

HOW TO

WRITE ABOUT DATA IN SCIENTIFIC WRITING



What is Data?

Data is information that is collected and used for analysis. It can range from images to numbers and even words.

Follow the guidelines below to learn strategies for improving your data discourse.

1

How To Make Your Writing More Precise

- Choose specified words and phrases
- Use quantitative descriptions more often than qualitative



2

How To Make Your Writing Clearer

- Use words that are easily understandable
- Avoid generic phrases



3

How To Make Your Writing More Objective

- Avoid using "I" or "We" when starting sentences or when speculating
- Avoid overarching conclusions that rely on assumptions rather than evidence



4

Helpful Sites For Writing About Data In Scientific Writing

<https://sites.duke.edu/scientificwriting/>

Examines how to effectively communicate with a specific focus on science courses. Users can go through the lessons in order or choose where they wish to start.

<https://www.phrasebank.manchester.ac.uk/reporting-results/>

Offers a multitude of phrases for reporting results and data in a precise and efficient manner.

<https://www.scu.edu/media/offices/provost/writing-center/resources/Tips-QC-Statement-Guidelines.pdf>

Showcases how to write a Quantitative Comparison (QC) statement. This is especially helpful for those enrolled in a biology course at Santa Clara University.



Making Your Writing More Precise - Examples



Choose specified words and phrases

When words have similar meanings it is important to choose the word that is more precise and less distracting, while avoiding any extra, unnecessary words.

Example 1: We then collected data using a micropipette and we made note of any mistakes in our notebook so that they could be dealt with later in our lab report.

Example 2: Data was collected using a P-10 micropipette and any discrepancies were noted.

Notice how much more exact example 2 is. It gives the precise amount of information needed to understand what procedures occurred without adding any extra information.

Use quantitative descriptions more often than qualitative

When examining your data, it is important to show rather than just tell.

Example 1: We saw that the bacteria developed fastest in colder temperatures rather than warmer temperatures.

Example 2: The bacteria developed twelve percent faster in 10°F than in 70°F.

Notice how using quantities that are explicitly defined, such as in example 2, allows for much more precise language.

Making Your Writing More Clear - Examples

Use words that are easily understandable

It is important to choose words that you are familiar with rather than more complex words that may seem “smarter”.

Example 1: Gloves were utilized when administering the treatment.

Example 2: Gloves were used when performing the treatment.

Notice how “utilized” and “administering” in example 1 are switched out for “used” and “performing” in example 2. This allows example 2 to be made clearer and also distracts less from the main idea of the sentence.

Avoid generic phrases

When writing with data, avoid phrases that do not offer any new information and that are just used to take up space.

Example 1: It is important to take note of the fact that this experiment was conducted twice.

Example 2: This experiment was conducted twice.

Notice how the second example does not distract the reader with unnecessary information and instead goes straight to the point.

Making Your Writing More Objective - Examples

Avoid using “I” or “We” when starting sentences or when speculating

In order to keep the focus on the data, it is important to avoid using “I” or “We”.

Example 1: I think that the data found opens a wide variety of questions for future science research.

Example 2: Only temperature was changed in this experiment while light and nutrients received, stayed the same.

Notice how example 2 stays away from emotion and focuses solely on the facts. This allows for personal bias to be limited in the sentence and only logic to remain.

Avoid overarching conclusions that rely on assumptions rather than evidence

While it is important to use data to demonstrate the magnitude of the issue, this can be done while avoiding overarching conclusions that are not backed by your evidence.

Example 1: Since this specific plant grew faster in colder temperatures, we can assume that all plants will grow faster in colder temperatures.

Example 2: The data shows that this specific plant grew faster in colder temperatures, however, more experiments will need to be conducted to determine whether this finding is consistent across other plant species.

Although example 2 is wordier, it is derived solely from data. Notice how it directly acknowledges the limitations of the study and does not make sweeping generalizations.

