



# An Insider's Insight into Amazing Abstracts

Do you need to write an abstract? Don't panic! An abstract is simply a short, standalone, easy-to-follow overview of your work. A well-written abstract facilitates understanding of the main thrust of your research and allows readers to decide quickly whether they want to delve further.

Abstracts are not all created equal; writing abstracts that are technically-sound is relatively easy, writing amazing abstracts is not as straightforward. We provide here some insights from the Niche medical writing team who have been writing amazing abstracts since 1998.

## Before you start

The abstract will be the one aspect of your work that most readers see; it is your one chance to impress – make the most of it

Your abstract will be accessible online forever – strive to produce work that you will still be proud of in years to come

Identify and emulate memorable features of winning abstracts

## Prepare to succeed

Write a first draft that contains all that you feel is necessary to summarise the main thrust of your research

Cut the text to only the essential components of your underlying finding or message

Give yourself time to produce your best work. Edit ruthlessly; polish your document until it shines

## Key Insights

Understanding how abstracts evolved may give you a better perspective on their construction, purpose and value. Aristotle's *Art of Rhetoric*, a singular document for its time [1], provided the earliest systematic analysis of persuasive argument and included its own style guide, which emphasised clarity, elegance and subject-suitability. However, for many centuries after access to the philosophical musings of the cognati became somewhat restricted. Dissemination of scientific learning occurred mainly by word of mouth, delivered by learned scholars as they moved from one patron to another. Following the explosion of interest in the natural sciences at the end of the 1700's, clearing houses began to publish and distribute digests of what was new in science that effectively abstracted the findings of increasing number of scholars and inventions.

These were forerunners of the first scientific journals, and as their purpose evolved their number increased from several dozen in the 17<sup>th</sup> century, to hundreds in the 18<sup>th</sup> and several thousands in the 19<sup>th</sup> century. Today, there are tens of thousands of journals. Over this time scientific reporting and dissemination has also undergone a metamorphosis. With an exponential growth in the scientific reporting of activities, abstracting the work of scholars became a singular profession.

However, it became harder and harder for digests to keep up with the rate of discovery. Eventually, authors saw the benefit of preparing their own abstracts, developing summaries that would speed up the process of dissemination and be more likely to show an author's work in its best light. And so the place of the abstract in composition of the modern manuscript was born [2].

*"I didn't have time to write a short letter."*

Mark Twain  
(1835 – 1910)

*"Brevity is the soul of wit."*

William  
Shakespeare  
Hamlet  
Act -2, Scene2, 86-92



"Harry's abstract wasn't so bad. After the third sentence, my spirit left my body and went to the beach!"

# Four steps to an Amazing Abstract

When you start on the road to creating your amazing abstract, we assume that you have consulted one of the authoritative guides, such as Abstracts and the Writing of Abstracts [3], on the technical aspects of abstract writing. We also assume that you have researched your target and so have a clear understanding of the required structure, word limit and format/ style you are expected to follow. Building on these assumptions, we advise authors to give themselves sufficient opportunity to emphasise their findings by isolating key messages, eliminating minutiae and refining their conclusion.

## Step 1: Walking backwards

Do you read journal articles in their entirety, or do you find that the abstract suffices in most cases? If you favour abstracts, you're in good company. One survey has reported readers accessing little more than the abstract in 63% of articles they download [4]. This only serves to underline our earlier observation that your abstract is the single most important marketing tool for your work. You might also consider the hundreds of abstracts often recovered during the course of a single online literature search session. Where trawling through the mass of references that often emerge from ill-conceived search strategies, researchers have little choice but to discard abstracts based on the title, possibly stretching other considerations to the first (introductory) and last sentences (conclusion). You should construct your abstract with this in mind.

We suggest writing a first draft of the document — one that contains all the things you feel you need to include and want to say. Then, by walking backwards through the document, you should be able to 'distil' the meaning of your work into a 'key message' — the protagonist of your story. Next, identify the essential supporting characters to convey your message and arrange them for maximum impact in that:

- a) You have an apt and appropriate title (see 'What's in a name?')
- b) The first sentence describes the setting (then check whether the first sentence of the abstract and the concluding sentence(s) run together smoothly, if you delete the rest of the text)
- c) The last 1–2 sentences of your abstract state the key findings (and possibly your interpretations)
- d) Revisit bullet points 'b' and 'c' again and again

## Telling a story

As the role of the abstract has matured and expanded beyond its initial niche function, a myriad of useful guidelines on how best to write them have been published. However useful and informative these may be, authors should not lose sight of the single most important concept — your abstract must tell a story.

Gerald Weissmann, an American physician/scientist, essayist and a past Editor-in-Chief of the FASEB Journal once said, 'abstracts must evoke an emotional as well as an intellectual response' [5]. An abstract's story, like any other, should include a beginning, a middle and an end. Some authors have credited the storytelling approach as being essential in establishing a clear, concise and memorable message as well as providing a stimulus to readers for further contemplation [6].

In recounting their tale, authors must deal with the issue of word limit, perhaps the single biggest challenge associated with abstract writing. In your quest to write amazing abstracts, authors can learn much from Japanese 'haiku,' which defy the impossible — capturing an entire story in 17 syllables.

*"O snail,  
Climb Mt. Fuji,  
But slowly, slowly!"*

Kobayashi Issa  
(1772 – 1858)

## Step 2: Hitting the target

Adapt your draft document to fit the audience, or risk your message missing its mark altogether. A recent review of 795 articles found that only 12.5% addressed their target audience [7]. Abstracts intended for a grant committee or PhD admission board will contain neither results nor conclusions. As all members of the committee or board will review the abstract, but some may not be experts in the field, it must be in clear language, devoid of jargon, with any abbreviations clearly defined.

Your abstract should include background information and hypothesis, the rationale for the proposed work, objectives and endpoints and research methods. There may not be a word limit, but it is usual for these abstracts to be restricted to a single page. A clear demonstration of how your study design will answer the questions posed in the hypothesis, how you arrived at the sample size and statements detailing the achievability of recruitment targets, design feasibility, justification for the budget and expected timelines will strengthen the impact of the abstract.

Abstracts intended for the public must communicate with an audience drawn from a wide cross-section of society. Most likely they will differ in age, scientific interest and educational achievement as well as understanding. It is for this audience — more than any other — that your narrative skills must come to the fore. An abstract that tells a story and perhaps incorporates a more visual approach to the structure holds appeal for, and is better suited to, delivering research results to this audience. Help the man-in-the-street to understand the personal relevance of your work. In this setting, a fun title can draw attention to your abstract and may be quite appropriate, as the expectations of this group are likely to be different from readers of scientific papers (see 'What's in a name').

### To yourself be true

When polishing your abstract and adopting changes suggested by kindly reviewers, be careful what changes you make.

A study examined differences between 71 abstracts for poster presentations and their corresponding full-length articles in peer-reviewed journals. Differences were categorised as either major or minor. Major differences included changes to the study aims, methods, statistical analyses, results and conclusions. Forty-six (65%) of the abstracts had at least one major variation and approximately one third sported what appeared to be changes in statistical significances reported for study results as well as conclusions that deviated from the corresponding article [8].

## Writing for Posterity

Personal computers, internet access, online databases and ready retrieval systems mean that anyone can and will find and read your abstract. Long after your symposia posters have been forgotten and the scientific contribution of your beautifully constructed manuscript buried by time, the abstracts will remain findable and available for reading (forever?).

It is likely that they will continue to emerge from carefully constructed and broadly executed search strategies submitted to online databases for decades to come — perhaps even longer. As such, they will form a major aspect of your scientific legacy, available for scrutiny and comparison long after you have stopped active research.

In the words of Jorge Luis Borges, 'when writers die they become books.' Through our abstracts, we will live on; shouldn't your digital legacy be amazing? Write for the future, write clearly, tell the story. Adopt the position of Rupert Grave's Emperor Claudius (c. 41–54 AD), who, believing that his secret memoirs would be rediscovered far in the distant future, wrote in a fashion that the believed posterity would best understand.

*"I will not go down to posterity talking bad grammar."*

Benjamin Disraeli  
(1804 – 1881)

## Step 3: Ockham's razor

To quote William of Ockham, whose name is synonymous with the principle of parsimony, 'it is vain to do with more what can be done with less.' Centuries later, Allen Ginsberg had much the same advice for fledgling authors: kill your darlings. Having written the first draft of the abstract and aligned it with your target audience, it is now time to undertake the most difficult part of the process.

In the business of writing an amazing abstract, less really is more (assuming a certain level of skill). Focus on distilling the work down to the most important findings, achieving the word count while including sufficient original data to communicate your message. Include key information about the study in the title to save on precious space [9,10]. Write each sentence so as to convey maximum impact.

Abstracts intended for the public must satisfy an audience drawn from a wide cross-section of society. Most likely they will differ in age, scientific interest and educational achievement and understanding. It is for this audience — more than any other — that your narrative skills must come to the fore. An abstract that tells a story and incorporates a more visual approach into the structure holds appeal for, and is better suited to, delivering research results to a wider audience. Help the man-in-the-street to find the personal relevance of your work. In this setting, a fun title can draw attention to your abstract and may be quite appropriate, as the expectations of this group are likely to be different from readers of scientific papers.

## Step 4 Diamond in the rough

Review your document once more and polish the content until it outshines all your expectations. To do this, authors follow the ABC for and strive to be:

- Articulate – deliver the salient points succinctly and devoid of jargon
- Brief – show restraint in presenting your information
- Careful – double check your data, statistical analyses and conclusions

Ask a colleague to check your work. Abstracts are, by their very nature, short — it shouldn't be too onerous for colleagues to critique your work. Even if you decide not to incorporate all their comments, another pair of eyes may spot an overlooked typographical error.

If time permits, revisit the abstract after a few days. This gives you the distance needed to evaluate your abstract objectively. Ask yourself whether someone from outside your field would be able to derive and understand your take-home message, or have you 'cloaked' your work in language that only fellow pundits would understand?

### Positively positive

The enthusiasm we often have for our findings has increased by leaps and bounds over the last four decades. A retrospective study analysed the annual frequencies of positive, negative and neutral words in scientific abstracts published between 1974 and 2014.

The absolute frequency of positive words increased from a mean of 2.0 to 17.5% (a relative increase of 880%), particularly on the strength of words such as 'robust,' 'novel,' 'innovative' and 'unprecedented.' By comparison, negative word frequencies increased from 1.3 to 3.2% (a relative increase of 257%) over the same period.

These findings were noticeably less pronounced in journals with higher impact factors. There was no apparent increase in neutral word use or in the frequency of positive word use in published books (thus excluding general language tendencies as an explanatory factor) [11]. Keep it real. As much as you may be tempted to extol your results, you should practise sober reporting; it will be much appreciated by editors and peers alike.

# An interview with our Managing Director

**Q** What is the most challenging aspect of writing an abstract?

**A** Telling a story in a clear and concise way while fitting only the most important and relevant information in a small space. This involves choosing carefully the appropriate words that correctly and concisely convey your key message.

**Q** Do you have any advice for authors?

**A** Give yourself plenty of time; the low word count might lull you into thinking that it is something that can be accomplished quickly; don't be fooled! Always consider the target audience. Ask colleagues who belong to the intended audience to review your abstract; welcome any advice and comments you receive. You don't have to tell them if you don't include all their suggestions.

**Q** Why would a writer go to the effort of creating a truly amazing abstract rather than simply being satisfied with a technically sound abstract?

**A** Writing abstracts can be fun and when you get it right, success is its own reward giving you a great feeling of satisfaction. This is one arena where an experienced writer can demonstrate the mastery of their discipline.

**Q** What is it that differentiates a technically sound abstract from an amazing abstract?

**A** I can only reemphasise the importance of the story. Amazing abstracts grab the reader and make it easy for them to read it from beginning to end. However, a well-conducted study that presents interesting data and tenable conclusions is a good starting point! If the syntax hampers a reader's smooth progress through the content, then your abstract will reside only in 'technically-sound' territory.

## What's in a name?

The topic of titles has been hotly debated — short or long, funny or dull? Which is best? Abstracts for full papers will naturally adopt the paper's title and will mostly likely conform to the journal's rules or at least confirm to the editors approval or that of the referees appointed by the editor. In contrast, if the abstract is for a poster display, engaging the community or grant proposal submission, an original, modestly humorous or contentious title may well form an integral part of a winning strategy. Your choice of title must then depend on the eventual purpose of the abstract — authors ignore this at your folly.

In the 2015 Christmas issue of British Medical Journal, a paper by Gornitzki et al analysed the use of Bob Dylan lyrics in scientific papers. The most cited song was 'The Times They are a-Changin'' — a favourite for editorials. Based on standard citation scores, however, 'Dylan' articles were cited slightly less frequently than other similar articles with less witty titles [12].

The effect of using humour in scientific titles has also been studied. An analysis of 1009 titles in psychology journals revealed that although humorous titles such as The unicorn, the normal curve, and other improbable creatures increased the fun factor, it's inclusion seemed to diminish the perceived seriousness of the content and reputation of the author [13]. It should be noted that none of these studies determined what effect, if any, jovial titles had on acute dissemination and the reach they enjoyed in the scientific community (number of 'hits' the papers received).

# And finally...

In summarising (LoL), the strategy is to identify the primary issues of why and how the work was done, the pertinent results and the potential implications. When coupled with clear, direct communication, strict adherence to format requirements and careful proofreading you increase your likelihood of producing an amazing abstract.

## References

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## Next Steps

Remember, an abstract is a vehicle for communicating the most important aspect of your work in a logical and acceptable format and style. This constraint will exercise your skill in identifying the most important elements, and in so doing will clarify your thinking about the entire study. We have presented a stepwise approach based on our own experience and support it with evidence from the literature. We have also provided some of our trade secrets on what distinguishes an ordinary summary from the extraordinary.

If you find our text a little heavy going, you could always try the blog by Hilda Bastian from the 2014 Scientific American that gives a little more light hearted review of the subject [14].

Like many things, writing an amazing abstract takes practice; you must not shy away from the challenge, but rather seize every opportunity to submit abstracts. And as we often say here at Niche:

*Don't publish in rhyme:  
You may not have time.  
Follow the rules with our tools!*

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