately. Some used but did not describe or analyze images/figures. Many students did not clearly, consistently, and accurately cite information of others in text. Some students did not clearly differentiate between the voice of others and their own voice. Some students employed quotations or summaries of sources without

integrating them into the paper in a cohesive way. A few students engaged in sloppy scholarship, and in some rare cases overt “cut and paste” plagiarism.

- A few students submitted papers/PDFs that were incomplete, missing pages, or in some other way were not a final version.

***Based on your experience of student responses at the AP<sup>®</sup> Reading, what message would you like to send to teachers that might help them to improve the performance of their students on the exam?***

- Use the rubric as a teaching tool and a guide for the students throughout the course. Periodically have them review the rubric and ask themselves (perhaps in the PREP) whether the elements of their Academic Paper have met the criteria in the rubric.
- Make sure students know that just writing a paper on a topic is not enough for AP Research. The task requires either developing a new understanding, uncovering new information, or developing a new synthesis of existing information.
- Emphasize the importance of developing an explicit, precise, focused research question that is narrow enough to be studied within the scope of the project but broad enough to develop a new understanding. Doing so affects the rest of the research project, and thus is essential. Remind students that all elements of the research paper should relate to their research question and should speak back to their argument.
- Emphasize revising the paper’s introduction near the end of the research process, so as to clearly identify the question that guides the project and situates the question within a broader context. Remind students that introductions need to avoid broad generalizations and should also be informed by sources and evidence. Remind students that research yields new understanding incrementally, and credible researchers moderate their claims. This means that hyperbolic language regarding what they will do or what new understanding they have generated should be discouraged.
- Remind students to write as if the audience for the paper is an intelligent non-expert who does not know anything about this specific area. Remind students that as the author and researcher, it is their job to clearly convey what they did, why they did it, what they found, and what implications their conclusions have for our understanding of the question. It is not the reader’s job to infer any of this from the paper. It is the student’s job to be clear and explicit.
- Remind students that while the credibility of sources is important, the sources’ credentials should not be explicitly stated in a research paper. Encourage students to leave that practice, held over from AP Seminar, behind them, and to save that word count for the development of a credible and compelling argument.
- Explicitly teach the concept of multiple perspectives and how multiple perspectives are integrated in a research paper.
- Have students think about a literature review as a conversation that they are listening to and reporting back about. Emphasize that they should think about reporting back about that conversation by organizing that section by the ideas or perspectives, rather than by authors.
- Have students practice explaining how various authors’ ideas connect to one another, and to the argument that the student is developing in the paper.

- Help students understand that specific methods have specific requirements. Encourage students to read within their area to better understand appropriate methodology choices.
- Review key (but often misunderstood) concepts in research design and analysis, such as independent and dependent variables, and the difference between correlation and causation.
- Allow for time to teach deeply about different research methods (including modeling, building together, and peer review).
- Remind students that they need to explain explicitly *which* research design, method of analysis, or approach they have chosen, *why* it is appropriate, and *how* it will be carried out. A reader who is an intelligent non-expert should be able to easily understand that description, and ideally be able to replicate the approach.
- If students are using a methodology with which the teacher is unfamiliar, the teacher is encouraged to recommend that the student find an outside expert who can review and comment on that approach.
- Clearly message the need to address ethical issues proactively, fully, and appropriately when dealing with human subjects.
- Emphasize the importance of starting to collect the evidence or data as early as possible in the year, so as to leave enough time to carry out the study, complete the analysis, and to write up and revise the paper.
- Remind students about what they learned in AP Seminar about connecting evidence to claims in writing, and help them see how they need to do so differently in AP Research — this time regarding their *own* argument.
- Help students to think about how to distinguish their own voice and observations from those of the sources used, and how to integrate their own voice into the discussion of the literature and the development of their argument.
- Make sure students know the writing style and citation style expected in their discipline. Spend time emphasizing proper and consistent citation techniques, including the need to cite images, tables, or figures used in the paper, and the need to cite fully all online sources (not just the URL/web address). Explicitly teach, model, discuss, and work with students throughout the year regarding the mechanics of citations.
- Remind students that it is their responsibility to act in an ethical manner with regard to appropriate citation and attribution, in carrying out their study responsibly, and in presenting the data honestly and accurately. Use Turnitin.com to ensure that students are complying with AP Research course guidelines regarding plagiarism.
- Remind students that research papers require multiple, large-scale revisions. Have them give special attention to voice, clarity, grammar, and appropriate word choice, as these can have a significant impact on how the paper is read, whether the argument, approach, or analysis is understood, and even the reader's perception of the student's credibility.
- Remind students that prior to their final submission, they should make certain that the PDF they are about to submit is absolutely their final paper and the one that they intend to be graded.