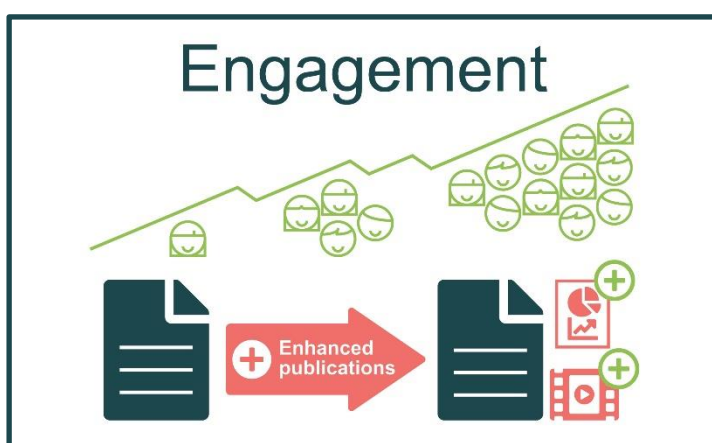


## How can “enhanced publications” improve your research impact?

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As authors, we are operating in a highly competitive environment where **we want our research findings to have the most impact they can**. By impact, we mean getting people’s attention on our research so that we can communicate our findings to them. Traditionally, this has meant attracting readers’ attention by writing clear and effective abstracts for research papers

published in scholarly journals or conference proceedings or posted on preprint servers.

With recent advances in technology and the rise of social media, the scholarly publishing environment is evolving rapidly. To address the change in the way people find and consume scientific content, many scholarly publishers, journals, and academic societies have introduced new ways to disseminate quick snapshots of research works. These so-called “**enhanced publications**” (or “**enhanced content**”) supplement and complement journal and conference papers. They are designed to summarize research outcomes quickly, clearly, and in multiple forms that can attract attention from specialists, non-specialists, and a more general audience via various media routes.

While readers in our specialist field can benefit from reading our research papers, a broader audience may also benefit from learning about our work. Interdisciplinary and cross-disciplinary research is growing, and the general public can more readily access scientific works. Nowadays, we have the chance to reach more people who could be interested in and could benefit from knowing about our work, **but we have to compete hard to get their attention**.



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Creating enhanced content can be a good way to get their attention through different routes and increase the impact of our research.

If you are not familiar with creating enhanced publications yet, and you're not sure whether they would help to increase the impact of your latest paper that you plan to submit, in this featured article we provide brief descriptions of enhanced publications and offer some practical tips on making them.

## What are “enhanced publications” and should you be creating them?

Enhanced publications that support a research paper include a graphical abstract, video abstract, infographic, plain language summary, lay person summary, and even a podcast.

For example, some journals require a graphical abstract that they can share on social media or publish as a cover image to attract attention to the published article, increasing its impact. Other journals require that authors submit a plain language summary so that a broader audience can understand the value of the research. Most commonly though, journals *encourage* authors to provide some form of enhanced content to drive reader engagement and increase research impact.

Because many of these enhanced publications are relatively new, it can be challenging to create effective enhanced content that is both accurate and attractive. We hope that the descriptions of the following enhanced publications and practical tips for creating them are helpful.

- **Graphical (visual) abstracts**
- **Video abstracts**
- **Infographics**
- **Plain language summaries and lay summaries**

## What are graphical abstracts?

A graphical abstract (also called a visual abstract) is a single image that quickly communicates the author's most important message, often the main research finding. You might have come across graphical abstracts in a journal's table of contents or on the journal's social media posts.

Research has shown that the use of graphical abstracts can significantly increase annual engagement with an article. For example, in 2020, a paper in the [\*Journal of Plastic Reconstructive & Aesthetic Surgery\*](#) found that papers that included visual abstracts and infographics could have as many as double the citations as those without such enhanced content.



At a glance, your graphical abstract should be clear and easy to understand but also engaging, driving readers to find out more. When done well, a graphical abstract can help to make research findings more accessible and engaging, leading to increased impact and visibility in the academic community.

## Tips for creating graphical abstracts

Creating an effective graphical abstract requires careful consideration of design elements and a clear understanding of the main message to be conveyed.

1. Before you start, keep in mind any relevant guidelines or requirements from the journal or publication you are submitting to. Some journals may have specific formatting or design guidelines for graphical abstracts, so be sure to review these before creating your graphic. Many authors choose one of their research paper figures as their graphical abstract, but consider whether this would be suitable in your case. Figures are often very specific to a single result. A slightly more general overview of your study and its findings might be better. Also, some journals have stricter requirements for dimensions, typeface, etc., for graphical abstracts than for figures. Other journals do not allow authors to use one of their research paper figures as a graphical abstract.
2. Remember to ask yourself: Who are my readers? Are they specialists, the general scientific community, or the general public? Think about how your graphical abstract will be distributed. For some journals, graphical abstracts are included with the article title and abstract in the table of contents. Other journals use graphical abstracts solely to promote published articles on social media. Knowing who will encounter your graphical abstract, and how they will encounter it, can help you to decide whether or not to use highly technical content.
3. Settle on the general layout of your graphical abstract. Graphical abstracts can be formatted as diagrams or in the style of infographics or comics, depending on your field, audience, and the type of information you need to share. There are many templates and examples readily available, often provided by journal publishers such as [Elsevier](#) and [Cell Press](#) or included in figure creation tools such as [BioRender](#). Another useful resource is [Mind the Graph](#), which offers templates and thousands of scientifically accurate illustrations. Free users must cite Mind the Graph for any generated images, while paid subscribers can freely use them without citation.
4. Focus on a single point, likely your main finding and/or implication to highlight the originality and value of your work.



5. Use colors with intent to convey meaning. Decide on a small number of colors (2 or 3) to use for cohesion and consistency, but don't be afraid to use complementary or contrasting colors to show change or to emphasize a difference.
6. Use a simple flow from top-to-bottom or left-to-right. Your graphical abstract should have a clear start and finish. If needed, arrows can be used to guide the reader's gaze. If you're discussing a cyclical process then you can arrange your graphical abstract as a circular flowchart.
7. Use text sparingly. Remember that your graphical abstract should be immediately understandable. Consider using icons or symbols to represent key concepts or findings, as they can be more visually appealing and easier to understand than text. For example, arrows can be used instead of the words "increase" and "suppress". However, make sure that your icons are clear and unambiguous to an international audience, and avoid using overly complex or abstract symbols.
8. Above all, aim for clarity.
  - Make sure your text is easy to read: Use sans serif typefaces and ensure the font is large enough to read (e.g., will your readers be looking at your graphical abstract on a smartphone)? Do not include unnecessary text effects like shadows.
  - Make use of white space to clearly show separation, groupings, hierarchy, and emphasize important points. Don't aim to fill all the space in your graphic, as this will result in an overly crowded image, diluting your main point.

## What are video abstracts?

As the name suggests, a video abstract is a short video that presents the most important message from your work. Think of a video abstract as a "movie trailer" for your study—clearly state the question your research is meant to answer, what you did, and what your conclusions are, but leave your audience wanting more and eager to read your research in full.

While video abstracts are not yet as commonly required as graphical abstracts are, more and more journals are at least giving authors the option to upload a video along with their submissions. Also, studies have suggested that including a video abstract may result in an increase in citations. For example, [a 2019 article in the journal \*Scientometrics\*](#) found that articles that included a video abstract were cited 1.206 times more often than those without one.



## Tips for creating video abstracts

Many of the considerations for creating graphical abstracts apply here also, especially about who will see the video abstract and where will they access it. However, authors should also bear in mind the following points inherent to the video format.

1. Keep it short and be mindful of journal guidelines. For example, [Taylor & Francis](#) recommends keeping video abstracts within 2 minutes and 20 seconds.
2. Bearing in mind the length of the video, try to “hook” your audience as quickly as possible—within the first 7 seconds if possible, according to [PLOS tips for creating a video abstract](#).
3. Tell a story. Consider formatting your summary as a narrative—start with an image or question, and guide viewers from the research goal to the findings to the conclusions.
4. Include a call-to-action. What should viewers do after they’ve watched your video abstract? Include call-to-action words—encourage viewers to “read” or “download” the article, or “contact” the authors for more information. Give clear instructions for how and where viewers can engage with your research (e.g., by including a direct link to your research article on the journal website).
5. Use visuals instead of text. As with graphical abstracts, try to minimize the use of text in your video, and instead use images, charts, or other visual aids to help explain your work.
6. Use simple language: Avoid jargon (or at least define any highly technical terms needed) and use clear, succinct language aimed at a general audience. Consider whether to use any real-world examples to engage a broader audience.

## What are infographics?

An infographic is a visual representation of information or data that presents complex ideas in a concise and engaging way. Infographics are widely used in marketing and have been shown to [increase website traffic by up to 12%](#). In the context of academic research, they can be powerful tools for disseminating key findings.

Effective infographics make use of images and symbols rather than text to convey information. They should be understandable at a glance and include only the most important details or statistics. Their purpose is to convey important, engaging key information and encourage readers to refer to the full paper.



Infographics are best suited to promoting your study on platforms such as social media, although some journals allow authors to publish them alongside their manuscripts. For example, [Sage Publications](#) gives authors advice for how to prepare and submit infographics for their research.

Studies have shown a clear correlation between the use of infographics and engagement. For example, in [an analysis of infographics and matched research articles](#), it was found that the Altmetric Attention Score, which is a metric of social media attention, was approximately 5 times higher for infographics than the control research articles. In addition, [a 2022 survey](#) of health professionals, researchers, academics, and the general public published in *BMC Medical Education* demonstrated the benefits of infographics, with over 90% reporting the belief that infographics were useful tools for communicating research and for increasing awareness and engagement with studies.

## Tips for creating infographics

1. Create a storyboard. Think of a title that describes the infographic's content. Clearly state the purpose and context of your research, and describe the approach, key findings, and implications.
2. Establish a clear hierarchy or flow. Arrange your information with a clear direction in mind, usually top-to-bottom. Use consistent styling for headers or any text to quickly show equal importance of information or contrasting ideas.
3. Clearly separate ideas or points into groups or sections. Don't be afraid to use multiple "mini infographics" within a single larger image. If your key findings include 3 separate but equally important points, consider dividing these into 3 sections, one on top of the other.
4. Make use of color to convey meaning. Similar items should use the same colors, while contrasting items should use opposite colors. However, be mindful to limit the total number of colors in your infographic to 2 or 3 for clarity.
5. Minimize the use of text and keep it simple.
  - Look for opportunities to replace text with images, icons, or arrows and other symbols.
  - Consider expressing scale or degree with size—a larger icon can imply growth, for example.
  - Where text is necessary, keep it as simple and brief as possible. Often keywords are more useful than full sentences.



6. There are many tools available online for creating infographics, such as [Canva](#) and [Piktochart](#). Mind the Graph also has many [infographic templates](#) available for use.

## What are plain language summaries and lay summaries?

Plain language summaries and lay person summaries are both short summaries of a study written for non-experts in plain, easy-to-understand language. While these terms are often used interchangeably, they are in fact distinct.

Plain language summaries are written for a specific audience—usually people who are not experts in a particular field. The purpose of a plain language summary is to present complex information in a way that is easy to understand and accessible to a wide range of readers.

Lay person summaries are written for the general public. These summaries are typically even shorter and simpler than a plain language summary, and they are often used to convey information about a product, service, or event. Lay person summaries are often used in marketing materials, press releases, and other types of public communication and play a key role in disseminating findings, especially for clinical trials.

Both plain language summaries and lay summaries are useful because they can help people understand complex information quickly and easily. By presenting information in a clear, concise manner, they can help readers make informed decisions and take appropriate action.

Journals across a wide range of fields are increasingly encouraging authors to make their research more accessible to patients and the public via these summaries. For example, Elsevier journals that now promote the inclusion of lay summaries with submissions include *Epilepsy & Behavior Case Reports*, the *International Journal of Paleopathology*, the *Journal of Archaeological Science: Reports*, and the *Journal of Hepatology*.

## Tips for creating plain language summaries and lay summaries

It's important to keep your audience in mind when creating these summaries. Both types of summaries should be written in plain language, avoiding technical jargon or complicated sentence structures that might be difficult for non-experts to understand. It's also important to focus on the most important information, presenting it in a way that is easy to digest.

- For plain language summaries specifically, it's important to include enough detail to convey the main points of the research, but not so much that the summary becomes overwhelming or difficult to read.



- For lay summaries, the summary should be brief and to the point, highlighting the key benefits or features of the product or service being described.

It's important to remember that both types of summaries should be accurate and trustworthy. Summaries that are misleading or incomplete can be confusing or even harmful, so it's important to take care when creating them.

Authors should be mindful of journal limits, particularly regarding length. Many journals and publishers provide guidance and even templates for these summaries, including [Cochrane](#), [Sage Publications](#), and [Elsevier](#). In addition, consider looking at other published examples, such as lay summaries in [various Sage journals](#).

These summaries should be concise, easy to understand, accurate, and trustworthy. Balancing these aspects is crucial. Authors should consider the following key points, which apply to both plain language summaries and lay summaries.

1. The summary should be easy to understand but without oversimplifying the key points, which could potentially mislead the readers. Remember that readers may have different levels of English proficiency, so do not use overly complicated vocabulary and grammar. The readers should focus on the scientific message and not on the language in which it was written.
2. The summary should be concise. Work within journal limits and bear in mind how readers will access it. Describe key aspects of the study, such as its purpose, why it was conducted, the methods used, the results, and (if appropriate) the researchers and their background.
3. The summary should be free of jargon. Related to point 1 above, plain language summaries, and especially lay summaries, should be written in simple language—think of this as a conversation between the researcher and the reader. If technical terms are necessary or helpful to use, then explain them as clearly and simply as possible.
4. Your summary should be relevant. Provide context about the study and describe its impact on the field. Who will read the summary: how will your work interest them and what value can they get from reading the summary?

## Summary

It is likely that the popularity of enhanced publications to increase research impact will continue to grow, as we all compete for readers' (or listeners') attention. We hope that this article can help you decide whether it is worthwhile to create an enhanced publication to complement and supplement your research paper and also how to create it.







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We already support many authors in conceiving, making, and/or editing or translating enhanced content, so if you have any questions or need guidance creating these, [our subject-specialists here at ThinkSCIENCE](#) are happy to help.

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