

UNIT 6

1. Title of the source:

Jet fuel is bad for the environment. Contrails are even worse

(Source: Markusoff, J. (2022, Feb. 28). Jet fuel is bad for the environment. Contrails are even worse. *Mclean's*.

<https://www.macleans.ca/society/environment/jet-fuel-is-bad-for-the-environment-contrails-are-even-worse/>)

2. Summary of the source:

In the reading “Jet fuel is bad for the environment. Contrails are even worse”, Jason Markusoff (2022) discusses how contrails contribute to the global warming, and airplanes are constantly emitting pollutants that form this kind of patches in the sky that adds heating effect in the atmosphere. He points out that the airline industry is having difficulties to find solutions in this phenomenon, but scientists are continuously doing further research to find out how contrails affect the climate, and how it can be avoided. In addition, he uses expert’s knowledge to further discuss some important aspects of contrail, its nature and effect in the climate. Markusoff cites Sebastian Easthams’ claim to go into greater detail on how specifically contrails damage the atmosphere, and how these contribute to the global warming. Furthermore, he explains the ways on how airline industry can at least minimize the formation of contrails. Also, he discusses a theory that in order

for the airplanes to minimize their contrail contribution, some of their flights should fly (higher or lower) for brief stretches that will result in small amount of carbon emission. Markusoff explains one way that airline industry can do to minimize its carbon emission that contributes to contrail formation is to use alternative fuels such as biofuels. Finally, he predicts that it will take years for the airline industry to widely implement the solutions he presented because of the conspiracy fanatics who do not believe that chemical contrails or “chemtrails” are damaging the climate.

1. **Write TWO paragraphs** Discuss the strengths and flaws based on the type of source you are using (100 words).

In what ways is the argument logical, fair, and reasonable? Write your response in 6-7 sentences

Jason Markusoff has utilized the use of effective appeal to authority that strengthens his article’s credibility. Markusoff discussed that airplanes emit toxic element in the atmosphere that create contrails (Markusoff, 2022, Para. 2). He presented Sebastian Eastham’s statement to support his claim that contrails greatly

contribute to the global warming and primarily to the heating-up of earth's atmosphere (Markusoff, 2022, Para. 2). Sebastian Eastham is a research scientist at MIT's Laboratory for Aviation and Environment. Wirth Eastham's background and education, he is qualified to speak about the topic. As a result, it strengthens Markusoff's claim and article's credibility to gain the trust of the readers.

What are the problems, flaws, or gaps in the argument? Write your response in 6-7 sentences.

Markusoff's article is flawed with weak logical appeal and hasty generalization. Firstly, Markusoff (2022) discusses that airline industry has started to figure out and make solution on how to lessen the contrails in the atmosphere (Markusoff, 2022, Para. 3). He presented the data of Eithad Airways which the flight path has been adjusted that have resulted to less carbon dioxide emission by only 0.48 extra tonnes (Markusoff, 2022, Para.4). Markussoff explained the action taken by the airline industry to lessen the contrail formation, but failed to include the reference and the source of the information he used as evidence. Also, he discusses the experiment conducted by The National Research Council of Canada (NRC) on using crop-based biofuels as an alternative to fossil fuel (Markusoff, 2022, Para. 4). He mentions that by using biofuel, the emission of soot particles

that create contrails has substantially reduced (Markusoff, 2022, Para. 4). Markusoff didn't provide the source of the study as well as the statistical data on how big the reduction of the particles that create contrails in the study. With weak evidences presented by the author, readers can question the credibility of the article and the effectiveness of persuasion.

Secondly, the article demonstrates hasty generalization as the author makes general statement that airplanes greatly contribute to air pollution and caused climate change (Markusoff, 2022, Para. 1). He only focuses on discussing Boeing (large) planes that carries large groups of passenger which contribute to the building up of contrails, but there are also small jet planes that do not take passengers and create contrails. Furthermore, with lack of evidence, he makes assumption that it will be difficult and will take years for the airline industry to improve solutions for contrail (Markusoff, 2022, Para. 5). Markusoff demonstrates biased opinion by only presenting his point of view about the airline industry.

Unit 7

Academic integrity

1. Discuss two problems that can result from using ChatGPT and other AI tools to write your essay? (100 words)

One problem that can arise from using ChatGPT and other AI tools to write an essay is that the resulting text may lack coherence and clarity. Although AI can generate sentences that are grammatically correct, it may not be able to produce logical and coherent arguments or convey complex ideas in a way that humans can easily understand.

Another issue that can occur is plagiarism. Since ChatGPT and other AI tools rely on large databases of texts and previously written content to generate new content, there is a risk that the resulting essay may include text that is identical or highly similar to existing works. This can result in accusations of academic dishonesty and can have serious consequences, including failing the assignment or course, suspension, or expulsion.

2. How can students use AI tools such as ChatGPT in a positive way to learn- in a manner that does not breach the academic integrity policies at the college? (100 words)

Students can use AI tools such as ChatGPT in a positive way to aid their learning by using it as a reference tool to generate ideas, improve their writing skills, and explore different perspectives on a given topic. For instance, students can use ChatGPT to learn about grammar to improve their writing.

To ensure that the use of AI tools does not breach academic integrity policies, students must acknowledge the sources of the generated content and only use the AI-generated text as a reference, not as a replacement for their own original work. Additionally, they should thoroughly review the content generated by AI

tools and ensure that the final essay is their own original work, with properly cited references. They should always consult their instructors before using AI in assignments.

Keep a record of your research (Secondary sources for your Research Essay)

List 2 sources of each type.

Newspaper and Magazine Sources

- Source 1: The fastest way aviation could cut its carbon emissions.
<https://www.bbc.com/future/article/20210525-how-aviation-is-reducing-its-climate-emissions>
- Relevance: This source discusses ways on how aviation industry can minimize the carbon emissions and explains that contrails, which are primarily produced by airplanes contribute to the global warming. In this article, the author used effective appeal to authority as a proof by citing someone who is qualified to speak about contrails. This justifies the claim of Markusoff as he cited someone who has the authority to speak about contrails in his article.
- Source 2: Issue Brief | The Growth in Greenhouse Gas Emissions from Commercial Aviation (2019, revised 2022)
[https://www.eesi.org/papers/view/fact-sheet-the-growth-in-greenhouse-gas-emissions-fromcommercialaviation#:~:text=EPA%20reports%20that%20commercial%20airplanes,greenhouse%20gas%20\(GHG\)%20production](https://www.eesi.org/papers/view/fact-sheet-the-growth-in-greenhouse-gas-emissions-fromcommercialaviation#:~:text=EPA%20reports%20that%20commercial%20airplanes,greenhouse%20gas%20(GHG)%20production)

- Relevance: This piece of writing from a magazine provides logical appeal on author's arguments. It provides proofs such as specific data and resources to back up his claim. However, the given article did not provide statistical data and references to support the author's claim.

Videos/Images

- Source 2: Contrail cirrus radiative forcing for future air traffic
<https://acp.copernicus.org/articles/19/8163/2019/>
- Relevance: The image describes the simulated global radiative forcing levels of contrails from current climate and current airplane traffic in the atmosphere and a future forecast. This provides a bigger picture about the effects of contrails in the heating up of earth's temperature which Markusoff is pointing out in his article.

Library and/or Database Sources

- Source 1: Aircraft engine exhaust emissions and other airport-related contributions to ambient air pollution: A review
<https://www-sciencedirect-com.centennial.idm.oclc.org/science/article/pii/S1352231014004361>
- Relevance: The article discusses the reviews on aviation industry and how it contributes to the air pollution in terms of aircraft engine emissions and

other airport related emissions. Also, it discusses the chemical and physical properties emitted by specific type of aircraft engines that are big factor in contrails formation because not all aircraft produces contrails. This article will clarify the gap in Markussoff's general claim in his article that airplanes greatly contribute air pollution and global warming because of contrails.

Annotated Bibliography Unit 8

Write the annotated bibliography for three of your best research sources. One of the sources must be peer reviewed. Each annotation can be 2-5 sentences. The first few sentences can be a summary of the article and the last few sentences should illustrate the way you will use your source to evaluate your source. IE) what part of the response section will the research go in? What framework will it support?

Annotated Bibliography (Secondary Sources)

Source 1 (Title): The fastest way aviation could cut its carbon emissions.

Timperley, J. (2021, May 25). The Fastest way Aviation could cut its carbon emissions. *BBC*

<https://www.bbc.com/future/article/20210525-how-aviation-is-reducing-its-climate-emissions>

This source discusses the different ways on how aviation industry can minimize the carbon emissions such as changing flight plans and investing in renewable resources. Furthermore, it highlights and explains that contrails, which are primarily produced by airplanes contribute to the global warming. In this article, the author uses Marc Stettler's statement about the contrail formation and

its effects to the earth's atmosphere. He is a professor in transport and environment at Imperial College London.

The source is related to my research essay because it justifies and strengthens Markusoff's claim that contrail formations in the atmosphere contribute to the global warming. He cited someone who has the authority and knowledgeable to speak about the topic which adds credibility of the article.

Source 2 (Title): Issue Brief | The Growth in Greenhouse Gas Emissions from Commercial Aviation.

Overton, J. (2022, June 9). Issue Brief I The Growth in Greenhouse Gas Emissions from

Commercial Aviation. *Environmental and Energy Study Institute*.

[https://www.eesi.org/papers/view/fact-sheet-the-growth-in-greenhouse-gas-emissions-fromcommercialaviation#:~:text=EPA%20reports%20that%20commercial%20airplanes,greenhouse%20gas%20\(GHG\)%20production](https://www.eesi.org/papers/view/fact-sheet-the-growth-in-greenhouse-gas-emissions-fromcommercialaviation#:~:text=EPA%20reports%20that%20commercial%20airplanes,greenhouse%20gas%20(GHG)%20production)

The article discusses the growth in the emission of harmful gas from aviation industry over the years. In addition, it provides statistical data including its relevant references as evidence in the article. The author mentions the report from

Environmental Protection Agency that ten percent of U.S transport emission are from business jets and commercial airplanes, and it is three percent of the country's total greenhouse gas emission.

This article uses logical appeal on author's claims, and provides proofs such as specific data and references to back up his claim that strengthens his argument. However, Markusoff did not provide relevant references on the data that he presented to support his claim that results in questioning the article's credibility.

Source 3 (Title): Aircraft engine exhaust emissions and other airport-related contributions to ambient air pollution: A review

Harrison, R., & Masiol, M. (2014). Aircraft engine exhaust emissions and other airport-related

contributions to ambient air pollution: *A review. Atmospheric Environment.* 95, 409-455.

<https://www.sciencedirect.com/science/article/pii/S1352231014004361>

The article discusses the reviews on aviation industry on how it contributes to the air pollution in terms of Aircraft engine and other airport related emissions.

Also, it discusses the chemical and physical properties emitted by specific type of aircraft engines that are big factor in contrail formations because not all aircraft can be able to produce contrails. The article emphasizes that the type of engine and the altitude of the aircrafts are major considerations in the contrail formation.

This article is relevant on my research essay because it will clarify the gap in Markusoff's general claim in his article that airplanes greatly contribute to air pollution and global warming due to contrails. This article specifically discusses that depending on the size of airplanes and the type of engine being used will depend if they will form contrails in the atmosphere.