

## I Summary

Higham once said: “All writing benefits revision.”<sup>[1]</sup> Therefore, you should learn how to check and modify critically after writing your mathematical paper. Although scientific papers do not require too much attention on grammar or rhetoric, they need reasonable structure, accurate expression, proper use of words, strict logic, etc. When finishing the first draft of the paper, you do not have to rush to modify it. Instead, hide it for a few days, then you can analysis your manuscript from different ways. As a result, you may understand and improve it objectively.

Next, we will introduce several techniques for modifying mathematical papers.

### I.1 Delete Excess

The most important thing about the revision of the paper is probably the deletion, thus we should delete all the useless words and sentences to make the expression mote concise. As Sciwrite said in 1973,

Simply go through what you have written and try to curb the length of sentences, question every passive verb and if possible make it active, prune redundant words, and look for nouns used instead of verbs.

Moreover, we need to emphasize the following items:

- Repetitive sentences are a focus of article deletion;
- Some introductory texts on the background should be avoided in the paper;
- The elementary derivation does not require to emphasize the process;
- More than five lines of equations or inequalities should be avoided in the proof.

### I.2 Highlight Points

A paper should only have one topic and highlight the topic. That is, when the subject matter of the paper is determined, all its structural considerations and segmentation sections are centered around this topic.

Moreover, you can draw a conclusion about whether the focus is outstanding by judging whether there are too many conclusions in the paper.

### I.3 Beauty Structures

A mathematical article is a mixture of words and mathematical formulas, as a result, its appearance is also an important factor that attracts audience. The book shows by example what kind of structure is beautiful, please see Example 3.3 to Example 3.13 in *Mathematical Writing in English*<sup>[2]</sup> for more examples.

## 1.4 Use Charts

In the field of mathematics, articles on applied mathematics and computational mathematics often contain calculation results, which have server functions below,

- Confirm the correctness of the mathematical model or the new algorithm analysis in the paper by practical examples;
- Compare with existing popular calculation methods;
- Convenience the reader to have a real feeling about the numerical results and the application prospect of the new algorithm through the visual effect of the chart.

Although the chart is very intuitive, it can only be used as a supporting role in the paper based on theoretical analysis of numerical methods, so it does not have to occupy too much space.

Furthermore, we need to emphasize the following items:

- A) Avoid unprofessional charts in terms of color, labeling, etc.
- B) Be sure to discuss or explain the listed charts;
- C) Chart should not be too much;
- D) Descriptions of the chart should conform to the standard.

## 1.5 Avoid Plagiarism

Without proper quotes and references, the following text can be called plagiarism:

Plagiarism is the act of publishing borrowed ideas or words as though they are your own. It is a major academic sin. In writing, if you copy a sentence or more you should either place it in quotes and acknowledge the source via a citation, or give an explicit reference such as “As Smith observed ...” In the case of a theorem statement it is acceptable to copy it word for word if you cite the source, but before copying it you should see whether you can improve the wording or make it fit better into your notation and style.<sup>[1]</sup>

## References

- [1] HIGHAM N J. Handbook of writing for the mathematical sciences[M]. Philadelphia: Society for Industrial and Applied Mathematics, 1998.
- [2] 汤涛, 丁玖. 数学之英文写作[M]. 北京: 高等教育出版社, 2013.