



## Author Guide

How to write amazing articles for  
Young Scientists Journal

Original Author: Michael Hofmann

Last Modified: 22/01/2016

### Introduction

This document aims to provide support and advice on how to write an article for Young Scientists Journal so that authors can create better articles that are easier to read, more interesting and can be reviewed faster. Use this in tandem with our editing guide to see what we're looking for in a Young Scientists Journal article.



## Why Write an Article?

Writing an article allows you to be able to dig deeper into the wonderful world of science, engineering, technology and mathematics, which is its own reward but to be able to say that you have published a scientific paper in a proper journal is also great to be able to put on a Personal Statement, CV or to be able to talk about at a University/College Interview.

Writing an article also helps you to prepare for life in higher education and beyond, since if you are hoping to do a scientific based degree you will have to write several scientific papers over your degree so learning how to do this well early will give you the edge and ultimately making you a better scientist, engineer or whatever technically minded career you embark on, ready to answer questions and solve problems that the world asks of you.

## Types of Article

### **Original Research**

Original research is where you design, carry out, and write up an experiment or investigation, that hasn't been done before, contributing to the sum of human knowledge and providing a starting point for potential industrial applications. This type of research looks best when applying to university, and is very exciting as it's literally brand new.

### **Experiment/Investigation/Project**

You could conduct an investigation or conduct an experiment into something that has been done, but you want to prove it further, explore a different angle, or see what results you get. If you have done a project using electronics or engineering for example you can also publish this. You could also consider submitting a research you've done for a CREST Project or for an Extended Project, a great way to get the most out of work you've already done.

### **Review Article**

A review article is where you take a topic that you are really interested in, whether it's the latest medical advancement or a history of dye making for example, and research it: online, in books and in journals and write your own paper on it, explaining the topic.

### **Blog/Magazine Article**

These are shorter lighter articles, perhaps reflecting your opinion on something or giving a brief insight into a topic. These sorts of articles range from science news, humor, book reviews, an experience and so on.



# Style of Writing

At a basic level write in a clear, direct, and active style appropriate for 12-20 year-olds. Look at the website and journal to see that no other similar articles have been published. If in doubt, contact one of the team to see if an article on a particular subject would be welcome.

## **Original Research/Experiment/Investigation/Project**

- Formal, use precise complete sentences
- Check SPAG – Spelling Punctuation and Grammar, the journal follows UK English.
- Do not use personal language (e.g. I, we)
- Avoid emotive and colloquial language (e.g. brilliant, useless, cool) and replace these with technical terms (e.g. exceeds specification, accuracy of the measurement device was insufficient for the required fidelity of data)
- Be concise, avoid waffling
- Do not use contractions (e.g. don't, won't, can't etc.)
- Define all abbreviations and advanced technical terms
- Define all symbols and include units where appropriate
- Make sure it is appropriate for an audience aged 12 and up
- Ensure all sources are referenced in the “Chicago” style

## **Review Articles**

- Use complete sentences, the article should be reasonably formal
- Check SPAG – Spelling Punctuation and Grammar, the journal follows UK English.
- Avoid emotive and colloquial language (e.g. brilliant, useless, cool) and replace these with technical terms (e.g. exceeds specification, accuracy of the measurement device was insufficient for the required fidelity of data)
- Be concise, avoid waffling
- Define all abbreviations and advanced technical terms
- Define all symbols and include units where appropriate
- Make sure it is appropriate for an audience aged 12 and up
- Ensure all sources are referenced in the “Chicago” style

## **Blogs/Magazine Articles**

- Use complete sentences
- Use a lighter tone
- Check SPAG – Spelling Punctuation and Grammar, the journal follows UK English.
- Be concise, avoid waffling
- Avoid sophisticated vocabulary and advanced technical language, keep it simple and easy to understand
- Define all abbreviations
- Define all symbols and include units where appropriate
- Make sure it is appropriate for an audience aged 12 and up
- Don't be afraid of offering an opinion or different angle on a topic, but make sure that when you do this it is clear.



## Sections

All articles except Blog/Magazine articles should have the following sections:

### **Abstract**

Provides a brief summary of the whole article providing the key information on why the paper is unique, what field it relates to, a brief description of methodology and detail of what the key results & conclusions are.

### **Introduction**

Explains the purpose of the article and content, the background and context to the project/study, the aims & objectives.

### **The Middle**

*For Original Research/experiments/investigation/project*

*Literature Review* – What is already known in the published books and journal articles, what is the expected outcome of the experiment and why

*Method* – What was the experiment or study procedure. A method should be detailed enough that an experienced scientist/engineer reading your article could repeat the experiment. Where the project is an experiment this will include a description of equipment and processes. For a computational project you may need to explain the software tools and how you applied them.

*Results* – Present the results of your experiment

Within your results you need to present your data, usually this is best achieved through the smart use of tables and/or graphs. Ensure you make it clear what is your raw data and what has been extracted by analysing the raw data. An example would be variables x and y from an experiment, plotting these on a graph and extracting the gradient. In this case, x and y are your raw data and the gradient is the extracted data.

*Discussion/Analysis* – What do the results mean? You should draw understanding and insight from your results, for example you may need to consider:

- What your results mean in the context of errors from the experiment
- How the results can be used
- Were the results what you expected
- Did your results support the hypothesis for the experiment
- Whether there is a relationship between variables
- Do your results match other peoples
- Are some of the results anomalous, why?
- How to improve the experiment



### *For Review Articles*

A review article does not include new research it is a discussion of work already published explaining a topic or otherwise and so some form of analysis will be included. However, it should aim to give new insights by providing some sort of evaluation could include: an alternative viewpoint, questioning data, giving an opinion, a counter argument, discussion theoretical compared to actual “real world” experience, ranking analysis points in terms of importance etc. This is not an opportunity to speculate wildly, there should be supported by scientific evidence to support your evaluation. The exact content of “the middle” will vary depending on topic, but they should be appropriately sectioned to help signpost the reader through the article.

### **Conclusion**

Provide a succinct overview of the conclusions drawn from your results and discussion, and includes now new information. It is a good idea to very briefly summarise what the report is about in your first sentence to put the conclusions into context.

*Be careful not to repeat a full explanation of each point of discussion, as you should have done this within the main body of the report. You should be instead simply present the conclusion. However, it is important to set your conclusions in context so include succinct statements on the significance, validity and any criticisms (e.g. errors, assumptions) that relate to the discussion point.*

### **Funding Statement/Acknowledgements**

Any sources of finance for the project and help you’ve had with your project. Keep it as succinct.

### **References**

All your sources for text and figures must be cited to distinguish what is your own from other people’s work. Plagiarism is strictly forbidden. References also lend credibility to your work and provide a place where people can find more information from your sources. Articles should follow a *simplified Chicago* referencing style.

A number is assigned to each citation in order they are used within text, use a superscript number in brackets (brackets are to distinguish citations from equations) such as this at the end of sentence. <sup>[1]</sup>

- When citing a source for the first time, always cite in full.
- If a source has three or more authors, always cite in full the first time, and subsequently shorten to First Author et al.
- Publications should be italicised.

Use the Chicago Manual of Style or a tool such as RefMe or Zotero to help.

### **Biography**

- Your Name, Age, School & School Location
- A photo of you
- A 200-600 character (with spaces) summary about you, the author, written in 3<sup>rd</sup> person.



# Supplementary Content

## Images

If the article does not contain a sufficient number of diagrams/tables/figures, try to bring it to life by adding some images, ensuring they are of a high quality.

## Constructing tables and figures

Column headings should contain enough information for the reader to understand the table without reference to the text. Tables should not duplicate content written in the article.

Figures should be referenced within the text, e.g. The emulsifier is able to bind to both the water and the oil due to it having a long non-polar tail and a polar head which forms a stable emulsion (*figure 1*). Then, below the figure provided, label the figure as follows *Figure 1: title xxx*. Titles of tables and figures should be in italics.



# Deciding Content

## Original Research

Use the acronym YOUNG SCIENCE developed by Sir Martyn Poliakoff to help you decide whether to pursue a project.

***Yes, it's interesting***

***Original, not done before?***

***Understandable to everyone***

***Not too complicated***

***Good advice available***

***Scientifically sound***

***Clear question to answer***

***Individual AND Group work***

***Existing theoretical background***

***Not too expensive***

***Could be fun***

***Excellent chance of success***

## Review Articles, Blogs etc.

Pick a topic you are interested in but particularly one you think others will be interested in as well. You should have fun when writing and researching your topic. Pick something that is new, not too complicated that you can meaningfully write an article on, don't pick something that can just be read on Wikipedia, ask yourself Why? would someone want to read this.

Review articles don't have to be entirely new you could have an assignment, coursework or piece of homework that you can tweak and then publish or a project that you are already working on. We also regularly have themes we want people to write articles on.



## Why might an article be rejected?

We welcome all submissions to The Young Scientists Journal, however we may need to reject your article if:

- the article is written badly
- we have already published an article on this subject
- it is only in draft form.
- It is plagiarised

We look forward to receiving your submission.