

2023



AP[®] Seminar

Performance Task 1

Sample Student Responses and Scoring Commentary

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Individual Research Report

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Individual Research Report (IRR)

30 points

General Scoring Notes

- When applying the rubric for each individual row, you should award the score for that row based solely upon the criteria indicated for that row, according to the preponderance of evidence.
- Read the whole report before assigning a score for any row.
- Reward the student for skills they have demonstrated. Demonstrating means that there is evidence that you can point to in the report.

0 (Zero) Scores

- A score of 0 is assigned to a single row of the rubric when the response displays a below-minimum level of quality as identified in that row of the rubric. For rows 1 to 4, if there is no evidence of any research (i.e., it is all opinion and there is nothing in the bibliography, no citation or attributed phrases in the response) then a score of 0 should be assigned.
- Scores of 0 are assigned to all rows of the rubric when the response is off-topic; a repetition of a prompt; entirely crossed-out; a drawing or other markings; or a response in a language other than English.

NR (No Response)

A score of NR is assigned to responses that are blank.

AP Seminar 2023 Scoring Guidelines

Reporting Category	Scoring Criteria			
<p>Row 1</p> <p>Understand and Analyze Context</p> <p>(0, 2, 4 or 6 points)</p>	<p>0 points</p> <p>Does not meet the criteria for two points.</p>	<p>2 points</p> <p>The report identifies an overly broad or simplistic area of investigation and/or shows little evidence of research. A simplistic connection or no connection is made to the overall problem or issue.</p>	<p>4 points</p> <p>The report identifies an adequately focused area of investigation in the research and shows some variety in source selection. It makes some reference to the overall problem or issue.</p>	<p>6 points</p> <p>The report situates the student’s investigation of the complexities of a problem or issue in research that draws upon a wide variety of appropriate sources. It makes clear the significance to a larger context.</p>
Decision Rules and Scoring Notes				
<p>Typical responses that earn 0 points:</p> <ul style="list-style-type: none"> Provide no evidence of research (i.e., there is a complete absence of bibliography, internal citations, and attributive tags that point to research. If one of these is present, cannot score 0). 	<p>Typical responses that earn 2 points:</p> <ul style="list-style-type: none"> Address a very general topic of investigation (e.g. “pollution”) Draw mainly from one or two sources or poor-quality sources. Provide an overly simplistic, illogical, or exaggerated rationale for the investigation (or does not provide a rationale at all). 	<p>Typical responses that earn 4 points:</p> <ul style="list-style-type: none"> Identify too many aspects of the topic to address complexity (e.g. “air, water, and land pollution”). May be overly reliant on research sources not appropriate for an academic task on this topic. May provide a rationale about the significance of the investigation that lacks details necessary to address complexity. 	<p>Typical responses that earn 6 points:</p> <ul style="list-style-type: none"> Clearly state an area of investigation that is narrow enough to address the complexity of the problem or issue (e.g. “water pollution in India”). The context established is sustained throughout. Predominantly include research sources appropriate for an academic task on this topic. Provide specific and relevant details to convey why the problem or issue matters/is important. 	
<p>Additional Notes</p> <ul style="list-style-type: none"> The research context is located often in the titles of the reports and first paragraphs, but the whole report needs to sustain the focus throughout. Review Bibliography or Works Cited (but also check that context is established by sources actually used, especially academic sources). 				

AP Seminar 2023 Scoring Guidelines

Reporting Category	Scoring Criteria			
<p>Row 2</p> <p>Understand and Analyze Argument</p> <p>(0, 2, 4 or 6 points)</p>	<p>0 points</p> <p>Does not meet the criteria for two points.</p>	<p>2 points</p> <p>The report restates or misstates information from sources. It doesn't address reasoning in the sources or it does so in a very simplistic way.</p>	<p>4 points</p> <p>The report summarizes information and in places offers effective explanation of the reasoning within the sources' argument (but does so inconsistently).</p>	<p>6 points</p> <p>The report demonstrates an understanding of the reasoning and validity of the sources' arguments.* This can be evidenced by direct explanation or through purposeful use of the reasoning and conclusions.</p>
Decision Rules and Scoring Notes				
<p>Typical responses that earn 0 points:</p> <ul style="list-style-type: none"> Provide no evidence of research (i.e., there is a complete absence of bibliography, internal citations, and attributive tags that point to research. If one of these is present, cannot score 0). 	<p>Typical responses that earn 2 points:</p> <ul style="list-style-type: none"> Make no distinction between paraphrased material and response's commentary. Demonstrate no instances of effective explanation. (For example, commentary is limited to restatement of quotes, is simplistic or overgeneralized, or shows misunderstanding of the source.) Do not anchor ideas to sources (or does so generally, "research shows" or "some studies"). 	<p>Typical responses that earn 4 points:</p> <ul style="list-style-type: none"> Are dominated by summary of source material rather than explanation of sources' arguments. Provide some instances of effective explanation of authors' reasoning. Occasionally lack clarity about what is commentary and what is from the source material. 	<p>Typical responses that earn 6 points:</p> <ul style="list-style-type: none"> Provide commentary that explains authors' reasoning, claims or conclusions (direct explanation). Make effective use of authors' reasoning, claims or conclusions (showing understanding of the sources) (purposeful use). Attribute clearly source material (i.e., readers always able to tell what comes from what source) 	
<p>Additional Notes</p> <ul style="list-style-type: none"> * Validity is defined as "the extent to which an argument or claim is logical." Reference to arguments from the sources used often appears at the end of paragraphs and / or immediately following an in-text citation as part of the commentary on a source. Clear attribution, (i.e. readers are always able to tell what comes from what source and what kind of source it is) must be present in order for the report to demonstrate "purposeful use." 				

AP Seminar 2023 Scoring Guidelines

Reporting Category	Scoring Criteria			
<p>Row 3</p> <p>Evaluate Sources and Evidence</p> <p>(0, 2, 4 or 6 points)</p>	<p>0 points</p> <p>Does not meet the criteria for two points.</p>	<p>2 points</p> <p>The report identifies evidence from chosen sources. It makes very simplistic, illogical, or no reference to the credibility of sources and evidence, and their relevance to the inquiry.</p>	<p>4 points</p> <p>The report in places offers some effective explanation of the chosen sources and evidence in terms of their credibility and relevance to the inquiry (but does so inconsistently).</p>	<p>6 points</p> <p>The report demonstrates evaluation of credibility of the sources and selection of relevant evidence from the sources. Both can be evidenced by direct explanation or through purposeful use.</p>
	<p>Decision Rules and Scoring Notes</p>			
	<p>Typical responses that earn 0 points:</p> <ul style="list-style-type: none"> Provide no evidence of research (i.e., there is a complete absence of bibliography, internal citations, and attributive tags that point to research. If one of these is present, cannot score 0). 	<p>Typical responses that earn 2 points:</p> <ul style="list-style-type: none"> Provide evidence that is either poorly selected or poorly explained (in terms of relevance and credibility). Provide evidence that is irrelevant or only obliquely relevant. 	<p>Typical responses that earn 4 points:</p> <ul style="list-style-type: none"> Include descriptions but the attributions are insufficient to establish credibility. Pay attention to the evidence, but not the source (may treat all evidence as equal when it is not). Draw upon research that may be clearly outdated without a rationale for using that older evidence. 	<p>Typical responses that earn 6 points:</p> <ul style="list-style-type: none"> Provide descriptions in the attributions that effectively establish credibility of the source and relevance of evidence (direct explanation). Make effective use of well-chosen, relevant evidence from credible academic sources (purposeful use).
<p>Additional Notes</p> <ul style="list-style-type: none"> In Row 1, the judgement is whether the bibliography allows for complex context; Row 3 judges whether the incremental examples of evidence presented are well-selected and well-used. Purposeful use, in this case, refers to the deployment of relevant evidence from a credible source. Clear attribution, (i.e. readers are always able to tell what comes from what source and what kind of source it is) must be present in order for the report to demonstrate “purposeful use.” 				

AP Seminar 2023 Scoring Guidelines

Reporting Category	Scoring Criteria			
<p>Row 4</p> <p>Understand and Analyze Perspective</p>	<p>0 points</p> <p>Does not meet the criteria for two points.</p>	<p>2 points</p> <p>The report identifies few and/or oversimplified perspectives from sources.**</p>	<p>4 points</p> <p>The report identifies multiple perspectives from sources, making some general connections among those perspectives.**</p>	<p>6 points</p> <p>The report discusses a range of perspectives and draws explicit and relevant connections among those perspectives.**</p>
<p>(0, 2, 4, or 6 points)</p>	Decision Rules and Scoring Notes			
	<p>Typical responses that earn 0 points:</p> <ul style="list-style-type: none"> Provide no evidence of research (i.e., there is a complete absence of bibliography, internal citations, and attributive tags that point to research. If one of these is present, cannot score 0). 	<p>Typical responses that earn 2 points:</p> <ul style="list-style-type: none"> May include oversimplified or vaguely attributed perspectives (it is unclear whether or not they are from sources). May identify information from sources (facts or topics or general stakeholder point of view) but not points of view as conveyed through arguments. Juxtapose perspectives but connections are not clear (they are isolated from each other). 	<p>Typical responses that earn 4 points:</p> <ul style="list-style-type: none"> Include multiple perspectives and some instances of general connections. Repeat perspectives or connections rather than developing a nuanced, detailed discussion of how they relate. At times present perspectives that are clearly derived from specific sources, but may lapse into opinions or topics that are not clearly linked to specific sources. 	<p>Typical responses that earn 6 points:</p> <ul style="list-style-type: none"> Go beyond mere identification of multiple perspectives by using details from different sources' arguments to explain specific relationships or connections among perspectives (i.e., placing them in dialogue). <p>Scoring note: There must consistently be clear attribution or citation linking perspectives to sources to score high.</p>
<p>Additional Notes</p> <ul style="list-style-type: none"> **A perspective is a “point of view conveyed through an argument.” (This means the source’s argument). Facts, topics, and general stakeholder points of view (e.g., “teachers” or “students”) are not perspectives. Throughout the report pay attention to organization of paragraphs (and possibly headings) as it’s a common way to group perspectives. Readers should pay attention to transitions as effective transitions may signal connections among perspectives. 				

AP Seminar 2023 Scoring Guidelines

Reporting Category	Scoring Criteria							
<p>Row 5</p> <p>Apply Conventions</p> <p>(0–3 points)</p>	<p>0 points</p> <p>Does not meet the criteria for one point.</p>	<p>1 point</p> <p>The report includes many errors in attribution and citation OR the bibliography is inconsistent in style and format and/or incomplete.</p>	<p>2 points</p> <p>The report attributes or cites sources used but not always accurately. The bibliography references sources using a consistent style.</p>	<p>3 points</p> <p>The report attributes and accurately cites the sources used. The bibliography accurately references sources using a consistent style.</p>				
Decision Rules and Scoring Notes								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td data-bbox="317 475 686 1179" style="width: 25%; vertical-align: top;"> <p>Typical responses that earn 0 points:</p> <ul style="list-style-type: none"> Provide no evidence of research (i.e., there is a complete absence of bibliography, internal citations, and attributive tags that point to research. If one of these is present, cannot score 0). </td> <td data-bbox="686 475 1079 1179" style="width: 25%; vertical-align: top;"> <p>Typical responses that earn 1 point (many errors):</p> <ul style="list-style-type: none"> Include internal citations, but no bibliography (or vice versa). Demonstrate no organizational principle in bibliography/works cited (e.g., alphabetical or numerical). Provide little or no evidence of successful linking of in-text citations to bibliographic references (e.g., in-text references are to titles but bibliographic references are listed by author; titles are different in the text and in the works cited). Include poor or no attributive phrasing with paraphrased material (e.g., “Studies show...”; “Research says...” with no additional in-text citation). </td> <td data-bbox="1079 475 1509 1179" style="width: 25%; vertical-align: top;"> <p>Typical responses that earn 2 points (some errors):</p> <ul style="list-style-type: none"> Provide some uniformity in citation style. Provide, perhaps with a few lapses, an organizational principle in bibliography/works cited (e.g., alphabetical or numerical). Include unclear references or errors in citations, (e.g., citations with missing elements or essential elements that must be guessed from a url). Provide some successful linking of citations to bibliographic references. Provide some successful attributive phrasing for paraphrased material and/or in-text parenthetical citations. </td> <td data-bbox="1509 475 1950 1179" style="width: 25%; vertical-align: top;"> <p>Typical responses that earn 3 points (few significant flaws):</p> <ul style="list-style-type: none"> Contain few flaws. Provide clear organization principle in bibliography/works cited. Provide consistent evidence of linking internal citations to bibliographic references. Include consistent and clear attributive phrasing for paraphrased material and/or in-text parenthetical citations. <p>Scoring note: The response cannot score 3 points if key components of citations (i.e., author/organization, title, publication, date) are consistently missing.</p> </td> </tr> </table>					<p>Typical responses that earn 0 points:</p> <ul style="list-style-type: none"> Provide no evidence of research (i.e., there is a complete absence of bibliography, internal citations, and attributive tags that point to research. If one of these is present, cannot score 0). 	<p>Typical responses that earn 1 point (many errors):</p> <ul style="list-style-type: none"> Include internal citations, but no bibliography (or vice versa). Demonstrate no organizational principle in bibliography/works cited (e.g., alphabetical or numerical). Provide little or no evidence of successful linking of in-text citations to bibliographic references (e.g., in-text references are to titles but bibliographic references are listed by author; titles are different in the text and in the works cited). Include poor or no attributive phrasing with paraphrased material (e.g., “Studies show...”; “Research says...” with no additional in-text citation). 	<p>Typical responses that earn 2 points (some errors):</p> <ul style="list-style-type: none"> Provide some uniformity in citation style. Provide, perhaps with a few lapses, an organizational principle in bibliography/works cited (e.g., alphabetical or numerical). Include unclear references or errors in citations, (e.g., citations with missing elements or essential elements that must be guessed from a url). Provide some successful linking of citations to bibliographic references. Provide some successful attributive phrasing for paraphrased material and/or in-text parenthetical citations. 	<p>Typical responses that earn 3 points (few significant flaws):</p> <ul style="list-style-type: none"> Contain few flaws. Provide clear organization principle in bibliography/works cited. Provide consistent evidence of linking internal citations to bibliographic references. Include consistent and clear attributive phrasing for paraphrased material and/or in-text parenthetical citations. <p>Scoring note: The response cannot score 3 points if key components of citations (i.e., author/organization, title, publication, date) are consistently missing.</p>
<p>Typical responses that earn 0 points:</p> <ul style="list-style-type: none"> Provide no evidence of research (i.e., there is a complete absence of bibliography, internal citations, and attributive tags that point to research. If one of these is present, cannot score 0). 	<p>Typical responses that earn 1 point (many errors):</p> <ul style="list-style-type: none"> Include internal citations, but no bibliography (or vice versa). Demonstrate no organizational principle in bibliography/works cited (e.g., alphabetical or numerical). Provide little or no evidence of successful linking of in-text citations to bibliographic references (e.g., in-text references are to titles but bibliographic references are listed by author; titles are different in the text and in the works cited). Include poor or no attributive phrasing with paraphrased material (e.g., “Studies show...”; “Research says...” with no additional in-text citation). 	<p>Typical responses that earn 2 points (some errors):</p> <ul style="list-style-type: none"> Provide some uniformity in citation style. Provide, perhaps with a few lapses, an organizational principle in bibliography/works cited (e.g., alphabetical or numerical). Include unclear references or errors in citations, (e.g., citations with missing elements or essential elements that must be guessed from a url). Provide some successful linking of citations to bibliographic references. Provide some successful attributive phrasing for paraphrased material and/or in-text parenthetical citations. 	<p>Typical responses that earn 3 points (few significant flaws):</p> <ul style="list-style-type: none"> Contain few flaws. Provide clear organization principle in bibliography/works cited. Provide consistent evidence of linking internal citations to bibliographic references. Include consistent and clear attributive phrasing for paraphrased material and/or in-text parenthetical citations. <p>Scoring note: The response cannot score 3 points if key components of citations (i.e., author/organization, title, publication, date) are consistently missing.</p>					
<p>Additional Notes</p> <ul style="list-style-type: none"> In AP Seminar, there is no requirement for using a particular style sheet; however, responses must use a style that is consistent and complete. Check the bibliography for consistency in style (and if there are fundamental elements missing). Check for clarity/accuracy in internal citations. Check to make sure all internal citations match up to the bibliography. In order for links to work in print, there must be a clear organizational principle arranging the elements on the bib/works cited. 								

AP Seminar 2023 Scoring Guidelines

Reporting Category	Scoring Criteria			
<p>Row 6</p> <p>Apply Conventions</p> <p>(0-3 points)</p>	<p>0 points</p> <p>Does not meet the criteria for one point.</p>	<p>1 point</p> <p>The report contains many flaws in grammar that often interfere with communication to the reader. The written style is not appropriate for an academic audience.</p>	<p>2 points</p> <p>The report is generally clear but contains some flaws in grammar that occasionally interfere with communication to the reader. The written style is inconsistent and not always appropriate for an academic audience.</p>	<p>3 points</p> <p>The report communicates clearly to the reader (although may not be free of errors in grammar and style). The written style is consistently appropriate for an academic audience.</p>
Decision Rules and Scoring Notes				
<p>Typical responses that earn 0 points:</p> <ul style="list-style-type: none"> Contain no sentences created by the student. (If there are any sentences created by the student, cannot score 0). 		<p>Typical responses that earn 1 point:</p> <ul style="list-style-type: none"> May contain many instances where sentences are not controlled. May rely almost exclusively on simplistic language (e.g., This is good. This is bad). Employ an overall style that is not appropriate for an academic report; or colloquial tone. Include many passages that are incoherent. Provide too few sentences to evaluate or the student’s own words are indistinguishable from paraphrases of sources. 	<p>Typical responses that earn 2 points:</p> <ul style="list-style-type: none"> Contain some lapses in sentence control (e.g., run-ons, fragments, or mixed construction when integrating quoted material). Demonstrate imprecise or vague word choice insufficient to communicate complexity of ideas. Sometimes lapse into colloquial language. Use overly dense prose at the expense of coherence and clarity. 	<p>Typical responses that earn 3 points:</p> <ul style="list-style-type: none"> Contain few flaws which do not impede clarity for understanding of complex ideas. Demonstrate word choice sufficient to communicate complex ideas. Use clear prose.
<p>Additional Notes</p> <ul style="list-style-type: none"> Because this is a report, the prose is judged by its ability to clearly and precisely articulate complex research content. Readers should focus on the sentences written by the student, not those quoted or derived from sources. 				

Globalization and Standards of Living in Southeast Asian Developing Countries:

An Economic Perspective

AP Seminar

May 1, 2023

Word Count: 1288

**Globalization and Standards of Living in Southeast Asian Developing Countries:
An Economic Perspective**

Introduction

Globalization, the increased interconnectedness of peoples and organizations across the world, is a continuous process that has allowed for the exchange of ideas and information that has had extreme economic benefits for many people across the globe. Undoubtedly, globalization has expedited the overall economic growth and development of developing Asian countries such as Vietnam (Le et al., 2022). However, inequalities become apparent when analyzing the distribution of these benefits within countries across different economic classes (Jain-Chandra et al., 2019). The issues of globalization and its adverse effects on developing Asian countries arise due to the unequal distribution of the benefits of economic growth across the population. According to economist Heimberger (2020) and political scientist Phan (2022), even though globalization is known to have positive effects on the overall economic development of developing countries in Asia, the benefits of globalization are unequally distributed and often lead to increases in income disparity and poverty rates. What is beginning to be questioned is how the main aspects of globalization - technological growth, financial aid, and increased trade - have negatively impacted the lives of people in developing countries in recent years. By investigating the consequences of globalization and the severity of those consequences from an economic perspective, it is possible to grow our overall understanding of the impacts that globalization has on the standard of living in developing countries and the potential ways in which it can be alleviated.

Technological Growth

Throughout developing countries, technological growth has enabled the development of new markets, such as Singapore's domination of information and telecommunications technology. Economists like Kim (2020) and Gries et al. (2017) believe that this increase in technological growth helps contribute to the overall growth of a developing country's economy. They argue for a trickle-down effect of gains from developed countries to developing countries through distinct shares of technology originating in developed countries that are passed down to developing countries. However, by only focusing on the country as a whole, Kim and Gries et al. overlook the more significant issue of how those gains are implemented in the actual societies across different economic groups in those countries. In recent years, researchers like Goyal and Aneja (2020), economists at the Central University of Haryana, India, are beginning to question the previously unaccounted-for factor of economic gain: how continued growth may threaten workers' job security and have the potential for an increase in income disparity as a result. They believe the threat that technological growth poses to these countries has the potential to hurt developing countries the most. The understandings of Kim and Gries et al. remained incomplete prior to Goyal and Aneja as their previous work has yet to delve into the implications and benefits of technological growth on the lives of all those living in the benefiting countries. With the introduction of a new point of view, Goyal and Aneja provide a convincing argument that technological growth hurts the lives of those in developing countries by increasing poverty rates and income inequality.

Foreign Aid

Foreign aid is one of the most popular means of helping underdeveloped nations, but researchers have questioned its perceived benefits in recent years. Social scientist

Didžgalvytė-Bujauskė et al. (2019) suggest that foreign aid can threaten countries that may not be developed enough economically to handle a new source of temporary income. Their work suggests that these countries can become dependent on the new income, which can harm the country in the long-term. By understanding the economic relationships that can form between developing and developed countries as a result of financial aid, Didžgalvytė-Bujauskė et al. make a clear case for the adverse effects of financial aid on the economies of developing countries, especially those who may be very early in their development. In a study by business scientist Sothan (2018), using Cambodia, the country examined, as a reference point for other countries in Southeast Asia, it is evident that the impacts of foreign aid are a double-edged sword. In the short term, a country may experience beneficial effects on its economy. However, as also presented by authors Didžgalvytė-Bujauskė et al., foreign aid can harm a country in the long-term. By illustrating that foreign aid can harm developing countries in the long-term, Sothan extends on the findings presented by Didžgalvytė-Bujauskė et al. However, researcher Nguyễn Xuân et al. (2019), an economist and business administrator at West University of Timisoara, Vietnam, contradicts the ideas of these authors by stating, "Thus, directly or indirectly, the number of remittances contribute to ... the total domestic investment, boosting production, trading and consumption of goods, contributing greatly to ... the countries" (p. 40). These claims rest on the questionable assumption that the benefits of foreign aid are perpetual. As discussed earlier, researcher Sothan contradicts this assumption and states that the benefits are short-lived, which calls into question the sustainability of the argument presented by Nguyễn Xuân et al.

Economic Trade

Trade is one of the most prominent aspects of globalization, and it enables the spread of technologies and commodities that enables modernization for many countries. Recently, however, some are beginning to re-examine trade's effect on developing nations' economic states. In a study conducted by researchers and business graduates Gharleghi and Jahanshahi (2020), it was found that growth in trade levels correlates with economic growth overall but also contributes to the growth of income disparity between the wealthy and impoverished classes. Gharleghi and Jahanshahi also connect the wealth of the classes and the skill level of occupation they hold, demonstrating that higher income classes typically occupy positions of higher skill and vice versa for lower income classes. This connection is further extended by economist and School of Design graduate Yülek and Santos (2022) in their work, where they describe the relationship between the cheap labor offered by developing countries and the constant impedance of their overall economic development and inequality in wealth distribution between social classes. This point of view is argued against by economists Darku and Yeboah (2018), who contend for a beneficial effect of trade openness that leads to income convergence, the process of lower-income countries becoming wealthier to match those of wealthy nations. These findings suggest that trade openness is beneficial for the economies of a developing country, which has significant implications for the development of nations as it demonstrates that trade can be a helpful tool. However, these findings contradict the findings of both Gharleghi and Jahanshahi (2020) and Yülek and Santos (2022), suggesting that the benefits of trade openness are still a controversial topic without a clear verdict.

Solutions

In summary, globalization's effect on developing countries' economic states remains a highly controversial and debated topic. Similarities in the data suggest that globalization benefits a country's overall economic development but lacks economic equality. Based on the research of Azizi (2021), a professor of economics at Purdue University, a practical solution is to provide worker remittances. Azizi provides evidence that a 10% per capita increase leads to a 1.8% decrease in the poverty gap, the average measure of how far below the poverty line people fall, and a 2.5% decrease in poverty severity. However, potential sources of error in this solution appear when discussing what countries would qualify as host countries and what type of work they would allow. Natural variations in a country's wants or the needs of the impoverished workers native to those Southeast Asian countries may introduce a new layer of complexity when trying to adapt this solution to fit the wants and needs of each country. Despite this limitation, implementing worker remittances is still feasible and relatively straightforward when pre-existing social protection frameworks can be used as a model for how to integrate the remittances.

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The Effect of Artificial Sweeteners on Aquatic Ecosystems

AP Seminar

February 2023

Word Count: 1294

Introduction

From just 2009 to 2012, around 25.1% of children and 41.4% of adults reported consuming artificial sweeteners (ASWs) in the U.S. alone (Sylvetsky et al., 2017, p. 443). ASWs are a broad class of sugar substitutes either derived naturally or synthetically and have sweetnesses ranging from slightly less than sucrose to thousands of times it. Despite their sweetness, ASWs like aspartame, sucralose, and stevia are resistant to bodily breakdown giving them little to no caloric value; henceforth, they have seen use in diet food products. However, this inability to decompose poses an environmental threat as these sweeteners can persist in ecosystems and have already been discovered to pollute aquatic ecosystems (Naik et al., 2021). As the obesity epidemic rages on and a greater awareness around health and sugar consumption grows, it is expected the ASWs market will continue to grow globally (Sylvetsky et al., 2017, p. 444). With the growing use of ASWs and the growing amounts of research questioning the safety of these substances within our bodies and the environment, it begs the question: “To what extent do artificial sweeteners affect aquatic ecosystems?” ASWs are resistant to degradation in wastewater treatment plants and the environment, and although ASWs are not a threat at current concentrations, they could become a tremendous risk to aquatic ecosystems if trends continue.

Resistance to Degradation

Many ASWs are resistant to degradation within the environment and wastewater treatment plants, and when these sweeteners do degrade, the byproducts could be more toxic than the original sweeteners. Noora Perkola et al. (2016), a lead researcher at the Finnish Environment Institute with researchers from the Department of Environmental Science at the University of Helsinki, studied the photodegradation rate of four different ASWs under UV light

in surface water conditions finding that while acesulfame would photodegrade in these conditions, cyclamate, saccharin, and sucralose showed only minimal amounts of photodegradation. This unwillingness to degrade even when exposed to ionizing radiation indicates ASWs will persist not only in the environment but also in wastewater treatment plants that use UV radiation to degrade dissolved substances. Further extending this view, Shaoli Li et al. (2018), researchers at the State Key Laboratory of Pollution Control and Resource Reuse at Nanjing University, assert that ASWs are also resistant to biological degradation in wastewater treatment plants finding that while cyclamate and saccharin “were easily degraded and completely removed,” acesulfame and sucralose had a removal rate of “lower than 20%” in their bioremoval tests. Although the use of sequencing batch reactors greatly aided the degradation of acesulfame and sucralose (Li et al., 2018), the results show that certain ASWs can make it through wastewater treatment plants and persist in the environment due to biodegradation resistance. Moreover, the byproducts of these degradations are potentially more toxic than the original sweetener. In agreement, Ziyue Sang et al. (2014), researchers at the Department of Chemistry at Hong Kong Baptist University, found that the toxicity of sucralose was “significantly enhanced” through its breakdown (p. 9), and they found acesulfame degraded into “compounds much more toxic” than it (p. 11). ASWs have been shown to persist in the environment as they resist degradation. Not only do these non-degraded ASWs pose a toxicity risk, but their breakdown products also could become more toxic than the parent sweeteners.

Ecotoxicity of Artificial Sweeteners

The introduction of potentially toxic ASWs and their byproducts to aquatic ecosystems creates an undeniable hazard to the organisms living in them. According to Klára Kobetičová et

al. (2016), researchers in the Department of Environmental Chemistry at the University of Chemistry and Technology Prague, aspartame can inhibit the growth of duckweed through “biochemical changes” in the plant, and saccharin, though not directly as toxic, put stress on duckweeds potentially due to its presence and caused a “30%” chance of immobilization in common water fleas (p. 152). Just between these two organisms, several negative effects were observed when they were exposed to ASWs. As the overall ASW concentration increases in aquatic ecosystems over time, these kinds of effects could be seen among several other microorganisms and macroorganisms which would be extremely detrimental to the health of these ecosystems. Expanding on the effect on duckweeds, Cherisse Amy-Sagers et al. (2017), researchers at the Department of Biological Sciences at Idaho State University, observed that duckweed would absorb sucralose after a period of time as a sugar source leading to it having a “greater photosynthetic capacity” (p. 81). While seemingly trivial, if the concentration of sucralose increases in the environment, it could cause blooms not only among duckweeds but also other photosynthetic organisms starving other organisms of oxygen and other nutrients. However, the opposite may occur in some plants. Anke Reinders et al. (2006), a researcher with a Ph.D. in botany from the University of Basel working with researchers from the University of Minnesota Twin Cities and researchers from Queensland, observed sucralose “inhibits the transport of sucrose” in sugarcane by acting as sucrose in sucrose transporters (specifically the ShSUT1 transporters). These transporters are vital to the transportation of sucrose within plants, and if sucralose prevents the transport of ordinary saccharides, it can kill plants over time. ASWs do pose a toxicity risk to common organisms that live within aquatic environments. Additionally, they may allow certain organisms to thrive while inhibiting others leading to a disruption of the ecological balance.

Opposing Evidence

Despite literature pointing to the toxicity and danger of ASWs, these claims may be overblown as the current concentration of ASWs in the environment is too little to elicit effects. In corroboration, Stefan Stolte et al. (2013), a chemistry professor at the University of Gdańsk with researchers from chemistry and environmental departments at the University of Bremen, the University of Gdańsk, and the University of Veterinary Medicine Hannover, found that the concentrations of acesulfame, cyclamate, sucralose, saccharin, and stevia in the environment were well below the concentration needed to cause toxicity indicating “a low hazard and risk potential” (p. 126). While ASWs could be toxic to aquatic organisms, their concentration is so low, it produces little to no ill effects. Furthering this claim, a systematic review over several ASWs by Kathy Lewis and John Tzilivakis (2021), researchers at the Agriculture and Environment Research Unit at the University of Hertfordshire, states that while ASWs are “at worryingly high concentrations in the global environment,” there are stark differences in their environmental profiles” (p. 126). Aspartame was the only ASW determined to be potentially toxic to flora, fauna, and ecosystems, and most ASWs could not be uptaken by plants (Lewis & Tzilivakis, 2021, p. 126). Even though ASWs are increasing in concentrations globally, the current of them in aquatic ecosystems is too little to present a great threat to aquatic organisms. In addition, they may not be as toxic to flora and fauna as previously shown and rarely uptaken by plants thereby presenting a low risk.

Conclusion

As ASWs continue to be used in food products, their concentrations in aquatic ecosystems will also continue to increase. Though ASWs at their current concentrations may not

present an environmental risk, they persist in wastewater treatment plants and the environment which can lead to a buildup of these sweeteners in aquatic ecosystems negatively affecting organisms within them. Consequently, addressing the use of ASWs requires an environmental perspective along with health, political, and economic perspectives. Current solutions include UV treatment and activated sludge as they have been used to degrade ASWs and other substances. The use of sequence batch reactors could also significantly remove ASWs from effluents as well (Li et al., 2018). Not to mention, the use of titanium dioxide as a catalyst while under UV light could also improve the degradation of ASWs (Sang et al., 2014). Likewise, ferric iron also creates a similar effect (Perkola et al., 2016). However, these solutions do not address the removal of toxic breakdown products.

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The Scientific Lens of an Age Restriction on Caffeine

AP Seminar

January 27, 2023

Word Count: 1303

Introduction

Caffeine originally became popular in America around 1773. It has remained a part of many Americans' diets. Nowadays, caffeine is a popular trend in children and adolescents, which is an issue that is not often addressed as it should be. Scientifically speaking, caffeine causes various amounts of health concerns for the typical child and teen. According to the University of Michigan, "Caffeine can lead to dangerous abnormal heart rhythms or lead to neurologic symptoms of hallucinations or seizures" (Joy, 2017). Health administrations are trying to raise more awareness to this danger. There is currently no regulation on caffeine by the U.S Food and Drug Administration, as they only do the bare minimum with their "recommendations". With their silence regarding the topic of caffeine, this problem will continue to progress. According to the National Library of Medicine, "Over 75% of children and adolescents consume caffeine regularly" (Temple, 2018). Many parents choose to ignore these dangerous health concerns put out by doctors, which is the reason so many kids, including toddlers, are consuming caffeine daily. This is an extremely important issue in the scientific community because various studies have shown that caffeine in children is extremely harmful to their health. Due to the lack of concern from parents and the FDA, and the overwhelming concern from health administration about caffeine consumption by children and teenagers, this forms the question: should there be an age restriction on caffeine in the United States?

Scientific Lens: Health Administration

Health administration is aware of the negative health effects associated with the use of caffeine. According to the American Academy of Pediatrics, "At this time, pediatricians advise against caffeine for children under 12 and against any use of energy drinks for all children and teens" (AACAP, 2020). Only doctors have addressed the issue, as they directly see what caffeine

does to children, they even highlight the problem that is energy drinks. Caffeine is causing so many health problems, and it is clear that caffeine is dangerous to children, yet it can still be accessed extremely easily. According to an article from Health US News, Jill Castle, a registered dietitian and child nutrition expert, states “Caffeine is an easily obtained, socially acceptable drug” (Castle, 2017). Most would not compare caffeine to something like drugs or alcohol. Yet health administration sees the effects of caffeine in children, and claims it is a drug, that has extremely harmful effects. This so-called drug, caffeine, is available to all ages despite the fact that the effects are dangerous. Caffeine use can impact health, with effects ranging from a little headache to death, when high doses are consumed. According to Columbia University Irving Medical Center, “Caffeine has no nutritional value but plenty of side effects that negatively impact health” (Buchholz, 2022). Health administration is puzzled at this fact because it is pointless for children to consume caffeine. Even though people are informed that caffeine does nothing to improve health, they continue to drink it and continue to harm their health. Children are having issues such as heart problems, and it is often correlated to the amount of caffeine they ingest. Caffeine is so dangerous, that it impedes normal functioning and development in a child. The National Institute on Drug Abuse did a study that tested measures of cognitive functioning in children that could possibly be linked with caffeine. This included vocabulary comprehension, reading decoding, inhibitory control, working memory, episodic memory, cognitive flexibility, and processing speed. According to this study done by the National Institute on Drug Abuse, “The analyses demonstrated that greater caffeine consumption was associated with worse performance on all seven cognitive measures assessed” (Perlman, 2021). This proves caffeine is interfering with adolescents’ day to day life and posing an extreme threat to their health. All in

all, the health administration gives clear warnings for children to avoid caffeine, which should strictly be followed by all those who are affected.

Scientific Lens: Federal Agencies

Americans rely on federal agencies, such as the U.S Food and Drug Administration. Even the FDA is unsure of what the recommendation for caffeine should be for children and teenagers. According to FDA, “The FDA has not set a level for children, but the American Academy of Pediatrics discourages the consumption of caffeine and other stimulants by children and adolescents” (FDA, 2018). The FDA focuses mainly on the effects of caffeine on adults, but they cannot seem to address the issue with what caffeine does to children. The FDA ignores warnings from health professionals that concern what caffeine does to a child. According to the FDA, when asked how much caffeine a child can consume, it states “We recommend you consult with your health care provider for advice regarding your child’s caffeine consumption” (FDA, 2018). Once again, the FDA pushes concerns back over to health administration. This is because they are unaware of the side effects that comes with it such as interfering with development, high blood pressure, increase in heart rate, and more. The unawareness of the FDA proves Americans cannot rely on this source. According to Diana Schnee, a registered dietitian at Cleveland Clinic, “FDA doesn’t regulate the amount of caffeine in beverages, so you can’t always trust what you see on the label” (Fennald, 2021). There is no regulation for caffeine in drinks by the FDA, which is poses a risk on kids’ health. The FDA needs to step up in what they are doing to protect children.

Scientific Lens: Parents

Most parents are not worried about their children consuming caffeine at a young age, but parents need to be informed on the potential risks. According to the National Library of Medicine, “Despite empirical evidence and high-profile news stories that suggest that high levels of caffeine use can be harmful in children and adolescents, many parents remain unconcerned” (Temple, 2018). Parents are unaware of this issue, even though health professionals are hounding them to address it with their child. Caffeine is causing various issues in kids and teens, such as insomnia, anxiety, chest pain, and much more. Many parents do not see an issue until it is too late to stop the issue. According to another study done by the National Library of Medicine, a parent claimed, “No one’s really overweight. So yeah, I think because they’re not overweight, it’s not a concern” (Halberg et al., 2020). This proves how parents are ignoring this problem. Parents believe the only concern is the child being overweight, but this is extremely incorrect. Caffeine is so harmful that it is impairing a child’s cognitive functioning. According to a CNN article, Mark Corkins, the division chief of pediatric gastroenterology and a professor of pediatrics, stated that “And because parents perceive it as harmless –and it likely is in tiny amounts –they will let their children take a sip or two” (LaMotte, 2022). Although a tiny sip may be harmless to a child’s health, it starts small and then becomes an addiction, and at that point, the child is consuming an absurd amount of caffeine. The parent perspective is like that of the FDA, flags by health professionals have been made clear, yet they ignore them making them extremely unaware of the real issue.

Conclusion

The issue of caffeine in children continues to progress and negatively impact health, so an age limit should be put in place to stop the issues with caffeine being available to kids at such a young age. Even though FDA and parents may not realize the health effects caffeine has on

AGE RESTRICTION ON CAFFEINE

children, it's a prevalent issue that needs to be solved immediately. Health administrations notice the dangerous impacts caffeine has on children, and they address it as a relevant and extremely important problem. Each perspective is diverting responsibility, and the problem continues. It is imperative that an age limit should be put in place to stop the problem of caffeine in children and adolescents for the betterment of their health.

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1291

Astrology and Its Effects on Religion

Currently astrology signs and zodiac signs are being the talk of the media and social interactions. Today people take what they know about zodiac signs and apply them to their way of life. Doing this not only affects the person that applied astrology in their lifestyle, but it also goes against many other ideas in the world. This causes major controversies and argumentative debates between people. One big conflict that has been brought up in this debate is whether or not people should even believe in astrology in the first place. What is astrology? Well, astrology is the study of stars and other intergalactic planets in the universe. People today may use this study for “ understanding and predicting human affairs and terrestrial events. Many cultures have developed astrology systems...”(Netivist.org) in order to be able to predict these traits and values. The big problem with astrology is that scientists made many debates and studied to “ refute the accuracy of astrology systems and to explain why so many people believe astrology is real ” (Netivist.org).This is a very debatable topic since people that live in more western areas seem to seriously believe and devote their traditions and cultures to astrology while other cultures and studies shut them down. (Netivist.org). The lens of this research paper is mainly going to be about the religion and cultural lens. Furthermore, even though astrology is incorporated into different cultures and religions, according to science, studies and other main religions, people shouldn't believe in astrology. Yet, it depends on what someone believes in in order to choose to believe in astrology or not. This is important to recognize because today the

world is easily influenced by new technologies and beliefs that cause controversy and very heated debates that involve the controversy of religion.

Many cultures in the west use astrology as the base of their religion and traditions. One part of the world that incorporates astrology in their daily lives the most is India. In India, astrology is important since astrology plays an important role in their traditional marriage. According divinityeventlighting.com, "When an Indian marriage is arranged, the charts of the Bride and Groom are actually matched by an astrologist." By doing this chart match, it reassures the families happiness and future together. It also supports traditional Indian culture by uniting the 2 families under the stars. Another example of this is shown in the article in pparihar.com. In this article it says, "Both stars circle around each other, instead of usual one star revolving the other. So symbolically pointed out as a paradigm of marital virtue to the bride in the Hindu marriage ceremonies." This quote backs up the statement that was made earlier about the stars being a big influence to marriage in the Hindu culture. One religion that includes astrology and the stars more is called Hinduism. Hinduism is the dominant religion in India that includes rituals and believes in "mystical contemplation and ascetic practices" (merriam-webster.com). According to Pewresearch.org, "Hindus are the most likely of India's six major religious groups to say they believe in both fate (73%) and astrology (49%)" (Pewresearch.org). Even though astrology mostly is practiced in India there are other countries where astrology is also practiced and believed in. There is a history of zodiac signs and star belief in China, Egypt, Greece, and early mesopotamia. These people believe that themselves and their lives are affected by the stars and their movement. (smithsonianmag.com). Believing in astrology was first started in the early

mesopotamia time period. They viewed astrology as “an ancient and valuable system of understanding the natural world”. Astrologers back then and now (in the western civilizations) believe in the stars because they think that our personalities and character traits are determined and made by the position of the stars at the time of our birth. In order to determine these traits in humans, astrologists and star spiritualists use a system called the “Natal star chart”. This special chart is also used in predicting the futures and fortunes of us humans. (smithsonianmag.com). Astrology and zodiac signs are very important to the western cultures and civilizations regarding their religion and beliefs. Astrology is a necessity in their culture and it makes them different from all of the other cultures and regions of the world.

Even though astrology is popular toward the western part of the country, in some parts of the world it isn't as popular and practiced. In the United States, other religions like christianity, Protisan, Muslim, and even no religion. Out of these different religions or beliefs, some of the most popular today in the United States is Christianity which consists of Protestants and Catholics, and people who are unaffiliated. According to PRRI, “Nearly one in four Americans (23%) are religiously unaffiliated,...Seven in ten Americans (70%) identify as Christian,...” (PRRI staff). Using this information, it is clear to see that the percentage of the people in the United States aren't Hinduists or any other religion that believes in astrology. So, this clears up a bit of information on why people may have a heavy debate on whether or not someone should believe in astrology. This debate happens because of the difference in beliefs, studies, and no beliefs or opinions. The difference in opinion and religion causes clashes between multiple other religions and beliefs not only directed towards astrology. For example,

someone who is a protestant believes that believing in astrology is a sin and that it is unacceptable for a christian protestant to believe and follow astrology. (Outlook.com). This is one main contributing factor to the heated arguments on whether or not people in modern day time should believe it or not. Most people today are christians or associate with no religion so it is hard to come up with a compromise and or a decision. Another factor that contributes to this situation is how most people in the world who do not associate with religion believe more in science and the facts rather than the spiritual associations of religion. Why does this matter? Well, this matters because there are studies that scientists made which provides evidence that astrology is unreliable. According to Jarry Jonathan, he says that “Zodiac sign compatibilities and their professional inclinations, and astrologers’ abilities to match astrological profiles to individuals have resulted in devastating results for the profession’s credibility” (Jonathan).When the people know thing like this about astrology in the United States, it tends to draw the people’s attention away from believing in astrology and zodiac signs.

In the end, there is no possible way to take away the culture and religion that others believe in. Nor can we change and alter them to fit to all of our likings and benefits. Even if some people in the United States do believe in Astrology we can’t criticize or force them onto one of the leading religions or beliefs of the country. For people who live and believe in astrology in the western part of the world, it is normal and traditional for them to follow. But if we compare this to the beliefs and perspectives of the United States, there are alot of things that contrast these ideas and ideologies. In the United States, people are either more secular or more leaning towards christianity rather than astrology. In the US, even people who are secular base their thoughts on

science and facts. This is very big since this impacts the decision on whether or not people choose to believe in astrology or not. In my opinion, i believe that we shouldn't believe in zodiac signs because of that factor of it not being super reliable, but i respect others opinions on the other perspectives.

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Performance Task 1 Individual Research Report

Note: Student samples are quoted verbatim and may contain spelling and grammatical errors.

Overview

This task assessed the student’s ability to:

- Investigate a particular approach or range of perspectives on a research topic selected by a student team;
- Conduct scholarly research relevant to the topic; and
- Produce an evaluative report on the research conducted, analyzing the reasoning within the sources as well as the relevance and credibility of evidence used in those sources.

Sample: A

1 Understand and Analyze Context Score: 6

2 Understand and Analyze Arg Score: 6

3 Evaluate Sources and Evidence Score: 6

4 Understand and Analyze Persp Score: 6

5 Apply Conventions Score: 3

6 Apply Conventions Score: 3

Row 1: Understand and Analyze Context

The report earned a score of **6** for this row because it investigates a complex and significant issue: the impacts of global “technological growth, financial aid, and increased trade” on Southeast Asian countries. It situates the investigation in a robust bibliography of 13 scholarly articles from economics journals, augmented by a few articles from public affairs journals. The report makes clear the significance of the issue, namely, the concern that “the benefits of globalization are unequally distributed and often lead to increases in income disparity and poverty rates.”

Row 2: Understand and Analyze Argument

The report earned a score of **6** for this row because it demonstrates a clear understanding of the arguments from the sources under review. For example, in the section on Economic Trade, the report traces the argument from Gharleghi and Jahanshahi, “[G]rowth in trade levels correlates with economic growth overall but also contributes to the growth of income disparity.” Or to take as another example, in speaking of Darku and Yeboah (2018), the response describes a different “controversial” argument, namely, that there is a “beneficial effect of trade openness that leads to income convergence,” at least between lower- and higher-income countries. In this contested view, “trade can be a helpful tool” in addressing income disparities. Using a combination of purposeful use (conveying the argument through careful paraphrasing and/or selected quotations) and direct explanation, the writer demonstrates throughout the report a clear understanding of the sources’ arguments.

Performance Task 1 Individual Research Report

Row 3: Evaluate Sources and Evidence

The report earned a score of **6** for this row on the strength of its bibliography of relevant and credible, peer-reviewed academic sources. Attributive phrases are used at times to clarify whether the research emerges from the field of economics or political science or from a collaboration between the two fields.

Row 4: Understand and Analyze Perspective

The report earned a score of **6** for this row because it places the sources in conversation to tease out the general idea that global development is “a double-edged sword.” While more than sufficient to earn a high score, the report could have been made stronger by fewer repetitions of the main idea and more development of nuanced distinctions among sources. Additionally, there could be more discernment when using terms. For example, the section on “Foreign Aid” elides the concepts of “foreign aid” and “remittances.” Likewise, in the Economic Trade section, there is some ambiguity about whether income disparity and convergence are happening *within* or *among* countries. That said, all sections do show evidence of detail used to develop connections among the arguments derived from the sources under review. For example, the Technological Growth section reports on “Singapore’s domination of information and telecommunications” and explains the earlier prevailing “trickle-down” argument advanced by Kim (2020) and Gries et al. (2017). This argument is then contrasted with an explanation of work by Goyal and Aneja (2020) that makes the case that “continued growth may threaten workers’ job security” and widen income disparity. The report thus narrates a turning point in the research literature. Each section of the report effectively works to highlight a significant research turn, demonstrating how earlier research is contested or refined by further work.

Row 5: Apply Conventions (Attribution)

The report earned a score of **3** for this row because the bibliography is organized, uniform, and provides the necessary elements for evaluating each source. In-text citations link clearly to the bibliography. Attribution within the body of the report is clear. While the response did neglect to include one source on the References page (“Nghiêm Xuân et al. (2019), an economist and business administrator at West University of Timisoara, Vietnam”), all the other 13 articles are clearly attributed. Overall, the report shows solid evidence of strong bibliographic skills—in the bibliography itself and in the body of the report.

Row 6: Apply Conventions (Style)

The report earned a score of **3** for this row because the prose shows evidence of the ability to relay complex ideas with clarity and precision. The tone is appropriate for an academic task.

Performance Task 1 Individual Research Report

Sample: B

1 Understand and Analyze Context Score: 6

2 Understand and Analyze Arg Score: 6

3 Evaluate Sources and Evidence Score: 6

4 Understand and Analyze Persp Score: 6

5 Apply Conventions Score: 3

6 Apply Conventions Score: 3

Row 1: Understand and Analyze Context

The report earned a score of **6** for this row because it focuses on the complexity of the relationship between artificial sweeteners and the environment. It effectively grounds the report in a substantive bibliography composed of 10 journals in the fields of environmental sciences and food sciences. The rationale for the investigation is made clear: Because of their resistance to decomposition, artificial sweeteners have the potential to become “a tremendous risk to aquatic ecosystems.” The introduction could be improved for clarity and coherence. The inclusion of the research question, which is not needed for this task, is forced and confusing (the phrase “it begs the question” leads to a nonsequitur). That said, the introduction does move the reader from the use of sugar substitutes in diet products to their characteristic and problematic “resistance to bodily breakdown,” to residual toxins in the environment. That narrative would have been made clearer—and the coherence of the report as a whole stronger—had this list included the place that wastewater has in this chain. Overall, the report warrants the high score for its strong grounding in the research literature, its engagement with the complexities of the topic, and its effective signaling of the importance of the issue.

Row 2: Understand and Analyze Argument

The report earned a score of **6** for this row because, throughout its entirety, it clearly demonstrates an understanding of the reasoning and validity of arguments from the sources being reported on. In each section, the report stays focused on its sources; it does not generalize or overstate research conclusions. At times, the report employs a combination of quotation and effective paraphrase to trace the logic in the sources. [See, for example, on pages 2-3, the tracing of logic in research by Li et al: “Shaoli Li et al. (2018) ... assert that ... finding that ...] At other times, the report makes use of direct explanation. (See sentence, page 4 beginning “While seemingly trivial ...”). Both skills are well deployed and effectively capture the arguments in the research literature.

Row 3: Evaluate Sources and Evidence

The report earned a score of **6** for this row because the evaluation of evidence is demonstrated through the selection of relevant and credible peer-reviewed academic sources. Granted, the unwieldy attributive phrases are unnecessary and awkward. (When quality scholarly sources are clearly signaled in the bibliography, such phrases are duplicative.) Finally, the skill of evaluating evidence is convincingly demonstrated by the strength of source selection, made clear in a well-composed and carefully edited bibliography.

Performance Task 1 Individual Research Report

Row 4: Understand and Analyze Perspective

The report earned a score of **6** for this row because it clearly conveys the perspectives expressed in the research arguments and deftly weaves them into a coherent, detailed research narrative. The report begins by covering the research on residual ASW-related toxins in wastewater and moves to research arguments about the continued and toxic presence in aquatic ecosystems. Along the way, it establishes that toxicity levels may be reduced by various treatments or “solutions”; however, such treatments create other problematic “breakdown products.” From there, it looks at the literature that questions whether toxic levels are significant enough to cause environmental damage. The report concludes that toxicity, whether residual or produced through treatment, while arguably not at harmful levels, “persist in wastewater treatment plants and the environment.” While there are successful ways to reduce the toxicity, those methods produce other toxins, a problem for which, at present, there are no effective solutions.

Row 5: Apply Conventions (Attribution)

The report earned a score of **3** for this row because the bibliography is organized, uniform, and provides the necessary elements for evaluating the source. In-text citations link clearly to the bibliography. Attribution within the body of the report is clear (exception: in the opening paragraph, it is difficult to tell where the paraphrased information from Naik et al. begins; elsewhere, information from sources is clearly delineated.) Overall, the report shows solid evidence of strong bibliographic skills—in the bibliography itself and in the body of the report.

Row 6: Apply Conventions (Style)

The report earned a score of **3** for this row because, overall, the prose is capable of clearly rendering complex ideas. While the prose would have been clearer without the long attributive phrases that lead to sentences bordering on the unwieldy, in general, the writer maintains control and clearly delivers the narrative about whether traces of ASWs in aquatic ecosystems pose an environmental risk.

Performance Task 1 Individual Research Report

Sample: C

1 Understand and Analyze Context Score: 4

2 Understand and Analyze Arg Score: 4

3 Evaluate Sources and Evidence Score: 4

4 Understand and Analyze Persp Score: 4

5 Apply Conventions Score: 2

6 Apply Conventions Score: 2

Row 1: Understand and Analyze Context

This report earned a score of **4** for this row because its topic, science of caffeine in young people, is adequately focused but rests on sources that are derived from university news, info, or outreach sites instead of academic sources directly; it also uses National Library of Medicine without mention of any publication specifically. The journalistic sources add some variety to the source selection. While the report focuses on caffeine’s effect on children, it addresses the problems with caffeine in general instead of with children specifically.

Row 2: Understand and Analyze Argument

This report earned a score of **4** for this row because it often summarizes information from sources without explaining the reasoning or arguments found in them. For example, the section labeled “Health Administration” begins with two quotes from sources, but the commentary simply repeats the information and offers illogical extensions of the sources’ arguments. In addition, there are multiple instances where it is difficult to discern which arguments are the sources’ and which are those of the student (e.g., page 4, “This is because they are unaware of the side effects that comes with it such as interfering with development, high blood pressure, increase in heart rate, and more.”)

Row 3: Evaluate Sources and Evidence

This report earned a score of **4** for this row because there are many instances where the report describes sources but does not effectively establish credibility. The clearest example of this can be seen through the repeated use of the term “health administration.” While the student uses evidence from FDA, National Institute on Drug Abuse, National Library of Medicine, they fail to make any distinction between any of these sources and the term “health administration.” The information from university sources is treated like peer-reviewed academic sources in the report, but the Works Cited does not link the source to an academic journal. Furthermore, the report treats the evidence from journalistic sources (CNN, Health US News) in the same way it treats university and research sources.

Row 4: Understand and Analyze Perspective

This report earned a score of **4** for this row because it uses headings to group perspectives but often only makes general connections and frequently lapses into opinions or perspectives that are not anchored in the sources. The heading labeled “Federal Agencies,” for example, exhibits a general connection between the FDA and dietitian perspectives, but the report fails to establish any nuanced discussion between them and includes claims about adverse health effects that cannot be tied to a specific perspective from a source.

Performance Task 1 Individual Research Report

Row 5: Apply Conventions (Attribution)

This report earned a score of **2** for this row because there are numerous inconsistencies in the citations as well as the in-text linking. The Works Cited page consistently mentions the groups associated with research but never cites any research publications. For instance, the National Library of Medicine is used for multiple sources, but the actual publication for the research is missing. It also cites Fennald on page 4 with no connection to a bibliography entry. These inconsistencies prevent it from scoring a high.

Row 6: Apply Conventions (Style)

This report earned a score of **2** for this row because, while the prose is generally clear, there are a number of lapses in sentence control and imprecise word choice. Two sentences on page 3 show these trends: “Caffeine use can impact health, with effects ranging from a little headache to death, when high doses are consumed,” and “Even though people are informed that caffeine does nothing to improve health, they continue to drink it and continue to harm their health.” Sentences like these do an adequate job of communicating to the reader but are not appropriate for an academic audience.

Performance Task 1 Individual Research Report

Sample: D

1 Understand and Analyze Context Score: 2

2 Understand and Analyze Arg Score: 2

3 Evaluate Sources and Evidence Score: 2

4 Understand and Analyze Persp Score: 2

5 Apply Conventions Score: 1

6 Apply Conventions Score: 1

Row 1: Understand and Analyze Context

The report earned a score of **2** for this row because it identifies an overly broad and simplistic area of investigation, as signaled in the title and reinforced by the bibliography. While 10 sources are listed in the Works Cited, all are pieces from general websites or journalistic sources that are only broadly related to the topic of Astrology (e.g., about science and astrology rather than religion and astrology). Not all sources are used; other sources are vaguely mentioned in the text, but there is not enough information supplied to evaluate them. Thus, the research context is thus broad, simplistic, and ambiguous. It is also not sustained. The report unravels into questions of whether someone should or should not believe in astrology. The rationale for studying this topic moves even further from a study of astrology and religion to reference “new technologies” and contested beliefs about religion generally: “This is important to recognize because today the world is easily influenced by new technologies and beliefs that cause controversy and very heated debates that involve the controversy of religion.”

Row 2: Understand and Analyze Argument

The report earned a score of **2** for this row because there are “no instances of effective explanation” of the sources’ arguments. At times, a quotation is supplied, and the commentary either restates information from sources, generalizes and simplifies arguments, or is silent about the quoted material, moving on to the next topic. (See, for example, the information from Pewresearch.org on p. 2). Or see the vague response to the PRRI staff statistical data on page 3: “So, this clears up a bit of information on why people may have a heavy debate on whether or not someone should believe in astrology.”

Row 3: Evaluate Sources and Evidence

The report earned a score of **2** for this row because it provides little or no reference to the credibility of sources. Sources are only obliquely relevant, concerning either “religion” or “astrology.” Neither term is narrowed, and only one source (an online magazine) links the two.

Row 4: Understand and Analyze Perspectives

The report earned a score of **2** for this row because it identifies information rather than arguments in the sources referenced. Various pieces of information are juxtaposed, but there is no logical categorization of arguments from sources. For example, the first body paragraph covers information about using stars for “Bride and Groom” matching in India, Hindu beliefs in astrology, “history of zodiac signs and star belief in China, Egypt, Greece and early mesopotamia,” the “Natal star chart,” and religion in “western cultures and civilizations.”

Performance Task 1 Individual Research Report

Row 5: Apply Conventions (Attribution)

The report earned a score of **1** for this row because, while there is a Works Cited page, there is an accumulation of documentation errors. On the plus side, the bibliography is mostly organized (only one source is out of order). The litany of errors is significantly longer: Only one source (PRRI.staff) provides a successful link between the in-text citation and the bibliography. At least 5 links are ambiguous (an in-text citation is present, but it is difficult to match it to the Works Cited page). Netivist.org and Smithsonianmag.com are referenced in the text of the report, but not in the bibliography. When paraphrase is employed, the text does not always clearly indicate what is derived from the source (faulty attribution). Overall, the report demonstrates unsuccessful deployment of bibliographic skills.

Row 6: Apply Conventions (Style)

The report earned a score of **1** for this row because of simplistic and extremely vague word choice, problems with control of sentences, and the adoption of a tone “not appropriate for an academic audience.” Examples abound, but the last 2 sentences of the report perhaps best illustrate the prose: “This is very big since this impacts the decision on whether or not people choose to believe in astrology or not. In my opinion, i believe that we shouldn’t believe in zodiac signs because of that factor of it not being super reliable, but i respect others opinions on the other perspectives.”