Acceptable Uses and Limitations of Generative AI in the Writing Process

As generative artificial intelligence (AI) applications for text generation, such as ChatGPT, are becoming more popular, authors have discovered that they can be helpful in the writing process. As implied by its name, generative AI creates content, leading to questions about its acceptability in scientific writing.

Generative AI may be especially helpful in the beginning and end stages of the scientific manuscript writing process. For example, ChatGPT can help brainstorm or provide a preliminary outline. It can remind you of topics that you’d like to cover and topics that similar papers have covered. The output from generative AI can point to a new perspective, for example by providing an alternative and more logical organization for a manuscript. These tactics can prove especially useful to overcome writer’s block. And at the end of your writing process, AI can be used for refinements, including improving flow and fluency and reducing word count. However, careful evaluation of the results is warranted to ensure your meaning has not been changed and all the essential information remains. The Research Medical Library has a webinar that covers potential uses of ChatGPT in scientific writing in more depth.

Like every other tool, generative AI applications have limitations. For example, ChatGPT cannot cite the sources its output is derived from and is prone to citing irrelevant or nonexistent articles, thus leading to potential plagiarism and unfounded claims. The information used to train AI tools can be inherently biased, which can lead to the same biases in its output. Notably, AI retains inputted text, including protected health information and confidential information, meaning that you should not feed sensitive information into an AI tool. Lacking the perspective of a human author, AI tools cannot comprehensively tailor writing to meet the needs of the situation at hand. Further, AI is not good at supplying details about unique topics, so relying on AI to generate ideas for unique and novel topics could result in a simplistic paper.
While there is not a universal rule for acceptable use of AI in writing, many journals permit the use of generative AI tools to assist with writing, with some caveats. Elsevier suggests that generative AI only be used to improve the readability and language of an article and not in the place of key authorship tasks, such as providing insights, drawing conclusions, or making recommendations.1 Nearly all major publishers agree that any use of generative AI should be disclosed, that AI cannot be an author, and that authors are responsible for ensuring that the submitted text is factual and original.1,2

Similarly, MD Anderson’s guidelines for the use of generative AI recommend using AI cautiously and responsibly.3 Because generative AI applications can retain the text provided to them, feeding institutional intellectual property into AI tools is against MD Anderson policies. The guidelines also note that the output of these tools must be assessed for quality and not simply used to generate a final product, and such use should be disclosed.

Generative AI may be a helpful tool in the writing process, especially in the beginning and end stages. However, AI should be used transparently and responsibly, and AI-generated outputs must always be reviewed using human judgment.

REFERENCES
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How to Overcome Writer's Block

Do you feel intimidated when you look at a blank page in Microsoft Word or a blank piece of paper? That’s a common feeling for writers of all experience levels and in all genres, and it’s known as writer’s block. It’s an especially daunting feeling when you’re
under a time crunch because of a deadline. The pressure of a deadline can make the difficult task of getting started on a writing project even harder.

People frequently deal with negative thoughts and attitudes when they experience writer’s block. These include perfectionism, which is often an enemy of creativity. Another is procrastination, which impairs motivation while increasing anxiety. Writers can also engage in negative self-talk that manifests in self-criticism and self-doubt. Finally, writers can simply feel overwhelmed by the prospect of a project and fail to make any headway.

Writers obviously deal with a multitude of thoughts about their projects before they start them. Good writers can focus their thinking in a way that leads to putting those thoughts down in writing with clarity. In his important book on nonfiction writing called On Writing Well, the author William Zinsser said that “Writing is thinking on paper. Anyone who thinks clearly can write clearly, about anything at all.” So what are some concrete ways to think clearly before you write your manuscript so that you can prevent or overcome writer’s block?

**Outlines**
An obvious way to combat writer’s block is to create an outline. An outline can be a powerful tool in starting a writing project. A simple five-point outline—introduction, three main points, and conclusion—is one option. Or, you can create an outline specific to a journal article (introduction, methods, results, and discussion).

Writing coach Ann Kroeker said that an outline can “help you organize your thoughts and create a roadmap for your writing, banishing the fear of a blank page.” That said, although outlining is effective for many people, you shouldn’t force yourself to do it if it’s counterproductive or a time-waster.

**Brainstorming**
The University of North Carolina Writing Center suggests brainstorming as a way to overcome writer’s block. Brainstorming is actually a collection of techniques that you can use to harness your thoughts about your topic and write them down in clear, focused form. These techniques include the freewriting, listing, three perspectives, and six journalistic questions techniques.

- Freewriting. This is simply writing down your thoughts as you have them. Don’t worry about the grammar, style, or punctuation. Just write down what you’re thinking. Also, don’t edit what you write. That comes later.
• Listing. In this technique, write down the words and phrases that come to mind when you think about a certain topic. Topics can include the overall hypothesis for and results of your study, one or more of your major findings or conclusions, or even something you didn’t observe. Don’t be afraid to come up with several lists for one manuscript. It will likely be beneficial in the end.

• Three perspectives. This technique consists of clarifying your thinking about your subject by looking at it from three different angles: a) its detailed description; b) its history, how it has changed, and why; and c) its related concepts, who and what it affects, how others have approached it, and how those other approaches compare with yours.

• Six journalistic questions. You can ask yourself the six questions that a news story must answer: who, what, where, when, why, and how. You can answer these questions about the topic of your study and then use the answers to organize your thoughts for translation into your manuscript.

Ann Kroeker suggests a few other methods of overcoming writer’s block. One is to employ a template containing the structural elements used in biomedical writing (introduction, methods, results, and discussion). Another method is to record your thoughts or a conversation with someone else about the topic you want to write about and transcribe the recording at a later time. In addition, you can be proactive and keep a journal of your thoughts and ideas to draw from when you start writing.

Psychotherapist Barton Goldsmith, PhD, LMFT, proposed a few more general ways to overcome writer’s block. He suggests using a “toolkit” of techniques including those described below to foster creativity and keep from getting bogged down mentally.

• Change your writing routine. This can include writing at a different time of the day or in a different location or environment than what you’re used to.

• Read widely. Reading books and other publications that are not within your usual interests can spark creativity.

• Use writing prompts. These are brief, open-ended questions or statements that can inspire your imagination. Many are available via an online search, or you can just create your own.

• Break the project into smaller tasks. Don’t try to write the entire document at once. Instead, focus on finishing a section or achieving a goal of a certain number of words.

• Make time for physical activity. Getting out in nature, exercising, and engaging in other types of physical activity can reduce stress and help alleviate writer’s block.

• Manage your time. Build in work and rest periods while writing.
Sources


Journal Matching Tools

It can be difficult to know where to submit your article for publication. With thousands of scientific journals available and a competitive publish-or-perish environment, the possibilities can be overwhelming. Fortunately, there are several tools available to help you get started.

One of the best-known is JANE, which stands for “Journal/Author Name Estimator.” Using the site is simple. You highlight and copy the title and abstract from your article and paste it into the large search box on the site. JANE will provide a list of journal titles for you to consider, based partly on data from PubMed. The results are ranked according to a confidence score where the site has attempted to find similar articles based on the entered terms. One of the most helpful features of JANE is that it indicates whether a suggested journal is open access, included in PubMed Central, or indexed in MEDLINE. Journals that are indexed in MEDLINE have met a quality standard that is sought after in the world of scholarly publishing. This status is something you should consider when evaluating where to submit your article.
Another option you have is the “Match Manuscript” feature on Clarivate’s Master Journal List site. Users can filter by open access policy, country or language of publication, publishing frequency, and coverage in the Directory of Open Access Journals and Web of Science. Journal profile pages display even more information, such as PubMed indexing statuses and peer review policy. Note that this feature requires the user to register for a free account on the Clarivate.com site. You can also sign in with an ORCiD account.

Additionally, some publishers have created journal matching sites:

- Elsevier Journal Finder
- SAGE Journal Recommender
- Taylor & Francis Journal Suggester
- Wiley Journal Finder (Beta)

While these sites work in a similar way (by searching for the title, abstract, or important keywords of your article), some of them go beyond JANE or Clarivate’s Master Journal List matcher by providing additional features. Elsevier’s Journal Finder includes useful information such as the journal’s acceptance rate, Article Processing Charges, and time to publication. However, it is important to keep in mind that these sites only list journals from specific publishers, which might not publish a journal that is ideal for your article. Springer Nature does not offer a journal recommending tool, instead suggesting that authors search their journal collection using relevant keywords.

The tools above provide a good starting point for finding journals to publish your article. When making decisions in this area, you always want to consider the characteristics of potentially predatory journals, especially if you have received unsolicited emails offering to publish your research.

If you would like to know more about journal evaluation and selection, contact the Research Medical Library at: RML-help@mdanderson.org.

References

Accessible Use of Color in Images

Did you know that approximately 1 in 12 men and 1 in 200 women are colorblind?1,2 That translates to around 300 million people worldwide.2 To ensure that the images you create are accessible to people who are colorblind, it’s important to use color carefully.

In a study published in 2021, Jambor et al.3 used the free colorblindness simulator Color Oracle (https://colororacle.org/; RRID: SCR_018400) to evaluate whether the color images in 580 cell biology, physiology, and plant science papers were accessible to readers with deuteranopia, which is the most common form of colorblindness and which makes distinguishing between red and green difficult or impossible (Figure 1). The researchers discovered that almost half of the cell biology papers and almost a quarter of the physiology and plant science papers included images inaccessible to these individuals.
Figure 1. An image of colored pencils as seen by a person with normal vision (left) and a person with deuteranopia (right). The image on the right was generated using the Pilestone Color Blind Vision Simulator (https://pilestone.com/pages/color-blindness-simulator-1). Note that whereas both the red pencils and the green pencils in the image on the left appear brown in the image on the right, the magenta pencils in the image on the left appear blue in the image on the right. Thus, in original figures that contain both red and green, replacing red with magenta will help readers who are colorblind perceive two separate colors and also maintain good color contrast for readers with normal vision.

Recommendations for making your images accessible for readers who are colorblind include the following:

- Avoid using green and red together.\(^3\),\(^4\)
- Use colorblind-friendly colors when possible. If only 2 colors are used in an image, magenta and cyan are generally the best colors to use together, as most readers with colorblindness can distinguish between them. However, for images that show the excitation value of fluorescent dyes, consider using magenta and green instead of magenta and cyan. Since the magenta-and-green combination is more similar to the red-and-green coloring normally used in such figures, the magenta-and-green excitation values will be more readily understood by readers with normal vision.\(^3\)
- Consider displaying an image with 3 or more colors in multiple parts. For example, for an image containing red, green, and blue, it would be helpful to show the image with 1) red alone; 2) the red-alone image in grayscale; 3) green alone; 4) the green-alone image in grayscale; 5) blue alone; 6) the blue-alone image in grayscale; and 7) all colors merged. Showing images in grayscale makes the variations in staining intensity easier to see.\(^3\)
• Use a colorblindness simulator (such as Color Oracle, the ImageJ plugin, or the Color Blind Vision Simulator) to ensure that your images are accessible to those who are colorblind.
• Use labels and annotations that readers who are colorblind can distinguish easily. For example, instead of labeling a slide with solid arrows in red and green, consider using a mixture of solid and open arrows in magenta and cyan. Likewise, instead of using only solid or only dashed lines in an image, consider using a mixture of the two.³
• Consider using both patterns and colors to differentiate between the bars in a bar graph.⁴

References


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"Wait on" Or "Wait for"? Here's the Answer You've Been Waiting For!

*Wait on* and *wait for* usually have different meanings, but the two terms are sometimes used interchangeably.

Generally, to *wait on* means to serve someone.

**Examples:**
Hi, I’m Tricia, your server; I’ll be waiting on you this evening.
She would wait on him hand and foot, but he would only complain in return.

In contrast, to *wait for* means “to remain stationary in readiness or expectation [of something].”

**Examples:**
Please wait for her to arrive before you begin the meeting.
She would wait for him there each day.
They had to wait for the blood test results before deciding upon the correct antibiotic to prescribe.

Occasionally, *wait on* can be substituted for *wait for*, typically if the person doing the waiting is annoyed at the prospect of having to do so.

**Examples:**
There they were yet again, waiting on her to arrive so they could begin the meeting.
You can wait on her to get here if you want, but I’m going home.

**Reference**