

**Science Research Paper Assignment:
Writing an Introduction**

DUE: September 2020 (Juniors)

See rubric for grading guidelines

Introduction

The following assignment must be submitted, via hard copy (not emailed), to your research teacher on the first day of classes in September 2020. This will count as your first written assignment for the 1st Marking Period of the new school year.

The following must be typed, Times New Roman, 12 pt. font, with 1” margins.

- 1) Title of your Study (bold)
- 2) Your Name (bold)
- 3) Abstract of your research (single spaced). *You should have this from the spring semester*
- 4) Rough draft of your Research Introduction containing at least 5 paragraphs and at least 5 citations to Journal articles. Double spaced. *This is probably new for you*
- 5) References. At least 5 References in a correct & consistent format, alphabetical by author’s last name. References must match the cited articles from the Introduction.

How to write an Introduction:

An Introduction to a research paper introduces your audience to your topic and provides background about the topic, as well as evidence to support your hypothesis. It is essentially a combination of your review of literature and your background. A good Introduction should include references to several past studies (review of lit), as well as explain your independent and dependent variables (but without actually saying they are the dependent & independent variables). See the suggestions below.

Please note that I recognize that this is a rough draft and may be your first attempt at writing an Introduction. I do not expect perfection, but I do expect effort. You will continually revise and update your Introduction throughout your Junior year.

(The following is just a guideline and does not need to be followed exactly)

First paragraph: Describe the problem. Why does this topic need to be studied? Why is this topic important to the scientific community? Refer to studies and statistics that have indicated that this problem needs to be addressed. Think of this as your “hook”.

Example: “Suicide rates have doubled among Latino immigrants since 2016 (Davis, 2017).”

Second paragraph: Normal/Past approaches to this problem. What are the common issues and problems of past studies? Cite studies and mention the approaches they took to solve the problem and discuss the problems and limitations and/or successes they had in solving this problem.

Example: “Despite showing that listening to music successfully decreased anxiety in college students, Radulovic (2018) failed to collect data about the type of music that the participants

chose. A study conducted in 2017 (Johnson) showed that music with a slower tempo is more successful at reducing heart rates than music with a faster tempo, but they did not examine that effect on anxiety”

Third paragraph: Address your independent variable (if applicable). **DO NOT actually use the term “My independent variable is...”**. INSTEAD, you should be implying what the independent variable is without actually saying it.

Why was this chosen as your independent variable? How can this be accurately and safely manipulated? What are some ways it should not be manipulated? Refer to past literature to support your ideas. How did they manipulate this variable?

Example: “It is important to examine the role that genetic mutation has on the risk of Breast Cancer” or “Previous studies have shown that different amounts of protein X have different effects on the climbing ability of fruit flies”

Fourth paragraph: Address your dependent variable (if applicable). **DO NOT actually use the term “My dependent variable is...”**. INSTEAD, you should be implying what the dependent variable is without actually saying it.

Why is this variable a good aspect to study in response to the independent variable? How has this variable been measured in past literature? Refer to past literature to support your ideas. How did they measure this variable?

Example: “Studies have shown that using heart rates to measure fatigue is an appropriate and easily accessible method” or “Past studies have successfully shown that the Beck’s Depression Inventory is an effective tool to measure depression in young adults”

Fifth paragraph: Address the gap in the literature and emphasize how your study is different. How is your study different from these previous studies? How are you addressing the “gap” in this literature? Summarize the other paragraphs.

Usually the last sentence(s) include your hypothesis statement: State your hypothesis and how you determined your approach to address your hypothesis.

For example; “Despite the fact that anxiety levels have tripled among teenagers in the last decade (World Health Organization, 2016), there are a lack of studies that directly examine the effect daily meditation may have on decreasing teenager’s anxiety levels. Previous studies indicate that meditation can be a successful tool for decreasing anxiety in the elderly population (Smith 2017, Jones 2019) and can significantly lower heart rates in adolescents (Banner, 2018). These studies indicate that daily meditation is not only an effective tool, but has applications among all age groups. Therefore, we hypothesize that daily meditation can also significantly decrease anxiety levels in high school students.”

Use the examples attached as a guideline. Shelley Zhu won as a semi-finalist in the Regeneron STS in 2017! Benjamin Van Doren won 5th place at INTEL STS in 2012! Diana Medina had her study published!