Writing an abstract for a scientific conference

GC Boersema iD

Department of Health Studies, University of South Africa, South Africa

Corresponding author, email: eboergc@unisa.ac.za

An abstract is a concise summary of a research project. A good abstract should be enticing yet reflect the scientific rigour of the research project. This paper provides a seven-step guide towards writing a good abstract for a scientific conference.

Introduction

The purpose of presenting a paper (poster or oral format) at a scientific conference is to share research data with a target audience. Dissemination of research is of importance to improve evidence-based practice but also to elicit discussions among peers and stimulate growth within the profession. A conference is a good platform to receive feedback on the presented research and to network or even create collaborations with peers and experts in the field of study. Researchers are expected to submit an abstract to the conference organisers months in advance of the conference. The abstracts then go through a selection process to be accepted or rejected.

A peer-review selection process (often double-blinded) is used to select the abstracts most relevant to the conference theme, those that capture attention and those that align to current trends. Double-blinded means that the researchers won't know the reviewers' names and the reviewers won't know the researchers' names. The reviewers also judge the rigours of the research design reflected in the abstract since the image of the scientific conference is at stake. Presentation of poor research should be avoided at all costs at a scientific conference.

The abstract should therefore be correctly pitched to capture attention and to report all the necessary elements of the research design. This paper aims to give guidance to junior researchers on how to write a good abstract. Before proceeding to the steps on writing an abstract, this paper will briefly explain what a scientific conference is.

A scientific conference

A scientific conference (or academic conference) is a formal meeting of people (not limited to academics) to share their research. A conference can be on a small scale with about twenty to thirty specialists or on a large scale with thousands of delegates. Conferences can be national or international events. Some conferences are once-off events, some are annual or biennial and some are held every four years. Delegates need to register months in advance and all receive an abstract booklet with the programme closer to the conference date. The abstract booklet is an inventory of all the oral and poster presentations.[1] The work presented at a conference can be bundled and published as the conference proceedings that are also counted as publications.

The daily programme of various conferences differs but usually consists of plenary lectures and seminars. Plenary lectures are presented by distinguished scientists invited to present a key topic of interest. Plenary sessions are usually attended by all delegates. Seminars are a series of smaller lectures of about 20–45 minutes on specific topics presented by experts in the field.[1] Seminars are sometimes presented in parallel sessions to allow delegates to attend the ones they are most interested in.

Some conferences offer the option to choose between a poster or oral presentation format. Oral presentations are usually limited to 10 minutes. Posters are displayed in a specific room with time slots allocated to researchers to showcase their work. It is usually expected of poster presenters to deliver a concise oral defence of their posters. During virtual conferences, a pre-recorded audio clip is attached to each poster, to replace this defence. A link can be created to a break-away virtual room where delegates can meet the presenter if they wish to do so.

The COVID-19 pandemic changed many aspects of our lives and also changed the way in which conferences are hosted. Many conferences in 2020 were changed to a virtual mode of delivery. The virtual mode of delivery may become more common and popular in future if experienced positively. Several conferences in 2021 will be hosted in a hybrid format meaning that they can be attended either in person or virtually through an online platform. Virtual conferences have several advantages (e.g. ease of access, lower costs, etc) but face-to-face networking is compromised. Networking is, however, still very possible through individual online breakaway sessions between delegates and presenters. Virtual conferences are also supported by additional social media platforms such as Twitter, Inc. (San Francisco) which allows delegates to comment on the various conference sessions.

There are many different types of conferences where a certain research study can be presented. These include, but are not limited to, disease-focused conferences (e.g. wound care or diabetic care); research

methodology-focused conferences (e.g. implementation science or mixed method designs); health system conferences (e.g. improving service delivery or primary health). Researchers need to choose the conference that will best satisfy their needs for growth and networking at that point in time.

How to write a good abstract

It is important to recognise that a presentation at a scientific conference usually occurs after completion of a research project and that the abstract structure represents the logical flow of the research project. One should not be tempted to promise results when they are not yet available.[2] However, some conferences allow upcoming research to be presented as research protocols, or experts to submit an abstract of a panel presentation or round table discussion. The call for abstracts will stipulate the specific requirements for each abstract type and conference organisers often provide an abstract template with the prescribed structure.

Abstracts are often written casually or in a rush just before the submission date. Abstracts should, however, give the best obtainable picture of what the research project entails and should be a written piece independent of the full-text paper.

Conference abstracts have three functions. The first is to convince the conference organisers that the presentation is relevant and worth accepting. The second is to convince the delegates to attend the presentation (which is usually presented during parallel sessions). The third function is that the abstract becomes a permanent record in the published programme.[2]

The following steps can assist junior researchers to write a good abstract:

Step 1. Identify the submission date

First of all, read the instructions in the conference call for abstracts thoroughly and identify the submission date. It is likely that your abstract will be rejected if you do not follow the prescribed guidelines.

Step 2. Align to the conference theme

It is important to identify how your research data aligns to the conference theme and a specific sub-theme or stream. The conference could, for example, have a theme, "enhancing collaboration in wound care" but have a number of streams such as "lower leg ulcers," "diabetic foot ulcers" and more. You might want to hint at this alignment in the abstract's introduction or conclusion. Conference themes are usually broad enough to allow a variety of topics. However, if your research does not fit, that specific conference may not be the best option for it to be presented.

You may need to look at your work from a different angle to identify the alignment, but this can be a good experience to broaden your perspective on the potential of the research data. If you feel uncertain, discuss it with your peers. They may help you to perceive it differently. You may also choose to present only a certain relevant section of the research data.

Step 3. Plan the structure of the abstract

There are three types of abstracts, each with its own structure: research-based (empirical studies), programme-based and round-table discussion-based. The abstracts for round-table discussion are usually less structured.[2]

This paper describes the structure and components of the research-based abstract. However, the instructions in the call for abstracts remains most important to follow.

The structure of a research-based abstract is:

- *Introduction/background*
  The background section needs to indicate the problem or research gap that was identified by the study and the reason why the problem should be addressed. If you have enough words left, you can also indicate the significance of the study (the reason why the results could be of benefit) and link this to the conference theme.

- *Methods*
  The methods sections should include a description of the following:
    - Aim/objectives/research question/s of the study (the instructions will indicate if this should be part of the background section and not part of the methods section).
    - Research design (e.g. case studies, randomised control trials, systematic review).
    - Population characteristics.
    - Sample size.
    - Method of data collection (e.g. surveys, interviews, observation, etc).
    - Method of data analysis.

- *Results*
  Focus on the results of relevance to answer the research question; the bottom-line findings or new facts found. Report the level of significance (p-value) and number of responses ($n = ...$) where relevant for quantitative designs.
  You may also want to report the most relevant demographic characteristics of the participants. The demographic characteristics are usually reported before the findings.

- *Conclusion and recommendations*
  This section is very important since it is the 'take-home' message for the reader. Provide a succinct conclusion on how the research data and final answer to the research question can be used by the target audience at the conference. You can also indicate gaps for future research and indicate limitations to the study.

Programme-based abstracts usually consist of the issues, descriptions, lessons learnt and recommendations.[2] Programme-based studies could be studies that explain how evidence-based research was incorporated into routine practice within a given context. It is of essence to clearly report the context (setting) and the strategies so that others can learn what worked for whom and under which circumstances.[3]

You may also be required to report or submit the ethics approval number. This may seem like semantics but is essential to prove that the study protocol underwent ethical review and received clearance. The Department of Health (DOH) stipulates that according to the National Health Act 61 of 2003, all research studies involving human participants

should apply for ethical clearance from a research ethics committee registered with the National Health Research Ethics Council.[4] Protocols for research studies that do not involve human participants (e.g. systematic review of the literature) should also apply for exemption from ethical clearance from a registered research ethics committee. An expedited review process is usually followed. This has historically not been a requirement but is more and more supported both nationally and internationally.

Step 4. Writing the first draft

Writing the main points for each component in the abstract in bullet format may help you to focus on what you want to say.[2] Remember that a word limit applies. An abstract is usually not more than 200 to 350 words.[2] Read the instructions carefully to identify the required word count and whether the word count includes or excludes the title and headings of the abstract. A few more words can make a significant difference.

A word limitation is perhaps the most challenging part of writing an abstract since you need to summarise the entire research project in a succinct manner. You will probably have to rewrite the abstract a few times before you reach the required word count.

Ask yourself the following questions when writing the main points:

- Who are the target audience and what will interest them? Are they all healthcare professionals or also members from the community? Are they researchers or practitioners? Are they international or national?
- How can I make the message clear? What is the alignment/golden thread between the research question, objectives, results and conclusion/recommendations?
- Am I describing the research in such a manner that the reader will get a clear picture of why the research was conducted and why the results are important?
- Who was involved with the project, what was done, when and how?

Step 5. Write the final version

Transform the bullets into sentences that read easily. Each sentence should flow into the next. Avoid the use of jargon and double-check for any spelling mistakes. Make sure that 'ordinary words' do not have a double meaning.

If you struggle to stay within the word limit, identify sentences that can be rephrased in a more concise manner and remove phrases that are not crucial to the portrayal of the main message. Phrases such as 'the …sets out to prove…' or 'section … shows….' can be removed.[5] The abstract should be written in the present tense (except if it is a research protocol) with clear and to-the-point sentences. It is always a good idea to ask a peer to read the abstract.

Step 6. Provide a title

The title should be descriptive of the content, yet intriguing. However, try not to be too creative with the title since it should still describe the main topic. The title should also be specific enough and refer to the specific study population. The terminology used in the title should repeat itself in the abstract.

The title should not be too long but also not too short. The length of the title is usually prescribed in the instructions. A general guideline is 10 to 12 words.

Step 7. Double-check before submission

Simkhada et al. provides a number of questions that can be used as a checklist before submission.[2] These include:

"Could people from other fields of study understand it?"

"Does it give a sense that someone will get more from the presentation than from just reading the research paper?"

"Is it clear and concise?"

"Have acronyms been explained?"

"Is there too much introductory material/material that sets the context?"

"Has someone checked it over to ensure it is free of grammatical errors, spelling errors and awkward sentence structure, and that it is factually correct?"

"Does the abstract meet the technical requirements? Have the conference's word limits and other guidelines (such as font size, spacing and margins) been absolutely respected?"

Summary

This paper provides guidance to maximise junior researchers' chances of success when submitting a conference abstract. The main aspects discussed are: the abstract is to be relevant to the conference theme and must strictly adhere to the provided instructions; the abstract must be written well and comprehensively, yet be concise at the same time; the abstract must not be written in the future tense and must create a descriptive yet interesting title. The abstract is 'selling' the presentation and should create interest for the reader, resulting in them wanting to attend the presentation.

In addition to the conference presentation, the researcher should aim to publish the research data in a peer-reviewed journal (and preferably in a journal accredited by the Department of Higher Education and Training). Dissemination of research evidence is critical to enhance evidence-based care and contribute to the body of knowledge and evidence generated in Africa.

Conflict of interest

The author declares no conflict of interest.

ORCID

GC Boersema https://orcid.org/0000-0001-5091-7333

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