

ARTICLE INFO

Submitted: 14-05-2018

Accepted: 31-05-2018

Online: 29-06-2018

ABC of Manuscript Writing

Muhamad Saiful Bahri Yusoff

*Department of Medical Education, School of Medical Sciences,
Universiti Sains Malaysia, Kelantan, MALAYSIA*

To cite this article: Yusoff MSB. ABC of manuscript writing. *Education in Medicine Journal*. 2018;10(2):61–67. <https://doi.org/10.21315/eimj2018.10.2.8>

To link to this article: <https://doi.org/10.21315/eimj2018.10.2.8>

ABSTRACT

This paper describes a systematic and practical guide on manuscript writing. A step-by-step approach as easy as learning ABC to facilitate authors to plan their manuscript writing. Research has shown that experienced writers plan extensively, in which a writing plan is a road map, without it we will probably lose our way in circles. Generally, authors start writing a manuscript by introduction, methods, results, discussion and conclusion. However, this paper proposes a different approach to start writing a manuscript based on the ABC of manuscript writing worksheet.

Keywords: *Manuscript writing, ABC of manuscript writing workshop*

CORRESPONDING AUTHOR

Dr. Muhamad Saiful Bahri Yusoff, Department of Medical Education, School of Medical Sciences, Universiti Sains Malaysia, 16150 Kota Bharu, Kelantan, Malaysia | Email: msaiful_bahri@usm.my

BACKGROUND

Manuscript writing is a challenging task to any writers, particular to the beginners, because it requires writing stamina, writing commitment, and reflective and mindful writing. Research has shown that experienced writers plan extensively, in which a writing plan is a road map, without it we will probably lose our way in circles (1). The writing stamina involves a lot of planning, overcome writers' block and being regular. Writing commitment requires authors to keep track and notes, and having true understanding on the iterative process of writing. The reflective and mindful writing requires writers to read their own writing, stand back from writing, and talk about their writing with others. This paper describes seven practical steps that systematically guide authors to write a quality manuscript to journals in the

following order; outcomes, methods, results, introduction, discussions, conclusion, abstract, and title. The seven steps were summarised in Table 1 and named as the ABC of manuscript writing worksheet. The details of the seven steps were elaborated in the subsequent sections.

STEP 1: OUTCOMES

In manuscript writing, the writing purpose must be clearly thought prior to start writing a manuscript (2). Selecting suitable outcomes to be written in a manuscript is important and central to produce a good manuscript. The outcomes must be important, relevant to audience, demonstrable, specific, and understandable. Furthermore, introduction, methods, results, discussions, and conclusion must be aligned with the selected outcomes as illustrated in Figure 1.

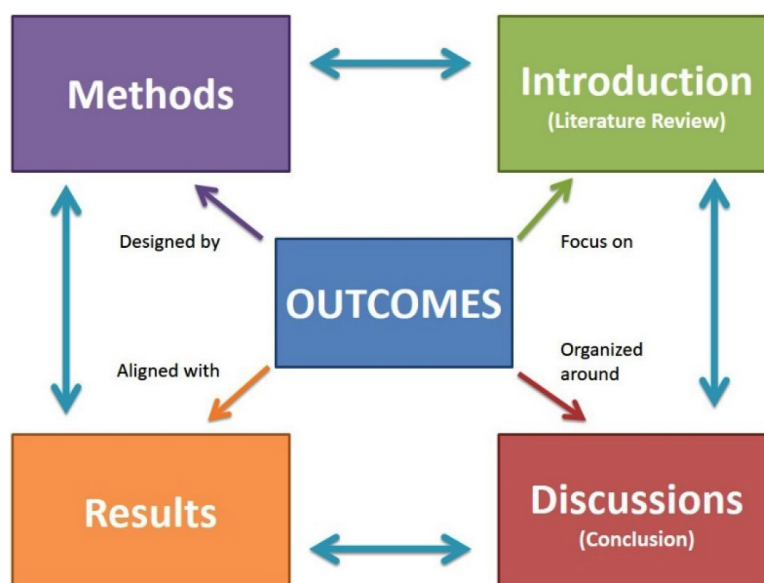


Figure 1: The outcome-based manuscript writing.

STEP 2: METHODS

In the methods section of a manuscript, writers give an account of how they carried out their research. This section should be clear and detailed enough for another researcher to repeat the research and reproduce the results. Where the methods chosen are new, unfamiliar or perhaps even controversial, or where the intended audience is from many disciplines, this section will tend to be much more extensive. Typical stretches of text found in this section of a research article along with examples of the kind of language used for these are written in the simple past tense and are passive (1, 3).

STEP 3: RESULTS

The standard approach to this section of a research article is to present and describe the results in a systematic and detailed way. In quantitative studies, the results section is likely to consist of tables and figures, and writers comment on the significant data shown in these. This often takes the form of the location or summary statement, which identifies the table or figure and indicates its content, and a highlighting statement or

statements, which point out and describe the relevant or significant data. All tables and figures should be numbered and given a title. When reporting qualitative results, the researcher will highlight and comment on the themes that emerge from the analysis. These comments will often be illustrated with excerpts from the raw data. In text based studies, this may comprise quotations from the primary sources. More elaborate commentary on the results is normally restricted to the discussion section. In research articles, however, authors may comment extensively on their results as they are presented, and it is not uncommon for the results section to be combined with the Discussion section under the heading: Results and Discussion (1).

STEP 4: INTRODUCTION

There are many ways to introduce an academic paper. Most academic writers, however, appear to do one or more of the following in their introductions (1, 2, 4, 5):

1. Establishing the context, background and/or importance of the topic
2. Giving a brief synopsis of the relevant literature

3. Highlighting the inadequacy of previous research
4. Indicating a problem, controversy or a knowledge gap in the field of study
5. State the purpose of the piece of writing
6. Establishing the desirability of the research
7. Listing the research questions or hypotheses
8. Providing a synopsis of the research method(s)
9. Explaining the significance or value of the study
10. Defining certain key terms
11. Explaining reasons for the writer's personal interest in the topic
12. Provide an overview of the coverage and/or structure of the writing

A number of analysts have identified common patterns in the introductions of research articles. One of the best known is the CARS model (create a research space) and the details of CARS model is summarised in Table 1 (2, 5, 6). This model, which utilises an ecological metaphor, has, in its simplest form, three elements or moves:

1. Establishing a research territory
 - a. Show that the general research area is important, central, interesting, and problematic in some way
 - b. Introduce and review items of previous research in the area
2. Finding a niche
 - a. Indicate a gap in the previous research, or
 - b. Extend previous knowledge in some way

3. Occupying the niche
 - a. Outline purposes or state the nature of the present research
 - b. List research questions or hypotheses
 - c. Announce principle findings
 - d. State the value of the present research
 - e. Indicate the structure of the research paper

One of the distinguishing features of academic writing is that it is informed by what is already known, what work has been done before, and/or what ideas and models have already been developed (1, 2, 4, 5). Thus, in academic texts, writers frequently make reference to other studies and to the work of other authors. It is important that writers guide their readers through this literature.

A note on the literature review (1, 2, 4): It is the purpose of the literature review section of a paper to show the reader, in a systematic way, what is already known about the research topic as a whole, and to outline the key ideas and theories that help us to understand this. As well as being systematic, the review should be evaluative and critical of the studies or ideas which are relevant to the current work. For example, you may think a particular study did not investigate some important aspect of the area you are researching, that the author(s) failed to notice a weakness in their methods, or that their conclusion is not well-supported.

A note on verb tenses (3): For general reference to the literature, the present perfect tense (have/has + verb participle) tends to be used. For reference to specific studies carried out in the past, the simple past tense is most commonly used. This is normally the case where a specific date or point in time in the past forms a part of the sentence. When referring to the words or ideas of writers, the present tense is often used if the ideas are still relevant, even if the author is no longer alive.

STEP 5: DISCUSSION

The term “discussion” has a variety of meanings in English. In academic writing, however, it usually refers to two types of activity (1, 2): a) considering both sides of an issue, or question before reaching a conclusion; b) considering the results of research and the implications of these. Discussion sections in research articles are probably the most complex sections in terms of their elements. They are normally centred on a “statement of result” or an important “finding”. As there is usually more than one result, discussion sections are often structured into a series of discussion cycles. The following is a technique that the author personally learned through experience to discuss in a manuscript:

1. First, summarise the result that you want to discuss;
2. Second, compare our findings with findings from other studies (similarities and differences);
3. Third, provide our postulation and assumption that explains our findings;
4. Fourth, provide evidence from the literature that supports our postulation/assumption;
5. Fifth, state the limitations, weaknesses, and assumptions of your study; and
6. Lastly, indicate the importance of the work by stating applications, recommendations, and implications

STEP 6: CONCLUSION

Conclusions are shorter sections of academic texts which usually serve two functions. The first is to summarise and bring together the main areas covered in the writing, which might be called “looking back”; and the second is to give a final comment or judgement on this (1). The final comment may also include making suggestions for improvement and speculating on future directions.

In research papers, conclusions tend to be more complex and will also include sections on the significance of the findings and on recommendations for future work (1, 2). In some research papers, the conclusion is integrated in the discussion section; the two sections may be combined. However, separate conclusions are nearly always expected for research papers.

STEP 7: ABSTRACT AND TITLE

An abstract is a short statement that describes a much longer piece of writing. Abstract for research papers should provide the reader with a quick overview of the entire study. Abstract written for a manuscript typically contains the following elements (1, 7, 8):

1. Importance of the topic and/or reference to the current literature and/or identification of a knowledge gap
2. **Aim(s) of the current study**
3. Indication of the methods used
4. **Statement of the key finding(s)**
5. Implications of the findings and/or value of the current study

Of all the elements listed above, only the “aims of the current study” and the “statement of key findings” appear to be obligatory and so these appear here in bold. Note that all except the last two may also be found in the introductory section of a research paper. The last two are normally found in the discussion and conclusion sections.

Journal websites and search engines use the words in research paper titles to categorise and display articles to interested readers, while readers use the title as the first step to determining whether or not to read an article. This is why it is important to write a good title for a research paper. Good research paper titles (typically 10–12 words long) use descriptive terms and phrases that accurately highlight the core content

of the paper (7, 8). The following should be considered:

1. **Keep it simple, brief and attractive:**

The primary function of a title is to provide a precise summary of the paper's content. So keep the title brief and clear. Use active verbs instead of complex noun-based phrases, and avoid unnecessary details. Moreover, a good title for a research paper is typically around 10 to 12 words long. A lengthy title may seem unfocused and take the readers' attention away from an important point.

2. **Use appropriate descriptive words:** A good research paper title should contain key words used in the manuscript and should define the nature of the study. Think about terms people would use to search for your study and include them in your title.

3. **Avoid abbreviations and jargon:** Known abbreviations such as AIDS, NATO, and so on can be used in the title. However, other lesser-known or specific abbreviations and jargon that would not be immediately familiar to the readers should be left out.

Table 1: The ABC of manuscript writing worksheet

Areas	Description
#1 Outcomes	Identify research objectives/hypothesis/questions that are: <ol style="list-style-type: none"> Important Relevant Demonstrable Specific Understandable
#2 Methods	Based on the outcomes: <ol style="list-style-type: none"> What materials did we use? Who were the subjects of our study? What was the design of our research? What procedure did we follow? <p>**A note on verb tenses: the verbs are written in the simple past tense and are passive</p>
#3 Results	Based on the outcomes: <ol style="list-style-type: none"> What are our results? What are our most significant results? What are our most interesting results? <p>**Be clear, concise, and objective in describing our Results **A note on verb tenses:</p> <ol style="list-style-type: none"> For general report on results, the simple past tense and passive sentence tends to be used e.g., "The difference between the X and Y groups was significant." When referring to or highlighting results in tables, figures or charts, the simple present tense is most commonly used, e.g., "The most interesting aspect of this graph is ...", "Table 1 shows the summary statistics for ...", "Looking at Figure 3, it is apparent that ..."

(Continued on next page)

Table 1: (Continued)

Areas	Description
#4 Introduction	<p>Based on the outcomes:</p> <ol style="list-style-type: none"> 1. Why is our research important? 2. What is known about the topic? 3. What are our research hypotheses/objectives/questions? <p>The CARS model (create a research space) has three elements or moves:</p> <p>Move 1: Establish a research territory</p> <ol style="list-style-type: none"> a. Show that the general research area is important, central, interesting, and problematic in some way; b. Introduce and review items of previous research in the area. <p>Move 2: Find a niche</p> <p>Indicate a gap in the previous research, or extend previous knowledge in some way.</p> <p>Move 3: Occupy the niche</p> <ol style="list-style-type: none"> a. Outline purposes or state the nature of the present research; b. List research questions or hypotheses; c. Announce principle findings; d. State the value of the present research; e. Indicate the structure of the research paper. <p>**A note on verb tenses:</p> <ol style="list-style-type: none"> a. For general reference to the literature, the present perfect tense (have/has + verb participle) tends to be used. b. For reference to specific studies carried out in the past, the simple past tense is most commonly used. This is normally the case where a specific date or point in time in the past forms a part of the sentence. c. When referring to the words or ideas of writers, the present tense is often used if the ideas are still relevant, even if the author is no longer alive. <p>**Interest your reader in the Introduction section by signalling all its elements and stating the novelty of the work.</p>
#5 Discussion	<ol style="list-style-type: none"> 1. What are our major findings? 2. What is the significance/implication of the findings? 3. How do the findings advance the field? <p>The way to discuss:</p> <ol style="list-style-type: none"> a. First, summarise the result that we want to discuss; b. Second, compare our findings with findings from other studies (similarities and differences); c. Third, provide our postulation and assumption that explains our findings;

(Continued on next page)

Table 1: (Continued)

Areas	Description
	<ul style="list-style-type: none"> d. Fourth, provide evidence from the literature that supports our postulation/ assumption; e. Fifth, state the limitations, weaknesses, and assumptions of your study; and f. Lastly, indicate the importance of the work by stating applications, recommendations, and implications
#6 Conclusion	<p>Conclusions are shorter sections of academic texts which usually serve two functions:</p> <ul style="list-style-type: none"> a. First, summarise and bring together the main areas covered in the writing, which might be called “looking back”; b. Second, give a final comment or judgement on this. The final comment may also include making suggestions for improvement and speculating on future directions.
#7 Abstract & Title	<p>Write concise, self-contained and good abstract that reflect the outlook of your manuscript. Create an impactful and meaningful title.</p>

REFERENCES

1. Morley J. Academic Phrasebank. Manchester: University of Manchester; 2017.
2. Swales JM, Feak CB. Academic writing for graduate students. 3rd ed. Ann Arbor: University of Michigan Press; 2012. <https://doi.org/10.3998/mpub.2173936>
3. American Journal Experts. Verb tense in scientific manuscripts. Durham, USA: Research Square; c2018 [updated 2013; cited 2018 March]. Available from: <https://www.aje.com/en/author-resources>.
4. Randolph JJ. A guide to writing the dissertation literature review. Practical Assessment, Research & Evaluation. 2009;14(13):1–13.
5. Swales J. Genre analysis. Cambridge: Cambridge University Press; 1990.
6. Adika GS. Swales’ cars model and the metaphor of research space: an illustration with an African Journal. Legon Journal of the Humanities. 2014;25(1):58–75.
7. Kulkarni S. 3 Basic tips on writing a good research paper title. Editage Insights. Mumbai, India: Cactus Communications; c2002–2018; [updated 2013 October 17]. Available from: <https://www.editage.com/insights/3-basic-tips-on-writing-a-good-research-paper-title>.
8. Rodrigues V. How to write an effective title and abstract and choose appropriate keywords. Editage Insights. Mumbai, India: Cactus Communications; c2002–2018; [updated 2013 November 4]. Available from: <https://www.editage.com/insights/how-to-write-an-effective-title-and-abstract-and-choose-appropriate-keywords>